LECTURES

16 June 2008, Monday
L-5
LECTURE 5 CHILDREN IN DISASTERS
Hall A - 11:00 - 11:30

Our multiyear experience in providing medical help to children in various disasters worldwide

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Our multiyear experience in providing medical help to children in various disasters worldwide has shown that such help must be provided to children by pediatric specialists. In this case mortality and morbidity are reduced twice. Unfortunately, up to now there is no harmonious system which could organize such medical help to children in case of various disasters. Neither any experience of national systems has been spread, nor regional plans are seen, nor any international system responsible for this exists. However, it is essential, because in the majority of countries of the world in case of disaster one can feel an acute deficit of children’s traumatologists, neurosurgeons, reanimatologists and specialists in general surgery. The only mobile pediatric team of such specialists which has effectively participated in many disaster sites in the world has been created in Russia.

16 June 2008, Monday
L-7
LECTURE 7 PALLIATIVE CARE AND THE END OF THE LIFETIME IN CHILDHOOD
Hall A – 15:00-15:30

M Jankovic
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“What really matters in life is not so much being able to value it. What really counts is being able to “embrace” the moment when it finishes”

Veronica, 13 yrs

Who is a terminally ill child? He is not a dying, he is a child arrived to a phase of life where death is close and cure is no longer possible. This phase could last months. He doesn’t need either “therapeutical renouncing” or “ruthless obstinacy” approach.

It is not easy to properly consider both sentences (Veronica’s poem and the terminally ill child’s definition) but it is essential for building up the most appropriate modality to assist a child and the family in the palliative and terminal phase until death.

The main purpose remains the control of both physical and psychic pain and discomfort and to turn any experience into solidarity.

There can be a long delay between the moment when the physician determines that the child will not be cured and the moment when everyone involved agrees that the child has entered the last or final phase of life.

In managing this transition from the curative to the palliative phase of the child’s treatment, it is critical to protect the child. The expectations of the family must be considered to help them avoid feelings of guilt for not having done everything possible. However, a real dilemma is created for everyone if aggressive therapy is continued when the possibilities of cure are virtually not existent.

We absolutely should take into account that assisting a terminally ill child is a “process” where discontinuity of a “curative” treatment of any other type of treatment leads to non-immediate acceptance by family and therefore a palliative therapy is needed. Only “giving something” the beginning of the acceptance phase on respect of the quality of life of the child could start.

Time, accompanying, devotion are essential steps, strictly tightened, in this process.

How we can accomplish?
- listening to the child
- not forgetting the siblings
- accompanying the parents
- involving the family doctor or pediatrician
- understanding the Society who try to help them.

After a child dies, that individual child’s medical history should be evaluated. This evaluation should be made by the health-care team as a group. It is very important to reflect on all events, even minor ones, that occurred during the course of the child’s treatment. It is critical to reflect on the choices that were made and why, in order to help the staff come to terms with their own grieving and to learn from the experience in order to help future families.


1. Develop a uniform policy and approach within the center.

2. Reach a group decision with the entire health-care team about a specific plan of palliative care best for each individual child.
3. Avoid a “ruthless obstinacy” approach; know when to move from cure-oriented therapy to palliative care.
4. Listen to the child, keep in touch with the family, and try to develop and retain a good relationship with everyone involved.
5. Include in the final decision-making process the parents, the siblings and the child (depending on their ages and level of development), and the local family physician.
6. Control both physical and psychological pain as well as other disturbing symptoms.
7. Enable the child to die at home when possible and if desired by the patient and the family.
8. Deal with issues of bereavement among the members of the health-care team.
9. Encourage post-death follow-up visits for parents and siblings, reflecting on the medical history of the child and acknowledging the ongoing needs of parents, siblings, and other family members (e.g., grandparents).

Unintentional injury is a major cause of child mortality and morbidity worldwide. It has been estimated that more than 8,75,000 children under the age of 18 years die each year as a result of injury (1,2). For each child that dies, thousands more suffer an injury event that results in disability. Child survivors of injury may have reduced personal potential, may place an emotional and economic burden upon their families and may require ongoing support from social and healthcare services.

The incidence of unintentional childhood injury is inequitably distributed across the world, with more than 95% of all child injury deaths occurring in low and middle-income countries. Globally, road traffic accidents and drowning are the commonest causes of childhood death. The countries of the World Health Organisation European Region have widely differing rates of child mortality and morbidity (3). Within countries too, an inequitable distribution of injury occurrence is the norm, with the disadvantaged being most at risk.

Child and adolescent injuries are becoming increasingly prominent on the global child health agenda. The WHO World report on Child and Adolescent Injury Prevention is due for publication later in 2008 (4), and it is anticipated that this report will help focus attention and effort into tackling child injuries. An increasing number of evidence-based interventions are now recognised to prevent such injury events.

Paediatricians have an important role to play in this effort. With their understanding of child development and behaviour, as well as their experience of managing the consequences of childhood injury, they are important partners in supporting the collection of good quality data on injuries, on the secondary prevention of injuries in children already injured, and in providing advice to partnerships acting to implement primary prevention initiatives. Children are particularly vulnerable to injury and together we can act as both advocates and activists to address the extent and inequity of a largely preventable burden of ill health.

References:
SYMPOSIA

14 June 2008, Saturday
SYMPOSIUM 1 VACCINATION: NEW OPPORTUNITIES AND PROBLEMS
Hall A- 11:00-13:00

S-1.2 Influenza and pneumococcal vaccination rates in high risk children are largely depending from the recommendation of the reference centers

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Background: Subjects with chronic conditions at risk for severe complications of infectious diseases should be actively protected with large spectrum of vaccination. However, there is limited information on immunization rates in this vulnerable population.

We investigated the rates of influenza and pneumococcal vaccinations in children with HIV infection (HIV), cystic fibrosis (CF), liver transplantation (LTx) and diabetes mellitus type I (DM).

Patients and methods: This study was conducted in Campania region (Italy) during the period January–June 2007. Physicians of the reference centers, primary care pediatrician and caregivers of high risk children were interviewed.

Children aged 2–18 years that were identified throughout the lists of the reference centers with the selected high risk conditions were included. For DM, we obtained the list from the three reference centers exiting in our region.

Results: Influenza vaccination had been administered to 72.5% (29/40) HIV-infected patients, 90% (35/39) CF patients, 76% (45/59) LTx patients and 51% (105/205) subjects with DM (for DM vaccination rate was 21%, 52% and 61%, according to the reference center).

Twenty-four percent (8/40) HIV patients, 12.8% (5/39) CF patients, 15.2% (9/59) LTx patients and 3.4% (7/205) DM children had received pneumococcal vaccination.

According to the responses by both the parents and the physicians, the reference center rather than the primary care pediatrician had a principal role in advising influenza and pneumococcal vaccinations for patients with HIV, CF, LTx compared to DM.

The main reason for not being vaccinated against either vaccination was the lack of specific information.

Conclusions: Influenza and pneumococcal vaccinations rates remain low high risk children. A clear vaccination policy regarding the roles and responsibility of physician involved in the care of children with chronic conditions is needed.

SYMPOSIUM 1 VACCINATION: NEW OPPORTUNITIES AND PROBLEMS

S-1.3 Towards a shared European schedule

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Current vaccination programmes in European Union (EU) countries are the result of long public health traditions and therefore vary widely. Considering the vaccination programmes in the twenty-seven EU countries plus Norway and Iceland, there is only one common “package” represented by vaccines against diphtheria, tetanus, pertussis (DTP), measles, mumps and rubella (MMR), and poliomyelitis (Polio). Vaccination against Haemophilus influenzae type B (Hib) and hepatitis B (HBV) vaccination are still under utilised in the EU.

Moreover, each country in Europe has its own vaccination schedule that differs at times substantially from others. An analysis of the DTP schedules shows that the primary immunisation scheme is either two or three doses, followed by a variable number of boosters and the total number of doses administered under 18 years of age ranges between four and seven.

Such diversity indicates that immunisation programmes are not based on sound scientific evidence: an unnecessarily high number of doses may reduce programme compliance, exposes the child to higher probable risk of unexpected reactions and – last but not least – renders the programme more onerous. In addition so many different schedules imply an higher cost for developing new vaccine formulations with consequent higher costs for the consumer.

From an European point of view the presence in Europe of such different immunisation schedules could be a problematic issue for the free movement of families with small children.

Said that, it is indeed important to emphasize that all these schedules work well, and all the programmes are effective: tetanus, diphtheria, and polio are fully under control in the region. Furthermore, vaccination policies in the EU are exclusively defined and set up at the national level. The role of Community authorities and agencies is limited in this field.

In 2007 the ECDC started a project aimed at defining “minimal requirements” for a shared EU immunization schedule. An ad hoc scientific panel has been set up at this purpose and it is at the present dealing with the DTP childhood immunisation schedule. The project is far from being an attempt to harmonise the current immunisation schedules, but it can be considered the starting point to define a common agreement on minimal immunisation requirements for EU citizens, especially for those that move from country to country.

SYMPOSIUM 1 VACCINATION: NEW OPPORTUNITIES AND PROBLEMS

S-1.4 Influenza pandemics: are we ready?

C Weil-Olivier
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The pediatric cases due to influenza virus A (H5N1) reported to WHO are numerous (at least 50% of cases occur in young people <20 years of age), and deadly with a fatality rate up to 60%. Risk factors are quite well identified: non-washing of hands, proximity with ill poultry, and feathering. From a clinical point of view, the symptoms are not different from those in adults. No major risk of bacterial super-infection has been identified lately.

So far, the major points as reported by WHO are the following:

- A huge avian flu disease with several million dead wild birds/poultry, nearly never seen before to this extend, since the beginning in 2003 is now endemic in a number of countries (over 60) in Asia and Africa.
- Compared with over human 300 reported cases worldwide. The importance and success of early identification and treatment of human cases is highlighted.
- The progressive –but rather slow- extension of countries reporting human cases, the latest being Pakistan, Indonesia, following Turkey, Egypt and Far –East Asia.
- The rare and only strictly occasional human-to-human transmission, preventing thus from a high risk of occurrence of the pandemics.
- The shift of A(H5N1) from a clade 1 (Vietnam) to a clade 2 (clade 2.2 in Turkey, clade 2.1 in Egypt and Indonesia).

From an European perspective, adopted here, Pandemic plan readiness has dramatically increased since 2003: WHO, European Union Member States EUMS (on a National level, as at ECDC, Stockholm) have published very detailed plans. Technical leaflets, factsheets, movies, video clips for the public are available, some on the net, and renewed and/or adapted every year.

The plans include at several levels (World, States, Regional level) technical sheets going from general topics to pragmatic ones, for example about:

- Availability of health prevention means: (pre)-pandemic vaccines, antiviral specific drugs stock
- Inter-sectoral issues and business continuity plans, ensuring the maintenance of operations in essential business sectors, industries, companies, public administration.
- Definition of “priority groups” for the maintenance of State major functions and needs.
- As well as the care of dead people. An estimated 1.1 million would die from a re-run of the worst recorded pandemic in the EU. Would the room for keeping them be enough? How to bury them all? Which availability of the specific people for this task?
- A survey from ECDC published by the end of 2007, shows that nearly all EUMS have now a structured pandemic plan entering numerous pragmatic consideration.
- Moreover, once a year, execution of pandemic specific exercises at both regional and national level takes place in countries.
- A functional and dedicated communication system is coordinated through all levels, starting with alerting authorities.
- Nevertheless, some general caveats have still to be kept in mind. Most of them are included in a recent report from a Luxembourg meeting in September 2007.
- Which virus will be responsible for the next pandemics? A(H5N1) ? if so which clade? For which resistance to specific antivirals? This antiviral resistance, already observed during seasonal influenza - 10 fold higher in pediatric population compared with adults- has been unusually high during the late season 2007–2008 at least in some European countries. This phenomenon is strictly followed by in Europe is monitored by the VIRGIL project in collaboration with the European Influenza Surveillance Scheme (EISS) and by a number of individual National Influenza Centres.
- Some A(H5N1) virus strains of different clades have shown various degrees of antiviral resistance.
- All this emphasize the importance of sharing information on circulating virus and building alliances between countries prior to a pandemic.
- How to maintain population interest for the topic as the delay of occurrence of a next pandemics is unknown and the role of A (H5N1) in it is still uncertain?

Enough yearly interest for seasonal influenza is not yet the rule; i.e in several EUMS, vaccine coverage of HCW or medical risk groups is insufficient under the 75% coverage requested since 2003 by the World Health Assembly, which includes all EU/EEA countries. As consistently shown by a survey conducted at EU level in 2000 and subsequently by ECDC for EU and EEA countries in 2006, “only 15 out of 28 eligible countries could provide data and for those where data were available remarkable differences were observed indicating that efforts need to be made in Europe to improve vaccination coverage rates and meet the 2010 WHO target”.

- Availability of pandemic monovalent vaccines during first wave is mostly improbable due to industrial constraints in spite of massive work done during the past years in research. They should be ready at best for the second
wave. EUMS population as a whole is around 500 million in 2008 compared with an actual worldwide production of 300 million doses of seasonal trivalent vaccine/year.

A first pre-pandemic vaccine is now available on the European market.

Technical delivery of the pre-pandemic vaccines at a national level may represent a challenge: i.e.to deliver two doses at 3 weeks interval to protect individuals in large population; strict selection of targeted groups or segments of population.

- Availability of antiviral specific drugs has been thought of most countries have bought stocks able to cover 25% or more of their whole national population. Pragmatic details like as early use as possible from first symptoms (best during the first 12 h) are on their way. Scientific advices are still needed to define which are the best doses (two fold? compared with the casual curative doses in seasonal Flu) and duration of treatment (twice the casual duration?) or the usefulness of two antiviral combined drugs?

These uncertainties must be added to the fact that very few prescriptions are done through Europe during the seasonal Flu: GP and pediatricians are thus not accustomed to the management of these drugs.

And last, how to distribute stockpiled antiviral drugs during a pandemic, including the coordination of distribution of centralized stocks of antivirals to the affected area.

- Adequate maintenance of primary, emergency and hospital based care including necessarily an availability of first line drugs, additional equipment, an increase of bed capacity and a need for extra labor forces to call in, infection control measures.

- Education of the public has to deliver a repeated interest in daily “barrier measures” to prevent respiratory transmission by leaflets, TV spots. A strong promotion and adoption of personal protective measures which are considered to reduce the risk of people acquiring or transmitting infections is recommended by ECDC: http://ecdc.europa.eu/pdf/071203_seasonal_influenza_vaccination.pdf
  - Regular hand washing
  - Good Respiratory Hygiene – covering mouth and nose when coughing or sneezing, using tissues and disposing of them correctly, and disinfect germ-infested surfaces
  - Mask-wearing in health care settings by those with symptoms of acute febrile respiratory infections
  - How to protect oneself and others when personally affected by an illness, early isolation by staying home, usually at hope of those feeling unwell and feverish and having other symptoms of influenza

From a Pediatric perspective
- Pediatric population most at risk is unknown as are attack rates per age groups, clinical expression, rate of bacterial super-infections. The risk factors may be different from those already known in seasonal Flu.

- Up to 2008, there is no availability of (pre)-pandemic vaccines in pediatric population. Some pediatric trials are starting from 2007 in pediatric groups of age, mostly over 3 years of age.

- To limit the risk of transmission, personal hygiene is a priority, explaining the proper way to wash hands. A closure of communities - day care center, schools, may be ordered with important consequences in daily life for children and their working parents.

As a “barrier prevention” the use of adequate masks is not solved in young children as is not the easiness of –as frequent as possible- washing of hands or “regular” cleaning of devices.

- For children <1 year of age no anti-viral specific treatment is available.

- Few EU countries recommend seasonal vaccination of children or offering vaccines to pregnant women. This is different from policy in the United States (CDC 2007).

HCW and all categories working around infants should be immunised against influenza as recommended by a majority of European countries in. This is partially to protect the staff who are more likely to be exposed through their work than other people. It is also to protect their patients, especially those at higher risk of infection and disease. However all reports are that only a minority of HCW take up this offer.

- Maintenance of vaccination calendar as usual is mandatory.

- Hospitalization needs calculation shows that an increase of two-fold in ICU beds should be necessary: what about the care of great prematurity during a pandemics raising ethics issues?

Conclusion: - vaccines are only a part of health needs in a pandemics

- Estimation of pandemics burden from influenza is two-fold. Firstly there is the severe disease and deaths. Secondly, but of greater economic impact, large numbers of mild to moderate cases will result in time off work and losses to production, pressure and costs on the health and social care services. The burden is hypothetical rendering hard to estimate the number of deaths or the economic impact.

- The overall objective of pandemic preparedness is to optimise and improve existing emergency responses across Europe. A share of practises and learning about innovations contribute to improve the existing. A special focus has to be reinforced on their operational application down to a regional level including hospitals, doctors and local authorities.

- Health sector preparedness plans are only part of National actions and must be integrated across the global vision of governments.

- Focus has to remain on maintaining and expanding annual seasonal influenza vaccination coverage for high-risk groups during the interpandemic period. This would maximise the volume of vaccine available in a pandemic by expanding global vaccine production capacity.

- Maintenance of public awareness of the risks from influenza is essential.

- Compatibility amongst the EUMS National plans and joint efforts guarantee an efficient response in cross-border
regions and ensure a coordination of their responses: as a pandemic will not stop at one country's border!

- The last but not the least, developing countries which are the main place for the expansion of pandemics should receive help from EUMS.

14 June 2008, Saturday
SYMPOSIUM 2 ORGAN TRANSPLANTATION IN EUROPE
Hall A- 14:30-16:30

S-2.3 Kidney transplantation
J H H Ehrich
Children's Hospital, Hannover Medical School, Germany

The success story and the challenge: Kidney transplantation has become a routine procedure in children of all ages with end-stage renal failure, however, not all European children have access to this effective renal replacement therapy because of a lack of well-equipped paediatric transplant centers.

Contraindications: There are almost no contraindications for renal transplantation and it would be unethical to exclude disabled patients with end-stage renal failure from transplantation.

Survival: More than 95% of patients have exceeded the 10 year survival mark by the year 2000. Twenty year graft survival had reached 50%.

Comorbidity: Almost one third of patients suffered from mild visual, hearing, motor, skeletal or mental disabilities on reaching adulthood. The majority of patients suffered from chronic allograft nephropathy. Neurological comorbidity affected a minority of patients. Transient hepatogastroenterological comorbidity was found in almost half the patients. Post-transplant lymphoproliferative disease was reported to occur in 2–3% of children. Cardiovascular comorbidity is the most important long-term challenge after renal transplantation. Most comorbidities such as infectious complications are related to immunosuppressive treatment.

Rehabilitation: Patient and doctor non-compliance placed an inevitable limit on complete rehabilitation and gain of autonomy during adolescence. A well-structured transfer from paediatric to adult care may improve graft survival. Vocational training should be intensified to induce higher employment rates in young adults after renal transplantation.

Lessons from the past: Solid organ transplantation such as renal transplantation is the beginning of new illnesses! Chronic organ failure and organ replacement therapy are associated with comorbidities affecting cardiovascular, psychoneurological, pulmonary and renal function. The kidney is the weak link in the transplant chain in all solid organ transplantations.

Working hypothesis: Surgery and pharmacotherapy have reached a high standard in post transplant care, however, there is still a great potential for preventive and rehabilitative renal care with regard to structured diagnostic and therapeutic processes and health education, in order to prolong patient and graft survival, and reduce comorbidity.

14 June 2008, Saturday
SYMPOSIUM 3 WHAT SHOULD THE GENERAL PAEDIATRICIAN KNOW ABOUT MALIGNANCY?
Hall B - 15:00 – 16:30

S-3.1 Early diagnosis of childhood malignancies
A J P Veerman
VU University Medical Centre, Amsterdam, the Netherlands

Malignant disease is quite rare in the age group below 18 years. Still it is the second cause of death in children over 1 year of age after accidents. A general practitioner will, on average, see one or two cases in his whole career. A paediatrician will see, again on average, one or two every year. On average. That means some see none, others five or six. With increasingly good prognosis of the last years, about one out of every 600 adults will be a survivor of childhood cancer.

Is early diagnosis important? Yes. The longer the diagnostic delay, the worse the prognosis. In many cases, symptoms have been present in retrospect for a period of months. Especially in brain tumours (the most common solid tumour in children!) the median delay is in the order of 6–9 months. The symptoms are often very similar to symptoms of more common diseases. Paediatric text books rarely give a note on early signs and symptoms.

In my lecture I will follow a number of signs and symptoms that should raise suspicion of malignancy, and I put the relevant triggers in BOLD text.

Petechiae, ecchymoses, are always suspect for serious conditions, be it thrombocytopenia, coagulation defects, leukaemia, or battering. The history taking should than also ask for other complaints like general malaise, lymph node swelling and bone pain, limp or arthralgia. The physical examination should specifically look for pallor, lymph node swelling, hepatosplenomegaly. A diagnosis of acute (lymphoblastic) leukaemia can sometimes be very high on the list of probabilities based on history and physical examination only. However, about half of the cases of leukaemia are diagnosed as surprise finding when a blood count is done and leucocytosis is found together with anaemia and thrombocytopenia. But do not forget that half the children with leukaemia have a white blood cell count within normal limits!

Fever is of course so common, that it does only very rarely point in the direction of malignancy, unless accompanied by other signs and symptoms, and unless it is present for more than 2 weeks in an otherwise not very sick patient. Ask for weight loss, night sweats. Look for painless lymphadenopathy. Think of lymphoma, either non-Hodgkin’s Lymphoma or Hodgkin’s disease.
or leukaemia for that matter. Leukaemia’s and lymphomas together form 40% of childhood malignancies.

**Emesis**, especially in the morning, may point to increased intracranial pressure, and to a brain tumour. Sometimes **altered behaviour** and **declining school performance** point into that same direction. Neurological symptoms, **visual disturbances**, **headache and ataxia** can occur and **papilledema** has to be sought for. As stated before, brain tumours are with 25% the most prevalent malignant tumour in children.

**Leukocoria** can point to retinoblastoma, ophthalmologic investigation should be promptly done. In 30% of cases there may be a positive family history. All offspring of persons with retinoblastoma should be regularly checked from birth to 6 years of age. DNA diagnosis may help if one of the parents has a known defect in the RB gene. On some flash photo’s however, leukocoria may be seen if the papilla is exactly in the direction of the flash. Still, fundoscopy is mandatory in every child with leucocoria on a family picture. Many children who are diagnosed late with retinoblastoma and lose an eye or even their life, have retrospectively already a white pupil on photographs from months or even more than a year before the diagnosis is made. Late stage retinoblastoma is especially a problem in tropical countries, where the incidence of retinoblastoma is much higher than in western countries, and patients often wait too long before seeking medical advice.

**Soft tissue** masses will often be suspicious for malignancy early on. **Abdominal masses** however are often overlooked for a long time before suspicion rises. The physical examination can be difficult in a fighting toddler. In case of doubt an ultrasound may be necessary. As always: ask for other symptoms: **urinary abnormalities**, **aniridia**, **hemihypertrophy** (all point to nephroblastoma, Wilms’s tumor); and **diarrhoea, hypertension, bone pain, osseous lesions, periorbital ecchymosis** (pointing to neuroblastoma).

Chance findings on laboratory or radiological examinations may suddenly point to a diagnosis of malignant tumour or leukaemia. Leucocytosis, especially with anaemia and thrombocytopenia is already mentioned. An anterior mediastinal tumour is often non-Hodgkin’s lymphoma, Hodgkin’s Disease and sometimes a teratoid tumor or germ cell tumour. Posterior mediastinal tumours are most often neuroblastoma, or neuroangioma.

The International Council of Parents Organisations (ICCCPO) and the International Society of Pediatric Oncology (SIOP) have advocated the use of the **SAINT SILUAN** signs, an acronym to help general physicians and the general public to think of malignant disease:

- **S**: Seek: Medical help early for persistent symptoms
- **I**: Eye: White spot in the eye, new squint, blindness, bulging eyeball
- **L**: Lump: Abdomen and pelvis, head and neck, limbs, testes, glands
- **U**: Unexplained: Fever, loss of weight and appetite, pallor, fatigue, easy bruising or bleeding

**A**: Aching: Bones, joints, back, and easy fractures

**N**: Neurological signs: Change in behaviour, balance, gait, and milestones, headache, enlarging head

The bottom line: many symptoms of malignant disease are very common complaints, the a priori chance of malignancy is rather low. A high degree of suspicion can help, but nothing compares to an intelligent history taking, combined with a thorough physical examination.

Few things are as rewarding for a paediatrician, or a general practitioner, to refer at an early stage a patient with suspicion of malignancy, and see the patient back a few years later: cured!

**SYMPOSIUM 3 WHAT SHOULD THE GENERAL PEDIATRICIAN KNOW ABOUT MALIGNANCY?**

**S-3.3 Long-term survivors of childhood cancer need follow-up**

G Masera

Department of Pediatrics, University of Milano-Bicocca, A.O. San Gerardo, Monza, Italy

The improved outcome for children with cancer represents one of the major biomedical advances of the past four decades.

The long-term survival (cure) has improved significantly in the majority of European countries from less than 20% in 60’s, to 75% in 90’s (Eur. J. Cancer 2006;42:2183–2190).

Major reasons for the success are: better organization of Pediatric Cancer Units, a multidisciplinary approach (pediatric oncologists, surgeons, radiologists, psychologists, biologists), and research (clinical and biological).

Some essential data describing the dimension of the problem:

(i) The incidence of childhood cancers across Europe increased significantly ($P < .0001$) from a ASR (age-standardised rate) of 120 per million children in 1978–1982 to 141 per million in 1993–1997. The annual percentage increase was 1.1% with no sign of slowing in the last 5 year period.

(ii) Total population of the 27 European Union countries ~ 4,885 million

- population aged 0–14 years ~ 11,000/year
- overall conservative 5 year survival 70%
The methodological approach should consider the global objective of the strategy: “total cure” as:

- Total medical cure: long-term monitoring, preventing, and treating possible side effects and adverse outcomes.
- Total educational cure: helping the children/adolescents to complete their curricula of studies, developing their personal abilities.
- Total psychological cure: it is known that facing the trauma of the disease could promote either so-called “post-traumatic stress” in about 20% of subjects, or, more frequently (about 80%), “post-traumatic growth”, also called “resilience”. This positive-outcome evolution is a relatively new field of research and should be better analyzed and promoted.
- Total social cure: The “cured” subjects have the right to face their future life as adults without childhood cancer related barriers that concern education, employment, insurance and other family and social opportunities.

Recently a large group of international experts from Europe and USA (pediatric oncologists, psychologists, parents, survivors, nurses, epidemiologists) published the “Erice Statement”, describing a consensus on the definition of “cure” and the details of an appropriate strategy of cure and care to be implemented in every pediatric cancer unit (PCU).

Important is a better definition of the role of the General Pediatrician in pediatric oncology:
- He should accompany the young patient, and the family, from the diagnosis, actively cooperating to the project of care.
- He should participate to the redefinition of the program of follow-up at the time of end-of-therapy.
- He should cooperate with the PCU, helping in the follow-up. This role should be played by the family doctor when the cured young subject enters adulthood.

In summary: Cancer survivorship is in some way, a “new science” requiring investments in research and in personalized intervention based on evidence and what is critical.

- The scientific and social community should be sensitized to the problem of childhood cancer and to the rights of a large and increasing population of survivors (cured) to be completely integrated into the society.
- The general public needs to be made aware of and recognize the reality of the cure of childhood cancer: that significant progress over the past 30 years in the treatment of childhood cancers has resulted in hundreds of thousands of survivors who are cured and are now completing school, entering adulthood, and living full lives as active members of society.
- The family pediatrician should play an important role cooperating with the PCU.
- A possible instrument could be the collection of narratives of adult survivors: our experience with this approach has been of great interest, describing, in the majority of cases, the survivors’ resilience and positive approach to personal and social life.

15 June 2008, Sunday
SYMPOSIUM 4 THE DEVELOPING BRAIN: COMING OPPORTUNITIES
Hall A - 9:00 – 10:30

5.4.2 Biological strategies to protect the perinatal brain
G Pierre

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Human preterm and term infants are at risk to develop cerebral palsy, cognitive or behavioural impairments. The most recognized underlying brain lesion in preterms is periventricular white matter damage which can be focal, multifocal or diffuse. In term infants, brain damage is mostly, but not exclusively, involving grey matter (cortical grey matter and deep basal ganglia). Clinical, epidemiological and experimental studies have allowed demonstrating the multifactorial origin of perinatal brain damage, generating more than one potential target for neuroprotection. These studies have permitted to unravel some key factors such as inflammation and excess production of cytokines, oxidative stress, hypoxic-ischemic insults, excess release of glutamate and the excitotoxic cascade. Animal models have also revealed that pre-oligodendrocytes, macrophages-microglia and sub-plate neurons are key cells in the pathophysiology of periventricular white matter damage. One key safety issue for potential neuroprotective strategies in newborns is the demonstration of the lack of interference with normal brain development. Protecting the brain of human newborns is a health care priority as no efficient treatment is available today. Experimental data have identified several candidate molecules or regimens for perinatal neuroprotection, including magnesium sulfate, hypothermia, Topiramate, Tianeptine, BDNF (brain-derived neurotrophic factor), IGF-1 (insulin-like growth factor 1) and melatonin. Clinical trials are currently testing the efficacy of some of these approaches, raising the hope that efficient treatments will be eventually available in the future to protect the newborn brain.

SYMPOSIUM 4 THE DEVELOPING BRAIN: COMING OPPORTUNITIES

5.4.3 Intervention programs to support mothers and babies at psychosocial risk
C Göran Svedin

Department of Child and Adolescent Psychiatry, Faculty of Health Sciences, Linköping University, Linköping, Sweden

This presentation will touch on the effects of maltreatment on brain development, report data from a Swedish longitudinal study that underscores the clinical relevance for early intervention programs and evaluate the outcome of different intervention programs.

Babies’ brains grow and develop as they interact with their environment and learn to function within that
environment. This is made possible through the plasticity of the brain which means that the growing brain has the capacity to create, strengthen and discard synapses and neuronal pathways in response to the environment. This is the fundamental reason why the environment plays such a vital role in brain development. For example, the brain is prepared to use experiences such as the sound of speech in order to learn how to talk. If this experience doesn’t occur in a sufficient way (by repeated stimulation) the language will not develop as expected. The so called principle “use it or lose it” govern. As a consequence early interferences (too little or too much) in the “normal” interaction between the biological plasticity of the brain and the environment will be extremely important for the child’s future well-being.

Child maltreatment can withhold both withdrawal of stimuli as in deprivation or child neglect and exaggeration of stimuli as we can see in child physical or sexual abuse. In this aspect secure attachment with balanced understanding and nurturing relations is the stable surrounding for the child’s development and later ability to relate to and function together with other people. Unsecure attachment and child maltreatment produces negative emotional reactions or affect, including a fear and a sense of loss of control - or what we call stress. With continuing experiences of various forms of maltreatment the stress response get detoriated with a dysregulation of the hypothalamic-pituitary-adrenal axis. Other more not yet fully understood changes in brain development are also seen. These findings shed some light on the many emotional and behavioural difficulties which children who have been maltreated can show such as hyperarousal, aggressive responses, dissociative reactions, difficulties with aspects of executive functions, and educational underachivement thus being to be better understood and underscore the importance of early interventions.

The purpose with the Linköping study (Svedin, Wadsby, Sydsjö, 2005) was to study the significance of early psychosocial risk factors for the well-being and adaptation of children in a longitudinal perspective.

Of the 1,575 pregnant women registered at the public Antenatal Health Care Service in the city of Linköping, Sweden during 1983, an index-group of 78 women meting psychosocial risk-criteria related to drug addiction, mental insufficiency, and particular social circumstances of possible relevance to problems of pregnancy and early child development was identified. A reference group of 78 pregnant women without inclusion criteria was used as comparison. The present study was a 16 year follow up in which 43 of the original index children and 63 of the original reference children were examined on indices of mental health, and the presence of child abuse.

Their mental health was assessed with Child Behaviour Checklist (CBCL) and Youth Self Report (YSR). The incidence of child abuse and Social Welfare interventions was obtained from Social Welfare records.

Results: The index mothers gave their children higher score in total and on all subscales on the CBCL compared to the reference mothers.

The index children themselves scored higher on almost all scales on YSR indicating a slightly significantly poorer health. The differences were mainly explained by the differences between the boys on both CBCL and YSR. Voluntary foster and institutional care had been implemented for 18 children in the index group, while 12 children were placed by coercive measures. In all 25 or 33% had sometime during their growth been placed outside the home.

By the age of 16, twenty children (26%) had been investigated for suspected child physical abuse. In the reference group only one child went through the same investigation between 8-16 years of age.

Corresponding figures of children in suspected child sexual abuse investigations were six investigations or 8% of all index children before the age of 16, compared to no child in the reference group.

Conclusions: In summary there was a elevated risk for mental ill health, especially among the boys, while the Odds Ratio for being placed outside the home or subject for child abuse investigations were high.

As a consequence of the initial reports from this study an intervention programme started with a 6 week intensive treatment programme. In an early study (Wadsby, Sydsjö, Svedin, 2001) assessment of 63 mothers and their 0–6 months-old babies were studied with blind observations of video recorded tasks in the star and after the 6 week period. A positive change in several aspects of the mother-child interaction could be seen. Later follow-ups are on the way.

Early intervention programme around the world do present different models and different results. In USA for example home visitation programmes has been the choice and several of them has been run for many years. The major programmess are Health Families America, Parents as Teachers, Early Head Start, HIPPY, Parent-Child Home Center, Nurse Family Partnership and Healthy Start Programme. All these programmes emerged as a strong policy option in the early 1990-ies and showed promising results. Despite substantial investments in home visiting, scientific evidence of its impact in preventing child abuse has been conflicting. For example, out of 12 programmes studied by Duggan et al (2004), four failed to find any reduction in any indicator reflecting child abuse, three found short lived impact and three out of the six that showed a positive impact were tests of the Nurse Home Visitation model (Olds et al, 1986). In a statewide programme Hawaii Health Start Programme an evaluation concluded that the programme did not prevent child abuse or promote use of nonviolent discipline but had a modest impact in preventing neglect (Duggan et al 2004).

As a consequence in the process of implementing a programme, rigorous evaluations, preferable RCT’s, should be an integrated part of the programme from the start.
Adolescence is in many ways a difficult transition time from being a child strongly adapted to its parents to being an independent adult. Success or failure of the development of character and personality during the teenage years will often determine the destiny of the person. According to holistic medical theory severe failure of psychosocial and psychosexual development can lead to all kinds of problems from chronic pains and other psychosomatic symptoms to mental, sexual, existential and social problems.

Aaron Antonovsky (1923–1994) developed his concept of salutogenesis or existential healing rehabilitating the person’s sense of coherence (SOC). The sense of coherence has in a number of studies been documented to be closely related to health and a recent analysis by our group has shown that the emotional and sexual aspects of SOC are closely connected to physical health, while the mental SOC are connected to mental health.

From a holistic point of view the teenager develops his or her physical, mental and spiritual character, including the sexual character. As body, mind and spirit each carry the core human talents of sexuality, consciousness and love, teenage life is much about developing a personal philosophy of life that allows the teenager to succeed in school and work, and to understand how to realize love and sexuality. As is well known the latter often occupies the teenager’s mind. The development from a child often with little emphasis on love, consciousness, and sexuality, to the well-functioning teenager that in the end are able to engage in a fulfilling social relationship is a process that can be derailed in many ways.

The physician or therapist can support the teenager’s psychosexual development, but it must be done with great empathy and the utmost respect for the fragile borders of the developing individual. If successfully addressed many physical, mental, sexual and existential problems can be prevented. Even if the teenager is severely ill physically or mentally, the general quality of life can often be improved by simple supporting holistic intervention. If this is done successfully research shows that the experience of being physically or mentally ill can often be reversed.

SYMPOSIUM 5 BEING ADOLESCENT IN EUROPE TODAY

S-5.3 Behavioral problems in school-age children

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Adolescence is a period of rapid development both physically and psychosocially. During this special period of life, many factors which may include personal and familial characteristics, the quality of the schools they attend, and the communities in which they live may put healthy development at risk. Among the greatest risks is engagement in risk behaviors. Risk behaviors are behaviors that can directly or indirectly compromise the well-being, the health and even the life course of young people. Adolescent risk behaviors are not approached as unique or separate or isolated actions because functional communality of these problem behaviors with other domains of adolescent activity that also compromise healthy development has been recognized. In this context, researchers nowadays put effort on exploring the organization and structure of diverse risk behaviors such as their co-variation. Co-variation is important because many adolescents show the tendency to engage in multiple risk behaviors simultaneously. Besides, because risk behaviors bear the potential of resulting in negative outcomes or adverse consequences, they themselves can be considered as risk factors.

Many risk factors have been related to risk behaviors. However, as risk behaviors do not always result in negative outcomes, being exposed to risk factors do not always result in risk behaviors. This variability is being explained through protective factors. While risk factors are elements and experiences in an adolescent’s life that increase the likelihood of negative outcomes and decrease the likelihood of positive outcomes, protective factors are events or experiences that reduce the likelihood of negative outcomes and increase the likelihood of positive outcomes. Protective factors that can help youth avoid the negative effects of risks may be either assets or resources. Assets are described as positive factors that belong to the individual. On the other hand, resources are again positive factors but they are external to the individual.

Substance use, violent behavior and unsafe sexual practices are risk behaviors that are common during adolescence and that remain significant public health problems.
Sexual behavior among adolescents includes initiation of sex, level of sexual activity and risky sexual behavior. Substance use, peer sexual behavior and neighborhood poverty are risk factors for adolescent sexual behavior. The negative effect of substance use on sexual behavior is compensated by personal assets such as self-esteem, participation in extracurricular activities, school achievement and resources such as father's education, teacher support and peer norms for sexual behavior.

The negative effect of peer sexual behavior is compensated by family socioeconomic status, parental monitoring and open parental communication. The negative effect of neighborhood poverty is compensated by participation in extracurricular activities and community organizations.

Substance use: Risk factors for substance use have been indicated as male gender, genetic tendency, attention deficit disorders, emotional distress, low religiosity, low academic motivation, acculturation, low ethnic identification, dysfunctional family dynamics, parental substance use, parental permissiveness, peer influences, low school connectedness, drug availability and low community norms for family closeness etc. Academic achievement is a consistent protective factor for substance use. Social competence compensates for the risk posed by parental substance use. Participation in extracurricular and community activities, and open communication with parents compensate for the negative peer influence. Self-control, substance-use refusal skills and academic achievement compensate for the effects of risk taking on alcohol use.

Violent behavior: Risk factors for violence include individual-level risk factors, racial discrimination, peer behaviors and attitudes and, cumulative risk factors.

Individual-level risk factors are large body size, presence of stimulation-seeking and fearlessness at age three years, mental illness, drug and alcohol use, traumatic brain injury, seizures and delirium etc. Genes may also play a role in aggressive and antisocial behaviors.

Polymorphisms related to certain genes may be important in this respect.

Cumulative risk factors are indicated as prior violent behavior, violence victimization and school problems.

Prosocial beliefs, religiosity and anger-control skills compensate for individual level risk factors. Anger-control skills, perceived social status, parental monitoring and, paternal and maternal support were found to be compensatory or protective factors for the effects of peer behaviors and attitudes on violent behavior.

Academic performance, parental presence, parent-family connectedness and school connectedness compensate for cumulative risk factors for violent behavior.

In conclusion, common risk and protective factors affect many of adolescents’ problem behaviors. Thus, addressing these antecedents is likely to reduce multiple problems: Reducing risk, enhancing protective factors at the individual and contextual levels, and also promoting confidence and competence in young people will promote healthy youth development.

References:
oral cephalosporins or erythromycin are recommended as suitable alternatives in patients who are allergic to penicillin. Despite these recommendations, oral cephalosporins have been largely prescribed also in children without any allergic problem. Data collected in studies comparing the efficacy of penicillin V or amoxicillin with that of an oral cephalosporin in patients with GABHS pharyngitis have reported that cephalosporins are superior to penicillins in bacteriologic eradication and clinical response. Moreover, cephalosporins can be administered with a simpler (once or twice daily versus three or four times daily) and a shorter (5 days versus 10 days with penicillin V or amoxicillin) treatment regimen, so assuring a significant improvement in patient compliance. As a consequence, some experts suggest that these drugs should be considered among the first-choice therapies for GABHS pharyngitis.

Similar conclusions cannot be drawn when AOM is considered. Although the oral cephalosporins generally show good activity against the major AOM pathogens, they are not the empiric drugs of choice over amoxicillin (mild or uncomplicated episodes) or amoxicillin/clavulanate (severe episodes). All of the cephalosporins have excellent activity against penicillin-susceptible strains of S. pneumoniae but generally are not as active against penicillin not susceptible strains. On the contrary, amoxicillin is active against intermediate strains and, at higher dosage, against most of resistant pneumococci. Moreover, the superiority of cephalosporins against beta-lactamase producing strains of H. influenzae and M. catarrhalis that are not sensitive to amoxicillin has limited clinical importance because most of the AOM cases due these pathogens tends to solve spontaneously.

Parenteral cephalosporins, in particular cefotaxime and ceftriaxone, alone in older otherwise healthy children and in combination with other antibiotics during the neonatal period and in subjects at-risk, are usually considered the drugs of choice to treat sepsis and meningitis. Their activity against causative bacterial pathogens is generally good, as it is safety and tolerability even when used at the highest dosages. However, recent reports underline that ceftriaxone has to be prescribed with particular attention, especially in the first days of life. Beside the well known risk of displacement of bilirubin from serum proteins, this drug has been associated with fatal reactions when administered in children receiving the antibiotic and calcium-containing products simultaneously. Ceftriaxone-calcium precipitates in lungs and kidneys are the main reason for neonatal deaths.

Several other examples of the possible use of cephalosporins could be reported. However, despite their possible use as first-line drugs in some particular situations, they remain alternative drugs. This conclusion is mainly derived from the fact that they generally have a large spectrum of activity, no superiority in comparison to penicillins in most of the clinical indications and that their cost is significantly higher than that of many other equally effective antibiotics.

**SYMPOSIUM 6 NEW AND OLD ANTIBIOTICS**

**S-6.3 News on quinolones**

U B Schaad

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Many of the characteristics of the contemporary fluoroquinolones, the derivatives of the first quinolone antibiotic, nalidixic acid, are particularly appealing for certain pediatric populations. The use of fluoroquinolones in children has been limited because of their potential to induce arthropathy in juvenile animals. Besides feared arthrotoxicity, the second major concern regarding use of fluoroquinolones in children is the potential development of bacterial resistance.

All quinolones tested, including the older compounds and the newer derivatives, induce changes in immature cartilage of weight-bearing joints in all laboratory animals tested (mice, rats, dogs, marmosets, guinea pigs, rabbits, and ferrets). Neither pharmacokinetic nor pharmacodynamic data can explain the variable arthropathic effect of different compounds in animal experiments. There is also no clear effect of the molecular structure of the given compound, regarding its cartilage toxicity. To date there is no unequivocal documentation of quinolone-induced arthropathy in patients as described in juvenile animals; quinolone arthropathy remains an experimental laboratory phenomenon in juvenile animals. Most joint complaints associated with quinolone use are coincidental and do not represent adverse effects. It is postulated that the so-called allergic arthritis initially described in nalidixic acid-treated patients does exist, but is not the same as the quinolone-induced arthropathy in animals. These adverse events are always transient arthralgic or arthritic manifestations, usually involving large joints and occurring during the first and second week of therapy. The overall incidence is 1% to 5% (-18%) depending on the studied patient group and quinolone compound.

There is great concern regarding the potential impact of widespread fluoroquinolone use in children on bacterial resistance development. The risk for rapid emergence of resistance among pneumococci and other common bacterial pathogens, associated with widespread, uncontrolled use of fluoroquinolones in pediatric patients is a realistic threat.

Since the mid-1980s, fluoroquinolones have been used in pediatric patients primarily in circumstances where they were the only antimicrobial choice for infections caused by multiply-resistant organisms. These included pseudomonal infections in children with cystic fibrosis, complicated urinary tract and skeletal infections, enteric infections in developing countries, and ear infections, both chronic suppurative otitis media and refractory acute otitis media. Results of controlled clinical trials in patients with these indications have shown comparable efficacy of the fluoroquinolones and conventional regimens. Preliminary experience in pediatric patients also indicates that the
fluoroquinolones are effective and safe for the prevention or therapy for infections in neutropenic cancer patients, for the eradication of nasopharyngeal carriage of meningococci and for therapy of severe infections, including meningitis.

In most countries, fluoroquinolones have been approved for use only in pediatric patients with cystic fibrosis and complicated urinary tract infection. Authorization for broader use of new fluoroquinolones in children must combine efforts of expert in infectious diseases and microbiology, regulatory authorities, and pharmaceutical manufacturers. Postmarketing surveillance must include an adequate risk management plan feasible for patients, parents, and drug companies.

16 June 2008, Monday
SYMPOSIUM 7 ORPHAN DISEASES
Hall A- 08:30-10:30

S-7.2 Advances in enzyme replacement therapy

C van Capelle
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Scope of the presentation: The introduction of new therapies over the years has greatly changed the prospects for patients with metabolic diseases. This also applies to lysosomal storage disorders, a group of approximately 40 rare diseases, for which several enzyme replacement therapies have been approved in the past decade. One of these disorders is Pompe disease, a debilitating and often fatal muscular disorder. Management of the disease used to be supportive, with patients progressing towards end-stage disease and often dying due to respiratory insufficiency. However, since the introduction of recombinant human α-glucosidase, patients’ morbidity and mortality has changed drastically. As well as briefly outlining the background to Pompe disease, this presentation will therefore provide an update on the latest publications and will present as yet unpublished results on the safety and efficacy of enzyme therapy in patients with the disease.

Background: Pompe disease is a rare lysosomal storage disorder caused by mutations in the α-glucosidase gene (located on chromosome 17) that lead to a total or partial deficiency in the enzyme α-glucosidase. This enzyme is responsible for breaking down glycogen in the lysosomal system, the deficiency causes glycogen to accumulate in different cell types, but particularly in skeletal muscle (1).

Like other lysosomal storage disorders, Pompe disease varies widely with regard to the age at onset and the rate of disease progression. The classic infantile form of the disease manifests itself at a median age of 1.6 months (2). This form is characterized by rapidly progressive generalized muscle weakness and severe hypertrophic cardiomyopathy. Patients usually die in their first year of life. Older children and adults have a more slowly progressive proximal myopathy without involvement of the cardiac muscle. The incidence of both forms is estimated to be one in 40,000.

In 2006, marketing approval was given to enzyme-replacement therapy with recombinant human α-glucosidase derived from Chinese hamster ovarian cells (Myozyme®). The therapy received orphan drug designation and was the first treatment ever approved for Pompe disease.

The first clinical studies to evaluate the safety and efficacy of recombinant human α-glucosidase were carried out in classic infantile Pompe patients (3–8). Enzyme therapy had positive effects on cardiac function, survival, and respiratory and motor function. However, not all patients responded equally well to the treatment; the main denominator for a patients’ outcome is thought to be the clinical condition of the patient at start of treatment.

There have been only two clinical studies in older children and adults (9,10). Both showed that enzyme therapy led to significant improvements in muscle strength and respiratory function in all patients. However, whilst mildly affected patients improved significantly, most severely affected patients stabilized.

The results published to date both in classic infantile patients and in older patients indicate the need for timely intervention. They also suggest that the window of opportunity for changing the course of disease is larger in older children than in patients with the classic infantile form of Pompe disease. If we are to build on these results, further long-term studies in children and adults with Pompe disease in different stages of disease are mandatory. A large double-blind placebo-controlled trial in children and adults is currently ongoing.

References:
6. Amalfitano A, Bengur AR, Morse RP et al., Recombinant human acid-alpha-glucosidase enzyme therapy for infantile glycogen storage disease type II:

16 June 2008, Monday
SYMPOSIUM 8 NUTRITIONAL PROBLEMS: OLD AND NEW CHALLENGES FOR THE GENERAL PEDIATRICIAN
Hall A- 11:30-13:00

S-8.1 The epidemic of obesity and the high risk adolescent
G Saggese, G Massai, F De Cesaris
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The prevalence of overweight and obesity in European children and adolescents has shown a steady increase over the past three decades. It is estimated that at least 155 million young people worldwide, 17 million in Europe, are overweight or obese. The World Health Organization defined this phenomenon as “a global epidemic”.

The prevalence of overweight and obesity in children and adolescents increased by a magnitude of two to five times in developed countries, up to almost four times in developing countries. Current estimates of childhood overweight and obesity range from 12% to over 30% in developed countries and from 2% to 12% in developing countries. However, the true extent of the problem is difficult to accurately estimate, because of variation in definition of childhood obesity between clinical and epidemiological studies.

Obesity has been described as a multi-factorial condition determined by genetic and non-genetic factors. It is widely acknowledged that obesity is to some extent, “heritable”. A complex interaction involving at least as many as 250 obesity-associated genes and non-genetic, environmental factors causes predisposition to obesity.

The rapid rise in obesity prevalence observed over the past two decades in genetically stable populations strongly confirms the need to tackle environmental factors leading to obesity.

Although causes of the increasing rates of obesity are not fully understood, it is becoming evident that lifestyles changes play a major role, in particular decreased physical activity and excessive energy intake. The World Health Organisation Survey on Young People’s Health reported that only 44% of boys and 33% of girls achieve the recommended daily amount of physical activity, this percentage decreases to 35% and 22% respectively at the age of 15. Furthermore, the rise in consumption of snacks, fast-food and sweet drinks and the decreased consumption of fruit and vegetables seems to have relevance to childhood and adolescent obesity.

Obesity in young people has been shown to be significantly associated with long-term morbidity and mortality. Indeed obese children and adolescents are at greater risk of metabolic disorders, cardiovascular diseases and psychological complications. This is also linked to the high persistence of childhood obesity into adulthood. In the near future, diseases related to obesity will probably become the main cause of death in many countries. This may lead to a shorter average life expectancy.

Recent studies have estimated that the prevalence of metabolic syndrome in obese children and adolescents is about 25% impaired glucose tolerance and silent type two diabetes are present in 36% and 6% of the obese adolescents respectively. Up to 40% of obese children and adolescents are affected by fatty liver disease.

Adolescence has been described as a particularly vulnerable period for the development of obesity. Prevention of adolescent obesity should be a goal, but treatment programmes for adolescents who are already obese are urgently needed to prevent them from becoming obese adults.

There is a growing consensus that effective intervention to address the obesity epidemic requires a multi-strategic approach involving all levels of society, both for the population as a whole and for the individual.

There is insufficient evidence in literature to conclude whether one particular dietary approach is superior to another for weight loss in adolescents. While dietary interventions that use a restrictive approach may reduce weight in the short term, they are not recommended for adolescents, except for the most severe cases.

Furthermore, very prescriptive diets are unlikely to produce the favourable diet and lifestyle behavioural changes required for long-term weight maintenance.

Less rigid approaches are generally easier to follow, but still aim to reduce energy and fat intake, improve eating habits and more closely follow the dietary recommendations and so improving nutritional intake in a less prescriptive manner.

While dietary approaches to weight loss for adolescents can be used successfully, there is evidence that dietary interventions are more effective in achieving weight loss when combined with other strategies, such as increasing physical activity levels and psychological interventions to promote behavioural changes.

The use of psychological interventions such as behavioural therapy and cognitive behavioural therapy combined with strategies to improve diet and physical activity show
promise, particularly in their potential for long-term maintenance of behaviours that assist in maintaining a healthy weight.

When more conservative treatments prove to be inadequate, pharmacological therapy and surgical procedures could be used to treat severe morbid obesity in adolescents.

Very few studies have examined pharmacological approaches to the treatment of adolescent obesity. Pharmacological agents, including Orlistat, Sibutramine, Metformin and the combination of the thermogenic stimulants caffeine and ephedrine, have all been reported to reduce weight and BMI in adolescents. Therefore, there is limited information regarding the efficacy and safety of pharmacological treatment approaches for obese adolescents and few existing studies, for the most part, report side effects and lack of long-term follow-up.

In the last years researchers have shown the effectiveness of Rimonabant, a selective cannabinoid type 1 receptor blocker, in reducing body weight and improving cardiovascular and metabolic risk factors in overweight and obese adults. In the future this drug might be successfully used in the treatment of adolescents obesity in combination with a mild hypocaloric diet and increased physical activity.

A surgical approach is indicated in extremely obese adolescents (BMI > 40 Kg/m² in combination with serious complications or BMI > 50 Kg/m² in combination with less severe obesity-related complications). Most of the studies indicated that outcomes of surgical procedures in adolescents, including gastric bypass and gastric banding, were comparable with those in adults, with a mean weight reduction of 60% following surgery. Despite this large weight reduction, long-term follow-up is limited and post-operative complications appear quite common. Hence the safety and sustained benefit of surgical treatment for adolescent obesity is still uncertain.

However, given the difficulty of behaviour-based weight loss programmes, subsequent weight maintenance, the expense and potential harm of medication and surgery, prevention should be considered the most important strategy for controlling the pandemic of obesity.

Prevention must be implemented at all different levels of society.

Pediatrician’s role is relevant both in the “primary” prevention (controlling all children and adolescents weight and promoting healthy diet and daily physical activity) both in the early identification of subjects at risk of developing overweight and obesity (children with precocious adiposity rebound, high energy intake, sedentary lifestyle or not breast feed).

In addition to this, prevention should involve schools, governments and foods industries. Children and adolescents spend many hours at school, so it would be useful to include nutritional education in school, to monitor school menus, which are often unbalanced and hypercaloric. Replace snacks and sweet-drinks in vending machines with fruit, vegetables and water.

Also, time devoted to physical activity should be increased in schools.

Governments have a crucial role in fighting child and adolescent obesity, in particular by promoting the implementation of national prevention programmes.

Institutions should also promote food industries to produce healthy foods and to give correct nutritional information on products and packaging.

Finally, institutions should regulate the number and type of food advertising on television and promote advertising on healthy diet and daily physical activity benefits.

References:
SYMPOSIUM 8 NUTRITIONAL PROBLEMS: OLD AND NEW CHALLENGES FOR THE GENERAL PEDIATRICIAN

S-8.2 Breastfeeding: clinical counselling
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Breastmilk is the unique gift that could be offered from the mother to her offspring. Although enormous data is collected in the literature, there is doubt many will be added in the near future. In daily life, breastfeeding is a simple, an instinct practice experienced throughout centuries.

What makes the breastmilk unique? Both scientific and anecdotal knowledge supports the evidence. In antecedent era it was the only available food, but in the civilised world feeding by “new fashion- expensive food” became a matter of superiority. It took many years to “re-explore” the advantages and breastfeeding and breast milk in the civilised world, but the damage has not been repaired in the developing countries as well as in the developed communities.

For a healthy breastfeeding, first 6 months all the infants should be fed only by breastmilk. Although many public campaigns are held by World Health Organisation to promote breastfeeding, as to 2003 only 41% of the mothers were exclusively breastfeeding for 3 months in USA. As for 6 months only 36% infants were receiving any human milk and only 14% were exclusively breastfeeding. While African-American breastfeeding rates in 2003 were only 54.9% and in 6 months were only 23.9%, this group is improving rates in recent years (30% increase from 1996 to 2001). For Turkey since early 1990s with the initiation of Baby Friendly Hospitals initiative, breastfeeding campaigns were held throughout the country. In 1993 breastfeeding for 0–3 months were 10.3%, for 6 months 4.3%. As for 2003 these rates were 27.3% and 7.6% respectively.

The nutritional components of breastmilk is convenient for the needs of the infant as well as the protective properties for the mother’s health (postpartum hemorrhage, breast cancer) not only in shortwhile (respiratory, urinary and gastrointestinal system infections, otitis media, necrotising enterocolitis, sepsis, meningitis), but also for the long term consequences (diabetes, obesity, allergy, colitis). The composition of the human milk is designed to the changing needs for the infant, as term infant’s milk is different than the milk of a preterm infant like variable protein and electrolyte content. The protein is whey dominant in breastmilk which is made soluble, whereas bovine milk is rich from casein that has low solubility, not easily digested. Energy is supplied from lactose in breastmilk that also enables absorption of minerals. The lipids are rich as essential fatty acids and easy to be absorbed. Although the amount of minerals and vitamins are lower than the bovine milk, the bioavailability of these nutrients are much more. Specific factors which also make the breastmilk superior to other types of nutrition are some proteins like lactoferrin, lysozyme and IgA for promoting immune function of the infant. Bioactive lipid and carbohydrates, cellular elements, nucleotides present in breast milk also support the immune function. Some hormones and growth factors play roles in maturation and protection from infection.

Besides all these properties breastfeeding has a very strong positive effect for the infant and the mother for their bonding. This is a very delicate period for the mother and during lactation endorphins are secreted and the mother is relaxed. The cognitive function is much more developed especially for the preterm infants who are breastfed.

For the successful breastfeeding the family, health care givers (practitioners, nurses, midwives) and the community should be continuously trained and enlightened. It is ideal for a family to take counselling before conception, but at the first visit after conception is acceptable. After delivery it is late, but aid to the mother and the family is very important at this stage. It proves difficult if the mother is discouraged for breastfeeding in the initial phase, she is tired and disappointed. At this stage the health care giver is the key determinant. Helping the mother and infant how to suck, how to handle, how to do the positioning needs very little time but deserves attention. After discharge at the first visit a part of the physical examination should be the examination of the breastfeeding. If there is failure, the mother should take help in practical terms as well as the training with the family.

Each hospital should have their written policies to promote breastfeeding. “Ten steps to successful breastfeeding” rules designed in 1994 by WHO and UNICEF are used worldwide to promote breastfeeding. If these steps are followed properly, most of the infants will be able to have this unique gift.

16 June 2008, Monday
SYMPOSIUM 9 NEW TRENDS IN IMMUNOLOGICAL THERAPY
Hall B - 08:30 - 10:30

S-9.1 Substitution therapy: intravenous or subcutaneous immunoglobulins?
H Chapel
Oxford, UK

Replacement immunoglobulin therapy has been used for patients with primary immune deficiencies for over 50 years. Initially outcomes with the intramuscular preparations showed that whilst serious infections were often prevented, breakthrough infections still occurred and life expectancy severely curtailed. The advent of intravenous products, enabling larger doses to be given, resulted in improved survival and recent data, from the last decade when higher doses of IVIg have been used, show a further improvement.
However late diagnosis or under treatment are still causes of considerable morbidity in adults and children with primary antibody deficiencies.

Methods of delivery and the choices now available will be discussed, along with current risks of transmission of infectious agents and infusion-related adverse events.

**SYMPOSIUM 9 NEW TRENDS IN IMMUNOLOGICAL THERAPY**

**S-9.2 Lessons from immunoablation and stem cell therapy**

A Radbruch, I Albrecht, U Niesner, G R Burmester, R Arnold, T Alexander, F Hiepe, A Thiel, H-D Chang

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Current therapeutic strategies for chronic inflammatory diseases are primarily based on the suppression of ongoing inflammation. Although efficient, they do not provide a cure to many patients. Complete immunoablation in patients with autoimmune diseases such as Systemic Lupus Erythematosus, Multiple Sclerosis or Rheumatoid Arthritis, followed by the regeneration of their immune system from stem cells, has led to therapeutic success. In several such patients treated by us in the past 10 years, therapy-free remission has been achieved. The molecular reason for the failure of conventional immunosuppressive therapy to cure these patients is unclear. One reason for this may be that state-of-the-art immunosuppression does not target pathogenic immunological memory. Immunological memory is imprinted, does not depend on antigenic stimulation and functions independent of proliferation, making it refractory to physiological regulation and therapeutic immunosuppression. The question, which cells of immunological memory make up the pathogenic proinflammatory memory for chronic inflammation is of central importance for the development of new, specific therapeutic strategies aiming at a longer, therapy-free remission of inflammatory rheumatic diseases, i.e. the cure of autoimmunity.

One type of pathogenic memory cells identified so far are autoantibody-secreting memory plasma cells, which are refractory to immunosuppression by cyclophosphamide, steroids and anti-CD20 (rituximab). Plasma cells are eliminated by immunoablation with "anti-thymocyte globulin" (ATG). Both, protective and autoreactive serum antibodies (humoral memory) disappear upon immunoablation with "anti-thymocyte globulin" (ATG). Both, protective and autoreactive serum antibodies (humoral memory) disappear upon immunoablation with "anti-thymocyte globulin" (ATG). Both, protective and autoreactive serum antibodies (humoral memory) disappear upon immunoablation with "anti-thymocyte globulin" (ATG). Both, protective and autoreactive serum antibodies (humoral memory) disappear upon immunoablation with "anti-thymocyte globulin" (ATG). Both, protective and autoreactive serum antibodies (humoral memory) disappear upon immunoablation with "anti-thymocyte globulin" (ATG). Both, protective and autoreactive serum antibodies (humoral memory) disappear upon immunoablation with "anti-thymocyte globulin" (ATG).

Since over 100 years it has been known that blood platelets are anucleate cellular fragments that are derived from large progenitor cells designated megakaryocytes (MKs) which reside in the bone marrow. MKs differentiate from hematopoietic stem cells in the presence of thrombopoietin (TPO) as the pivotal humoral regulator. Each mature megakaryocytes gives birth to about 1000 platelets that are virtually identical, all provided with a peripheral microtubule coil which is essential to maintain platelet discoid shape. However, the cell biology that underlies the mechanism of platelet biogenesis has remained elusive. Recent attempts to study thrombopoiesis in vitro and in vivo have now provided new insight into this enigmatic process.

Thrombopoiesis is best studied in vitro using mouse fetal liver cells. Timed-pregnant mice are sacrificed on gestation day 13.5 to 15.5. A single cell suspension is generated from fetal livers and cultivated in the presence of TPO. On day 3 of culture cells MKs are readily identified by their increased cell size. On day 4–5 about one third of large MKs start to form long cellular protrusions referred to as proplatelets. They are about 3 μm in diameter, highly branched and the elaborate structures emanating from a single cell can extend up to 500 μm in length. The formation of proplatelets is strictly dependent on the assembly of tubulin. Newly formed microtubule filaments drive proplatelet elongation by a combination of de novo polymerization and sliding of protofilaments. Proplatelets are decorated along the shaft with platelet-sized structures and form tear-shaped endings at the very tip where microtubules are coiled up to form the future platelet marginal band. Finally, these distal swellings are shed and form newly released platelets. Analysis of these in vitro-generated structures reveal that they share all features of peripheral blood platelets including the expression of specific surface receptors and they react toward platelet agonists with the release of granules which can be controlled by flow cytometry. This proplatelet "flow" model thus provides a bonafide theory for platelet formation. However, the experimental setting does not address the interaction of MKs with the bone marrow or does explain how platelet formation occurs in vivo across the endothelial barrier.
from the bone marrow into the blood vessels. To address platelet formation in vivo we took advantage of a transgenic mouse model where a cDNA encoding enhanced yellow fluorescent protein (eYFP) is expressed under the GPIIb promoter. An introduced myristoylation acceptor site at the C-terminus allows anchoring of eYFP into the internal MK demarcation membrane system (DMS). The DMS is an extended membrane reservoir required for surface amplification during thrombopoiesis. Heterozygous eYFP-knock-in mice have normal platelet counts and about 30% of mature MKs in the bone marrow express the recombinant protein. We studied heterozygous mice by Multi-Photon Intravital Microscopy (MP-IVM) in the skull bone marrow. Transgenic MKs are detected by their red fluorescence. Blood vessels were visualized by tail vein injection of high-molecular FITC-dextran. MKs were exclusively situated in close vicinity to sinusoids, mostly in clusters and at vessel bifurcations. Mature MKs released proplatelet-like structures across the endothelium into the blood stream where they were subjected to the shear flow. Surprisingly, the cellular fragments released into the vasculature were about 5 to 7 μm and mostly of roundish to elliptoid shape and thus substantially larger than proplatelet-derived platelet released in cell culture. We therefore conclude that at least in part, final thrombopoiesis occurs within the blood stream. These findings help to better understand how newly formed platelets are released and why very young platelets might be more functional than older ones, especially in disorders like immune thrombocytopenia.

SYMPOSIUM 10 IMMUNE THROMBOCYTOPENIA IN CHILDHOOD

S-10.2 Update of diagnosis and management of immune thrombocytopenic purpura in children

P Imbach

University Children’s Hospital, Basel, Switzerland

Definition and Incidence: Immune thrombocytopenic purpura ITP is a bleeding disorder characterized by platelet destruction due to (auto-) antibody binding resulting in early platelet phagocytosis. ITP occurs in a primary and a secondary form. The primary form is an isolated thrombocytopenia in an otherwise healthy individual. The secondary form includes all other ITP (e.g. Lupus-, HIV-, drug-related ITP).

The incidence in children with newly diagnosed ITP is estimated 5.3–5.7 patients per 1,000,000 children per year.

Pathophysiology and Etiology of ITP: In patients with ITP the maintenance of selftolerance and the effective immune response seem to be altered in the presence of inflammatory or autoimmune process. Circulating antibodies and/or immune complexes adsorb to the platelets resulting in early opsonophagocytosis and destruction by macrophages. The quantity of platelet destruction and platelet production correlates with the degree of severity of ITP.

In ITP—and in many other inflammatory and autoimmune disorders—multiple possibilities of disturbances on the different levels of the immune cascade are documented, today: on the level of antigen presentation, T-cell activation and signalling, B-cell regulation, antibodies/idiotypic antibodies production, on activation /suppression of complement, on opsonophagocytosis and apoptosis.

The etiology of ITP is still unknown. Why some children are susceptible and others not, may be a question of molecular genetic alterations. First analyses support such alterations of the immune response in ITP.

Significance of immunologic aspects and of growth factors in ITP:

Three main developments made ITP to a model of pathophysiology and treatment in inflammatory and autoimmune diseases within the last 60 years:

- In 1980 human antibodies concentrate from healthy blood donors (IVIG) immediately increased platelet counts in ITP (Lancet 1981;1:1228–1231). This was the first targeted therapeutic immunomodulation, which is today used in a broad field of chronic inflammatory and autoimmune diseases. In 1980 300 kg of IVIG was produced worldwide, which increased to over 60 tonnes until 2006 (personal communication by CsI Behring).
- In 1994 recombinant thrombopoietic growth factor has been developed, but evoked autoantibodies of volunteers in early clinical studies. A second generations of thrombopoietin agonists stimulate growth of thrombopoietin-dependent cell lines and demonstrated safety, tolerability and efficacy in patients with ITP. (For review see Blood 2007;109:4607).

These milestones induced the new therapeutic immunomodulation and – on the other part – stimulation of platelet production in ITP and other disorders with thrombocytopenia. The mechanisms of action are complex and subject to many laboratory studies.

Clinical manifestation of ITP: The clinical manifestation, the severity of bleeding and of platelet count, and the natural history of ITP are heterogenous. The patients and the parents are fearful of bleeding and tyrannized by low platelet counts. The outcome of individual patients cannot be predicted, although the majority of children have spontaneous resolution or improvement of ITP. In two ICIS registries of over 3,000 children with newly diagnosed ITP 2/3 of them had initially platelet counts below 20x10⁹/l. The rate of severe bleeding was low; the rate of intracranial bleeding 1:700. The initial management decision correlated with the mean platelet counts (in brakes): about one third of children got IVIG (8.1x10⁹/l), one third corticosteroids (13.5x10⁹/l) and one third was observed without treatment (28.6x10⁹/l). Clinical follow up: 30% of
the children in ICIS registry I had persistent ITP at 6 month after diagnosis, from which 25.3% recovered between 6 to 12 months (for details see Lancet 2001;358:2122 and Pediatr Blood Cancer 2006;46:351).

In children with persistent ITP of 3–6 months duration, additional laboratory tests are recommended: bone marrow analysis, endocrine function, analyses of chronic infectious and immunologic diseases etc.

Management: For practical patient care a simple categorization of the clinical severity of ITP is useful. A proposal is “Staging and Management” based on bleedings and quality of life rather than on platelet counts, shown in Table.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Bleeding</th>
<th>Platelet count (x 10^9/L)</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Minor/mild bleeding, normal life style</td>
<td>&gt;10 - 20</td>
<td>Consent for observation</td>
</tr>
<tr>
<td>2</td>
<td>Moderate bleeding, troublesome life style</td>
<td>&lt;10 - 20</td>
<td>Punctual intervention to reach Stage 1</td>
</tr>
<tr>
<td>3</td>
<td>Severe, life-threatening bleeding</td>
<td>Mostly &lt;10</td>
<td>Intervention</td>
</tr>
</tbody>
</table>

In stage 2 consensus between the individual patient and the physician should be reached for observation, when the patient reaches stage 1 after a punctual treatment.

Today therapeutic approaches are targeted to the disturbed immune response: Antigens are eliminated by antibiotics or by antiviral drugs; lymphocyte functions are downmodulated by cyclosporine A or tacrolimus; B-cells and antibody generation are modified by monoclonal antibodies (e.g. Anti-CD-20, Anti-CD 52); phagocytosis is competitively decreased by Anti-D immunoglobulins; and IVIG alter the immune response at various levels.

In the near future, stimulation of thrombopoiesis will eventually be an additional approach (see above).

While the transfusion of IVIG or Anti-D have rapid immunomodulatory effects (platelet increase within 1–3 days), the platelet stimulatory effect occurs 5–14 days after starting thrombopoietin agonist.

For interventional management the following procedures/therapeutics are recommended:

- IVIG: 0.4–0.8 g/kg bodyweight (bw) once
- Anti-D immunoglobulin: 50–75 microg/kg bw once
- Corticosteroids: 4 mg/kg bw daily during 2–4 days, then tapering during 3 days
- (Thrombopoietin agonist): not available today

Emergency treatment: In severe life-threatening bleeding:

- Start with Corticosteroids 30 mg/kg bw or dexamethasone 1–2 mg/kg bw
- Followed by IVIG: 0.8–1.0 g/kg bw per dose
- As third: Platelet transfusion
- Refractory ITP:
  - (Thrombopoietin Agonist): not available today
  - Suppression of B-cells: Anti CD 20-, Anti CD 52-monoclonal antibody
  - Suppression of T-cells: cyclosporine A: 2-5 mg/kg b.w. per day, tacrolimus
  - Vincristin iv: 1.5mg (max. 2 mg)/m2 weekly x 4-6 plus 2 mg corticosteroid/kg bw daily x3 per week
  - Consider also: Interferon, mycophenolate mofetil, high dose corticosteroids or dexamethasone
  - Splenectomy
  - Classic options (individual indications): Azathioprine, cyclophosphamide, other cytoatoctics

Clinical research:

As a result of the heterogeneity of ITP and various controversies, current practice (guidelines etc.) does not always follow the various recommendations. Prospective evidence-based studies are needed. Since 1997 the ICIS group has established an international network of physicians and scientists collaborating in prospective databases and studies (see www.unibas.ch/itpbasel).

The ongoing Pediatric and Adult Registry of Chronic PARC ITP database has the objective of defining subgroups within ITP on the basis of natural history, genetics, demographics, quality of life and other criteria.

In conclusion: ITP is today a model for immune related disorders and for new biologic treatment. The disturbed immune response of the patient is the focus of targeted therapeutic immunomodulation by IVIG, Anti-D, T-cell suppression, monoclonal Anti-B-cell therapeutics, FcR regulation. On the other part of physiology stimulation of thrombopoietin-dependent cell lines increasing platelet counts might soon be available. Above a procedure for children with short term and with refractory ITP is described.

**SYMPOSIUM 10 IMMUNE THROMBOCYTOPENIA IN CHILDHOOD**

**S-10.3 Immune thrombocytopenia in the fetus and neonate**

C Dame

Charité – Universitätsmedizin Berlin, Klinik für Neonatologie, Campus Virchow-Klinikum, Augustenburger, Berlin, Germany

Thrombocytopenia, as defined by a platelet count < 150 ml, occurs in 0.1 to 2% of all neonates and has an immune origin in about 1/3. Neonatal immune thrombocytopenia, caused by the transplacental passage of maternal anti-platelet antibodies, is a transient disease of the otherwise healthy newborn. While alloimmune thrombocytopenia is due to the development of maternal IgG antibodies against paternal platelet antigens, autoimmune thrombocytopenia results from maternal autoantibodies. Diagnosis of neonatal alloimmune thrombocytopenia is usually made by the exclusion of other causes for thrombocytopenia and confirmed by molecular biology techniques (e.g. MAIPA) that can detect weak or rare
antibodies as well as mixtures of antibodies. Maternal antibodies are most frequently directed against human platelet antigens 1a (HPA-1a; 75%), HPA-5b (15%) or HPA-15b (4%). At a given antigen constellation, manifestation of the disease is associated with the presence of certain HLA (human leukocyte antigen) types. 80% of intracranial hemorrhage (ICH) associated with alloimmunization occurs in utero, with 14% before 20 weeks and a further 28% before 30 weeks of gestation. Thus, screening programs have been initiated in single countries, but unfortunately no reliable laboratory test is available to predict the severity of the clinical disease. There is also no consensus on the antenatal management of pregnancies with known HPA immunization, but the disease can be more severe in subsequent pregnancies. Treatment strategies include intravenous immune globulin (IVIG), corticosteroids and intrauterine platelet transfusion, alone or in combination. The largest prospective study recently indicates that fetal transfusions are associated with a significant morbidity and mortality. In the neonatal period, 80% of neonates with HPA immunization show petechia (in 90% platelet counts are < 50 ml), 10–15% suffer from gastrointestinal bleeding, and 10–15% develop ICH. Postnatal management is also very variable. In Europe, transfusion of HPA-compatible platelets from either accredited HPA-typed donors or from the mother (after washing to remove antibodies) is recommended, if platelets are < 30 ml. Platelet counts normalize within 4 weeks. Recent preclinical studies test a modified HPA-1a Antibody CamTran 007 to block harmful effects of HPA-1a. The incidence of autoimmune thrombocytopenia in neonates from mothers with autoimmune diseases varies between 13% and 56%. At birth, platelet counts are often normal and reach a nadir between day 2 and 5. At day 3, about 14% of neonates have platelet counts < 50 ml; among them 10% develop ICH. Platelet transfusions are recommended, if platelet counts are < 30 ml.

17 June 2008, Tuesday
SYMPOSIUM 11 ASTHMA AND THE WHEEZING CHILD
Hall A - 8:30-10:30

S-11.1 Chemokines as biomarkers for allergic inflammation
D Hartl
Department of Pulmonary and Critical Care Medicine, Elias Laboratory, Yale University School of Medicine, New Haven, CT, USA

The diagnostic differentiation between allergic asthma and non-allergic cough can be difficult since the standard clinical and laboratory parameters are of limited value particularly in young children. However, selection of patients who will benefit from a more extensive evaluation and an anti-asthmatic treatment is crucial. Asthma is believed to be a T-helper cell type 2 (Th2) cell dominated disorder. Thus, Th2-associated markers may be helpful to early identify children who are predisposed to or already feature allergic asthma. Th2 cytokines, however, are often undetectable or show broad ranges of detection in human body fluids. Chemokines are a group of chemotactic cytokines that attract leukocytes through their corresponding G-protein coupled receptors to sites of inflammation. Chemokine receptors were found to be preferentially expressed on Th1 or Th2 lymphocytes. According to this concept, chemokines and their receptors can be classified as Th1 and Th2 associated chemokines and chemokine receptors. In particular, the Th2 chemokines CCL17 (TARC) and CCL22 (MDC) have proven useful in the identification and longitudinal characterization of allergic airway inflammation in infants and children. Chemokines represent novel biomarkers for allergic asthma and should be considered as future therapeutic targets.

SYMPOSIUM 11 ASTHMA AND THE WHEEZING CHILD

S-11.2 Useful lung function tests in asthma diagnosis and follow-up
P Latzin
Department of Paediatrics, Paediatric Respiratory Medicine, University and Inselspital of Bern, Switzerland

Early diagnosis and regular follow-up of pediatric asthma are important in order to reduce disease burden and medication use. The most important lung function tests for diagnosis and follow-up of asthma in childhood are measurements of spirometry and resistance (airways and respiratory system resistance). With bronchial challenge tests a possible hyperreactivity of the airways can be assessed, lung function after inhalation of a bronchodilatory substance gives information on airway reactivity. The inflammatory status of the airways can be assessed by exhaled nitric oxide (eNO).

Spriometry is still considered as gold standard for the diagnosis of asthma, but is difficult to perform in young children. The potential of measurements of respiratory resistance, particularly to determine the presence of a bronchodilatory response is actively being assessed in this age group.

Measurements of eNO are increasingly used, as they are easy to perform even in young children and give additional information about the inflammatory status of the airways. Furthermore, eNO helps in determining which patients will benefit from inhaled corticosteroids, in predicting exacerbations and steroid reduction or withdrawal.

SYMPOSIUM 11 ASTHMA AND THE WHEEZING CHILD

S-11.3 Status asthmaticus
T Nicolai
University Childrens Hospital, Munich, Germany

A severe attack of asthma is defined by its symptoms and signs: The patients are unable to speak or eat, prefer an
upright position and their arms held fixed laterally. PEF is < 50% of individual optimum, and their breathing frequency >5Y > 30/min; 2–5 Y > 40/min. their heart rate > 5Y > 120/ min.; 2–5 Y > 130/min, the SaO2 < 90% in room air.

Initial therapy includes 2–4–(10) puffs of short acting β2-
sympathomimetic drug up to every 10 min. (always use
spacer, or pressure inhalator with mouth piece or mask).
2–3l/min. oxygen are applied through mask or nasal prong
if needed, and 1–2 mg/kg prednisolone orally or i.v. (evtl.
with higher dose rectally) should be given early and be
followed up with 1–2 mg/kg BW every 6 h, and usually
3 days of steroid treatment are sufficient. Other drugs
include ipratropiumbromide (20 μg/puff or 250 μg/dose as
suspension, while Theophyllin i.v. is given only for severe
or non-responding bronchospasm despite maximal dose of
bronchodilators and steroids, and for inpatients. Antibiot-
cics are not indicated.

Further options in ICU include continuous inhalation
(Salbutamol) or rarely a short infusion of Reproterolhydro-
cloride (< 3 month) 1 μg/kg/min over 10 min or a contin-
uous infusion: 2 μg/kgBW/min for 36–48 h, (heart rate
< 200/min!). Under intensive care management, magne-
sium-sulfate, ipratropiumbromide, theophylline (see above,
monitor serum level frequently!) can be given. One always
has to think of complications and treat them: Hyokalemia,
Hypophosphatemia, Hypoglycemia as well as dehydration/
hyperhydration can occur. If agitation is present, one might
consider very cautious sedation (in ICU!), which, however,
can cause abrupt failure and need for intubation.

Further therapeutic options in respiratory failure
include heliox (70% helium/oxygen mixture) which has
1/5 density and resistance of air and as a last resort, the
induction of anaesthesia after intubation (ketamin and or
isoflurane are potent bronchodilators). Mucus impaction
can occur and one may try DNase per inhalation, or
after intubation, suction/BAL might assist in removal of
local obstruction.

Artificial ventilation for asthma is risky because high
pressures may be needed (tolerate high pCO2!), sedation is
necessary (rarely but sometimes: muscle relaxation). Long
I:E ratios (1:5 or longer), low frequencies (10/min) are
typically required and sometimes low to moderate PEEP
helps to overcome airflow limitation or auto-PEEP (in
assisted ventilation). Bronchoscopy through the endotra-
chial tube may reveal plugs that can be lavaged/removed.
A pneumothorax in ventilated asthma patients usually
requires rapid drainage. Finally, the differential diagnosis
of therapy resistant status asthmaticus must include foreign
body aspiration, tracheobronchial compression, staphylo-
coccal tracheobronchitis and rarely psychogenic dyspnoea.

In conclusion, good chronic asthma therapy has
developed the frequency of severe asthma attacks, and a
large armamentarium of drugs and measures allows to treat
even severe attacks. Treatment has to be early and aggres-
sive and importantly, after every asthma attack that leads to
a hospital admission the chronic therapy must be changed
and a possible non-compliance with treatment identified
because these patients are at risk for sudden asthma deaths.
affected by thalassemia major will be initiated. Finally, great strides occurred recently for the discovery of the ability to produce an embryonic like stem cell by introducing in a fibroblasts four genes [cMyc, Oct 3, Sox2 and Klf4 (induced pluripotent stem cell or iPSc)]. In a mouse model of sickle cell anemia generation of iPSc cell from autologous skin followed by gene correction through homologous recombination by gene-specific targeting lead to obtain autologous hematopoietic stem cell, functionally corrected of the sickle-cell defect. Transplantation of these cells lead to resume the mouse affected by sickle-cell anemia.

It is reasonable to assume the possible development in the future of this form of therapy in children affected by thalassemia major.

17 June 2008, Tuesday
SYMPOSIUM 13 THE FRONTIERS OF PEDIATRICS
Hall A - 12:00 - 13:30

S-13.1 Demography of adolescent health care delivery and training in Europe
O Ercan*, M Alikasifoglu, E Erginoz, J Janda, P Kabicek, A Rubino, A Constantopoulos, O Ilter, M Vural
Department of Pediatrics, Istanbul University, Cerrahpasa Medical Faculty, Istanbul, Turkey

Background: Adolescence is a period of childhood with rapid developmental changes. During adolescence, experimentation with taking adult roles, relationships and responsibilities can put adolescents at risk. Key health challenges during adolescence are quite different than those during childhood and include injuries, sexual and reproductive health, unhealthy behaviours linked to the use of substances and to diet and physical activity, and mental health. These challenges make them individuals with special needs.

On the other hand, “The Convention of the right of the child” obligates protection of children’s rights by setting standards in health care with a core principle of non-discrimination in their implementation. The convention also states the upper age limit of childhood as 18.

Due to the appeal of the fact that adolescent health is one of WHO’s priority areas for action to improve the health and development of children and adolescents, European Paediatric Association – UNEPSA aimed to determine the status of adolescent health care and training in Europe and factors that were associated with adolescent health care and training with the hope that conclusions of this study will have practical implications in the fulfilment of the obligations of the Convention of the right of the child.

Methods: A questionnaire was mailed to the presidents of 48 national paediatric societies in Europe. For statistical analyses, non-parametric tests were used as appropriate.

Results: Six of the countries had a paediatric (PSPCA), 14 had a combined and 9 had a general practitioner/family doctor system for primary care of adolescents (GP/FDSA).

Paediatricians served children up to 17 years of age or later in 14 and 17, up to 16 years of age in three and six and up to 14 years of age in six and six countries in outpatient and inpatient settings, respectively.

Fifteen (51.7%) and eighteen (64.3%) of the countries had some kind of special inpatient wards and outpatient clinics for adolescents, respectively.

Twenty six (89.7%) of the countries had some kind of national/governmental screening or/and preventive health programmes for adolescents.

In countries with PSPCA, GNI per capita was significantly lower than in those with GP/FDSA and mean upper age limit of adolescents was significantly higher than in those with the other systems.

In the eastern part of Europe, mortality rate of 10–14 year olds was significantly higher than that in the western part (p = 0.008).

Training in adolescent medicine was offered in pregraduate education in 14 countries (48.3%) in the paediatric curriculum and in the context of paediatric residency and GP/family physician residency programmes in 18 (62.1%) and 9 (31%) countries respectively.

Adolescent medicine was reported as a recognized subspecialty in 15 (51.7%) countries and as a certified subspecialty of paediatrics in one country.

In countries with PSPCA, paediatric residents were more likely to be educated in adolescent medicine than paediatric residents in countries with GP/FDSA.

Conclusions: The results of the present study showed that there seems to be a need for reconstruction and standardization of adolescent health care delivery and training in European countries. Proposals of UNEPSA are as follows: A comprehensive adolescent health care programme could be integrated into the primary health care system in each country. Upper age limit for paediatric health care should be set at 18. Universal programmes should be uniformly given to all adolescents and confidential practice especially on sensitive issues should be a part of adolescent health care. Adolescent medicine could be a certified multidisciplinary subspecialty of paediatrics. UNEPSA could play a key role in the implementation of these goals.

SYMPOSIUM 13 THE FRONTIERS OF PEDIATRICS

S-13.2 The borders, limits and horizons of 21st century European pediatric practice
S Barak
Department of Neonatology, Maccabi Health Services and Tel Aviv Sakler Medical Center, Tel Aviv, Israel

Pediatrics is the only specialty in Medicine neither based on Anatomical/Functional Systems nor in Professional Methodologies but on the capability of it’s members to deal and treat a specific group of humanity defined in principle by it’s age but actually being a unique group with structural, functional, environmental, prophylactic and therapeutic...
concerns and considerations to be taken. Historically, this age limits have been defined as "birth to 18" or "birth to adolescence". Lately this axiomatic view has been challenged, especially regarding Antenatal Health issues (Fetal Medicine), Adolescence issues and the treatment of Pediatric diseases in adult patients. Some important issues need to be examined from the European angle:

1. Who should treat the Pediatric Patients in Europe? Each European Nation and National Pediatric Society or Association has a health system tailored to their resources, especially Demography, Geography, Economy and Socio-political status. Are these systems rigid or flexible?

2. Does the job of a Pediatrician end exactly on midnight of a specific birthday? Adolescence is one of the most sensitive periods of life. The continuity of the child-doctor relationship is particularly important in a period when new special problems arise. The need for support from an "outside-the-family" adult person adolescents have known for many years, in whom they have confidence and from whom they keep no secrets is crucial, particulariy in adolescents suffering from chronic diseases and disabilities.

3. If an age range has to be defined - can we agree on one acceptable by all UNEPSA members? Is there a way to reconcile the various paediatric health care systems in Europe, each of them anchored in its historical-legal-political-cultural-socio-economic bedrock?

4. What is the alternative to defining Pediatrics by the age of those treated? Should EPA-UNEPSA's define paediatric practice in an ideal philosophical context, based upon some sine qua non minimal requirements that would be embraced by each National Pediatric Association as minimum.

Based on the principles and points mentioned in this lecture and the previous addresses and pending on the debate that will follow, a preliminary draft for an UNEPSA declaration on the Age Limits of Pediatrics will be presented to the audience for discussion.

**SYMPOSIUM 13 THE FRONTIERS OF PEDIATRICS**

*S-13.4 What is the role of pediatricians in prenatal life?*

J Grgurić, Z Zakanj

Children's Hospital Zagreb, Croatia

Role of pediatrics in the future will have important role in the care for fetus.

Fetology is developing and multidisciplinary approach is needed. Fetology shouldn't be considered as a new subspeciality. It only proposes orientation of pediatrics to adequate fetus care. Fetal care should be a team work that directs paediatrician, especially neonatologist, to fetus growth and development.

Problems of early child development forcibly determine later growth and development and is known that many of them originate from the intrauterine period.

Prematurity, small-for-date, various impairments connected to antenatal factors will hardly be solved without wide health care (primary, secondary, tertiary) and cooperation of complementary specialties.

Tasks of a Paediatrician in Fetology Primary Prevention:

- Modern pediatrician working in the primary health care (outpatient or ambulantary) increasingly gets attributes of a family pediatrician or a pediatrician in community.

In that sense, family and community health data and social conditions serve as basic presumptions for the possible interventions in the antenatal care.

- prepares future parents for responsible parenthood participates in preconception period, especially in genetic-counselling

- in cooperation with family-doctor (general practitioner) and gynecologist participates in intrauterine growth/nutrition monitoring, infection prevention etc.

- involvement in surveillance of fetus coming from the family with hereditary and chronic diseases monitors fetus growth and development coming from multiple pregnancy and socially deprived family prepares becoming mothers for breastfeeding (breast-feeding decision is adopting in pregnancy)

Tasks of a Paediatrician in Fetology Secondary Prevention:

- on the level of maternity hospitals/wards, participation in permanent neonatology service that monitors fetus in danger and prepares its delivery

- involvement in endangered pregnancy monitoring in team work with gynecologist/obstetrician

- participation in treatment of pathological conditions occurring in fetal period

Tasks of a Paediatrician in Fetology Tertiary Prevention:

- on medical centers level, establishment of special teams consisting of gynecologist/obstetrician, neonatologist and experts with ability of intrauterine intervention on fetus.

- It is known that some paediatric subspecialities have already "stepped" in the prenatal period (fetal cardiology for example). participation in expert groups for ethical questions on fetology

**SYMPOSIUM 13 THE FRONTIERS OF PEDIATRICS**

*S-13.5 Definition of pediatrics from a historical perspective: The main steps in progress (diagnostic and therapeutic modalities) facing the 21st century pediatrician*

É Oláh

Clinical Genetic Center, University of Debrecen, Hungary

Pediatrics separated as an independent discipline in the middle of 19th century achieved a great progress in the 20th century due to a better understanding of mechanism of growth and development, recognition of nutritional disturbances, introduction of mass vaccination and use of antibiotics. Rapid development of immunology, virology and genetics made it possible to understand the pathomechanism of various diseases and lead to a shift from cure to normal growth and development, well-being of children,
prevention and providing the continuity of paediatric care from birth to adolescent age. – The spectrum, relative frequency and severity of childhood diseases has changed: new diseases have come to the front; fight started for curing malignant diseases, saving very small birth weight babies, preventing accidents, obesity and allergic diseases. New diagnostic methods have become available offering new possibilities for fast and accurate diagnosis as well as adequate, early treatment. A great progress in the field of therapy allows complete recovery even from severe, previously fatal diseases All this was completed by new possibilities of prevention. Advances in diagnostic and therapeutic methods led to a basic change of pediatric practice: new possibilities in prevention and therapy of inherited diseases turned our attention towards prenatal life; on the other hand, special problems of adolescents (drug abuse, sexually transmitted diseases, suicides) have gained importance meaning new challenges for pediatricians. On the basis of this arises the question: how do new possibilities change the responsibility of pediatricians; to what extent do new challenges mean new duties. We have to consider whether we do need a new definition on the chronological limits of pediatric competence? This is a question to consider.
 WORKSHOPS

14 June 2008, Saturday

WORKSHOP 1 PRENATAL AND NEONATAL SCREENING IN EUROPE
Hall A - 08:30–10:30

WS-1.1 The consequences for clinicians of expanded newborn screening for inherited metabolic diseases

J Walter

Willink Biochemical Genetics Unit, Royal Manchester Children’s Hospital, Manchester, UK

Until recently, universal population screening for inherited metabolic disease has been limited to a very few disorders. In some countries, including the UK, the only inborn error routinely screened for has been phenylketonuria (PKU). However recent technological advances now allow for a much larger number of conditions to be detected – some with only a marginal increase in laboratory costs. These include conditions such as medium chain acyl CoA dehydrogenase deficiency (MCADD), other fat oxidation disorders and certain organic acidurias such as glutaric aciduria type 1. Expanded newborn screening programmes are already in existence in a number of countries and there is little doubt that this trend will continue as additional screening methods become available. This has important implications for pediatricians.

Some screening methods are not particularly robust and may have a significant false positive rate. Although further investigations will subsequently confirm that the infant is unaffected, the pediatrician and other health professionals will be responsible for arranging these tests and will also have to deal with the consequences of the parental anxiety and any necessary follow up. Screening methods with a significant false negative rate are likely to be detrimental to parents’ trust in health technologies and may lead to litigation.

In addition to detecting disorders with a severe phenotype it is apparent that some screening tests also detect less severe variants that may never cause significant clinical illness. This is exemplified with MCADD where screening leads to more diagnoses than historically were made following the onset of clinical illness. As it is extremely difficult to characterise the risks for children with mild variants it may becomes necessary for all such children to be treated. This places a burden on pediatricians to provide medical care that they may not be entirely necessary.

Some screening technologies may detect a range of biochemically similar conditions some of which may be untreatable. The task of explaining to parents that their child has been detected as having a serious disorder but for which there is no effective treatment will fall to the pediatrician.

Although specialist metabolic pediatricians are likely to be responsible for directing the care of patients with inborn errors, this care is often shared with general pediatricians. An increased repertoire of disorders detected on screening requires neonatologists and general paediatricians to have a greater knowledge of these conditions.

Unlike PKU where there is a relatively long asymptomatic period some of the inborn errors detected in an expanded screening programmes can present with severe illness in the first few days of life. With these disorders it is necessary for pediatricians to act urgently. This has important implications that effect workload and manpower considerations.

These difficulties should not discourage us from developing expanded screening programmes but we will need to ensure that both the positive and negative effects of any new screening tests are carefully considered. The aim of course is to detect disorders for which the outcome (both mortality and morbidity) can be improved if they are detected sufficiently early. Hopefully this will reduce severe and early metabolic decompensation and the need for such children to require intensive care. With the introduction of new screening technologies we need to ensure that we have the necessary clinical infrastructure to provide effective management.

WORKSHOP 1 PRENATAL AND NEONATAL SCREENING IN EUROPE

WS-1.2 Newborn screening in France: organization, results and future projects

M Roussey

President of “Association Française pour le Dépistage et la Prévention des Handicaps de l’Enfant”, Paris, France

Neonatal screening began in France in 1968. Its main features are:

- Successful gamble with the disappearance of phenylketonuria (PKU) encephalopathy and transformation of the disease in a simple biological affection.
- Compulsory link from screening to treatment, screening being justified only if it gives an individual immediate and long-term advantage to the patient.
- Financial subvention provided by CNAMTS (Social Security) which accepts to study a gradual extension to other diseases.
- Participation of many professionals with spectacular results: 100% screened newborns while the screening is not compulsory, and all patients treated.
- Almost 29 millions screened newborns and almost 13,000 patients cared.
- Good control of the whole program, developed through years with increasing performance: information, ethics, deontology, better methodologies with better price.
Permanent concern to accompany medical and technological evolution, to organize prevention for other diseases, respecting WHO screening recommendations.

**WORKSHOP 1 PRENATAL AND NEONATAL SCREENING IN EUROPE**

**Hall A - 08:30–10:30**

### WS-1.3 Current status of prenatal screening in European countries

**É Oláh**  
Clinical Genetic Center, University of Debrecen, Hungary

Few sources of data are available concerning key issues in healthy development and well-being of children in Europe. Basic demographic tendency is represented by a low/decreasing birth rate and unchanged rate of prematurity. Our aim is to save as many babies as possible without any somatic and mental damage. One of the tools for this purpose is the prevention of diseases. Using biochemical, genetic and imaging techniques prenatal and neonatal screenings make possible to reveal the earliest signs of many inherited diseases thus preventing their clinical manifestation. Aim of the present study is to assess the features of prenatal screening in various European countries. Questionnaires were sent to 40 European countries. Twenty of them answered. Results: Genetic counselling is available in each country and is provided by geneticists, gynecologists or both. Prenatal screening including ultrasonography, maternal serum AFP level, cardiac ultrasonography, choriogonin, pregnancy specific placenta protein is available in all countries excepted Turkey. Such screenings are indicated in all pregnant women in 40% of countries, in women with positive family history (10%), positive gynecological finding (10%), positive counselling data (20%) and with advanced maternal age (10%). All women with positive family history and/or positive ultrasonographic finding (100%), those with advanced maternal age (91%) and abnormal AFP level (70%) are referred to prenatal chromosome analysis. Pregnant women in all countries but Turkey are screened for isoimmunization, in all but Bulgaria for hepatitis B infection. Conclusion: There are differences in prenatal screening among various European countries depending on the economic system, financial facilities, political situation, etc., but pediatricians make great efforts all over Europe to provide necessary preventive measures.

### WS-1.4 Newborn blood-spot screening: new opportunities, old problems

**R J Pollitt**  
The Children’s Hospital, Sheffield, UK

Newborn screening using blood samples dried on filter paper was developed during the 1960s, aimed primarily at the early detection (and treatment) of phenylketonuria. A decade later, improved radio-immunoassays made it possible to screen also for congenital hypothyroidism and over the years this has become widely practised, with the International Atomic Energy Agency playing a major role in its introduction in developing countries. Since then it has become possible to screen for many other disorders (galactosaemia, congenital adrenal hyperplasia, cystic fibrosis, sickle-cell disease, biotinidase deficiency and others) but introduction has been patchy and often only on a regional rather than a national level. In recent years this has begun to change, partly due to increased public expectation and particularly political lobbying by parent groups, and partly in response to developments in screening technology:

(i) The use of gene mutation analysis as a second tier to increase sensitivity and specificity without requiring further patient samples. Examples include screening for cystic fibrosis, congenital adrenal hyperplasia, and Duchenne muscular dystrophy. Some US screening laboratories now use large scale mutation analysis with microarray technology to improve specificity when screening for other disorders such as galactosaemia. In theory it is possible to use DNA analysis as the primary screen for almost any inherited disorder and instrumental developments are rapidly making this possible.

(ii) Electrospray tandem mass spectrometry (MS-MS) has greatly extended the range of metabolites that can be measured in dried blood spots and has a sufficiently rapid throughput for routine use as a primary screen. MS-MS gives us for the first time the ability to screen for medium-chain acyl-CoA dehydrogenase deficiency and other treatable disorders of fatty acid oxidation. There are numerous other possibilities awaiting exploitation.

(iii) Methods for measuring several lysosomal enzymes simultaneously using novel substrates and MS-MS as the detector are currently being developed. Pilot studies of screening are in progress and the technique has potential for other types of disorder where metabolite-level screening is not feasible.

Screening in general, and newborn screening in particular, has long been a source of controversy. Even countries at similar levels of social and economic development have adopted widely different policies. Some potential screens, particularly those for lysosomal disorders which are treated by enzyme replacement, have huge cost implications. In other cases, particularly with the advent of MS-MS, the rarity of the disorders concerned and ethical considerations based on the principle of equipoise prevent the standard evidence-based approach of controlled trial and formal economic analysis. Policy makers are often unwilling to accept pragmatic arguments based on experience and current clinical practice, particularly as technical advances have served to highlight unresolved issues. Even with phenylketonuria and congenital hypothyroidism it has proved impossible to develop an evidence-based international consensus on how to manage non-classical (mild or
Introduction of MS-MS screening has shown that in medium-chain acyl-CoA dehydrogenase deficiency and isovaleric acidemia, as examples, some genotypes which are relatively common in screening-diagnosed cases have so far not been encountered in clinically-presenting cases. Presumably such patients retain residual enzyme activity and would require an exceptional degree of stress to provoke metabolic decompensation. How they should be managed is still open to debate. Other disorders found fairly commonly on screening, such as 3-methylcrotonyl-CoA dehydrogenase deficiency, seldom present clinically. Others, short-chain acyl-CoA dehydrogenase deficiency for example, have been associated with a wide variety of apparently unrelated presentations, leaving their direct causative role in doubt. None of this makes it easy to convince sceptical policy-makers that newborn screening should be allowed to develop in the way that many health-professionals would wish.

14 June 2008, Saturday
WORKSHOP 2 EVALUATION AND TREATMENT OF PAIN IN PEDIATRIC PRACTICE
Hall B - 08:30 - 10:30

WS-2.1 Assessment of pain in children
A Yucel
Department of Algology, Anadolu Health Center, Istanbul, Turkey

Accurate assessment is essential for appropriate and successful management of pain in children. Too often, the practice of assessing pain is forgotten or ignored. The inattention to assessment, in part, accounts for the under-treatment and inappropriate management of pain in children. It is well known that children, regardless of age, feel pain and the youngest premature child has the anatomic and physiologic components to perceive pain. The youngest premature demonstrates a severe stress response to painful stimuli and unrelieved pain in children can permanently change their nervous system and may prime them for having chronic pain.

Many different pain measurement methods or pain measurement tools have been described for children, but several of them are not valid and specific for the child and the type of pain. This has led to a lot of confusion and debate about which tools are the most suitable for the assessment of children. There is a substantial and growing published literature on pain assessment.

Pain assessment of children begins with a pain history. The intent of the pain history is to profile a child's previous pain experiences, identify the child's understanding of pain, and identify preferences for the treatment. Information from parents, especially important for the preverbal child and augments information from the verbal child. Previous hospital and clinic records may help to obtained necessary information for the pain history. Data on the prescription and administration of analgesics; documentation of pain characteristics, effectiveness of the treatment modalities are all important parts of the pain history. Too often, however, little information on pain is documented and the effectiveness of the treatment approaches is often lacking or too inadequate to be use.

Self-report provides a communication about pain. There are several self-report approaches with children such as diaries, body maps, pain words, visual analogue scales, numeric rating scales, pain thermometers, and facial scales. These tools are helpful to document intensity, location, and quality of pain experiences. Most tools measure only the intensity of pain. An example could be the Oucher; uses a vertical format for the presentation of two simultaneously presented scales: a photographic scale and a 0–100 numeric rating scale. To determine which scale to use, the child is asked to count from 1 to 100 by ones. If successful, he or she uses the numeric scale. The photographic scale, reserved for children unable to count to 100, consists of six photographs with facial expressions to depict differing pain levels. Cartoon-face scales are another approach for the evaluation of pain. Generally, these tools consist of five to six cartoon faces, beginning with a neutral face and advancing to a crying face. Unfortunately, few studies have focused on the psychometric properties of these tools and whether the faces actually depict pain. Hence, little is known about reliability, validity, and sensitivity of these pain scales. Color Tools focuses on both pain intensity and location. These tools involve the child's development of a color scale. For example; after selecting four colors to represent no hurt, little hurt, moderate hurt, and the most hurt, the child chooses the color representing his or her hurt and marks where the pain is on a body map. The adolescent pediatric pain tool is similar to the McGill pain questionnaire in that it measures intensity, location, and quality. This tool is recommended for children from 8 to 17 years of age.

Physiological approaches generally rely on interpretations of changes in several physiological parameters as indicators of pain including heart rate, respiration rate, blood pressure, and sweating and oxygen levels. Physiological responses are often positively correlated with behavioral indices of distress and correlated with self-report indices of pain. Evidence suggests that physiological responses mirror the state of the child in a stressful and painful situation. However, there is insufficient evidence to conclude that physiological responses correlate directly with pain experience.

For preverbal and nonverbal children behavioral or observation methods are the primary approach to assess pain. Unfortunately, few methods are available and most of them are focused on behavioral responses to invasive procedures or/and to surgery. In several recent studies, shown that children with severe or profound cognitive impairment process information and communicate distress in a different manner than normally developed.
children do and therefore need their own measure to detect pain.

For the chronic painful conditions like cancer, the child and the parent should be encouraged to discuss the pain, its location, and its cause. The location and the intensity of pain should be verified and the child’s and/or the parent’s preference for the treatment should be discussed so that the health care provider can find the most effective treatment modality.

Pain assessment is essential for good pain management. Even though several pain assessment strategies are available, they are not widely used in clinical practice. The selection of tools for the measurement of pain is difficult for many clinicians and researchers. Often they develop their own tools without attending to what is available. This phenomenon has occurred especially in regard to self-report tools, which have proliferated without attention to their psychometric attributes. Approaches other than self-report are necessary for children. Health care providers must consider the age and the cognitive ability of a child when selecting a pain measure tool. It is essential to communicate with children about pain using their own terminology. Behavioral scales must be used when children are unable to communicate directly. Future research needed to find reliable and valid approaches to assessing pain through observations, behaviors, and physiological parameters.

References:
pyelonephritis [11]. Pecile et al have also shown that elevated procalcitonin is predictive of renal lesions at the initial phase but also of renal scars; procalcitonin is significantly higher in the case of renal scars (7.48 ± 8.4 ng/ml) as compared to the absence of scars (3.25 ± 3.5 ng/ml) [12]. The negative predictive value for renal scarring for a procalcitonin above 1 ng/ml was 97.3%, and the specificity was 61.9% [13].

Until recently, a renal ultrasound (US) and a voiding cystourethrogram (VCUG) were commonly recommended to examine children after UTI. However, the indications of a systematic renal ultrasound are now disputed, since antenatal ultrasound can diagnose most cases of obstructive uropathy [14]. Zamir et al have shown that the renal US was normal in 85% of pyelonephritis cases, and VUR was not associated with an abnormal US [15]. In the same manner, Miron et al demonstrated that 96% of the renal US performed after a UTI were similar to antenatal US and did not contribute to a modification in medical management [16]. Eight children out of 250 had an abnormal renal US, in contrast to the antenatal US, but these changes did not have therapeutic consequences [16]. However, a renal US is an easy, inexpensive and non-invasive examination, and might maintain indications after a first episode of UTI, particularly in young children and in children with uncertain antenatal investigations.

VUR is a recognized risk factor of pyelonephritis and renal scars [17], and is implicated in the pathogenesis of reflux nephropathy. For this reason, VUR was systematically investigated with a VCUG after a first febrile UTI. Antibiotic prophylaxis and/or surgical treatment were subsequently proposed to reduce the risk of recurrent pyelonephritis and to prevent reflux nephropathy. However, this strategy has been a matter of debate for several years. Medical and surgical treatments do not differ in their ability to prevent renal scars [18–21]. Intensive management of such VUR does not seem to influence long-term evolution, since the incidence of reflux nephropathy has not been reduced for many years [22]. The role of the VUR itself is not as obvious as it initially seemed [23, 24], and renal dysplasia plays a significant (major?) role in reflux nephropathy. Moreover, antibiotic prophylaxis has not been shown to be effective in preventing recurrent urinary tract infection [25, 26], even for children with low-grade VUR [27]. Finally, some markers could help to predict the existence of VUR after a first febrile UTI, such as CRP [28], but with a poor specificity. Procalcitonin again seemed to have an ability to predict VUR and to enable VCUG to be avoided [29]. All these findings highlight the necessity to reconsider the utility of systematic VCUG after a first febrile UTI, even in young children, in as much as antibiotic prophylaxis and intensive management do not modify the natural evolution [14]. The indications of such an investigation have to be specified, such as abnormal renal US or recurrent pyelonephritis. Of note, circumcision had to be proposed for boys with recurrent UTI [30].

The renal DMSA scan is the gold-standard to diagnose acute pyelonephritis, revealing a fixation defect. Its application is mainly to detect renal scars or dysplasia, and thus to evaluate renal prognosis and orientate management and follow-up. More and more authors recommend this exploration at the initial phase, but mainly 4 to 6 months later. If the late renal DMSA scan is abnormal, then a VCUG could be indicated, as shown by recent studies [31]. However, cost and accessibility make it difficult to recommend a DMSA scan for all children presenting a UTI.

Over the last few years, in the light of recent studies, the management of urinary infection in children has evolved, reducing intensive treatment and investigations. Short parenteral therapy, and even oral therapy can be administered for acute pyelonephritis, even in young children. Systematic imaging explorations are questionable: renal US seems to be of little use, as most cases of uropathy are now diagnosed in the antenatal period. Systematic VCUG are no longer indicated given that antibiotic prophylaxis as well as surgical treatment do not influence UTI recurrence or the development of reflux nephropathy. The benefit of a renal DMSA scan is reported more and more, detecting renal scars and dysplasia, but indications have to be specified because it does not seem realistic to propose such an exploration to all children with a febrile UTI.

References:

14 June 2008, Saturday
WORKSHOP 3 URINARY TRACT INFECTIONS REVISITED

WS-3.2 Urinary tract infections – a microbiologist’s view

A Brauner

Department of Microbiology, Tumour and Cell Biology, Section of Clinical Microbiology, Karolinska Institute and Karolinska University Hospital, Solna, Sweden

The urinary tract functions in close proximity to the outside environment yet must remain free of microbial colonization to avoid disease. However, in spite of the naturally occurring defense mechanisms, infections occur and urinary tract infection is currently one of the 10 most common reasons for outpatient visits. The most commonly found pathogen is E. coli followed by other enterobacterial bacteria like Proteus and Klebsiella.

Recently multi resistant bacterial strains have evoked and cause a therapeutic problem. The rapidly increasing number of very resistant uropathogenic bacterial strains, is particularly threatening for small children since treatment failure may encounter a major risk for various complications. Such extended spectrum beta-lactamase (ESBL) resistant Gram-negative bacteria may be resistant to all oral antibiotic alternatives. Infections with these kinds of bacteria may leave only intravenous antibiotic alternatives. Therefore, also trivial infections, such as lower cystitis, may lead to intravenous antibiotic treatment consequently with hospitalization during the treatment period and thereby risk of complications.

The mechanisms for establishing an antimicrobial barrier in this area are not completely understood. Epithelial cells of the urinary tract have been shown to possess antibacterial properties of major importance. These antibacterial peptides can fend off invading bacteria and prevent colonization and infection to occur. World wide the rapidly growing problem with antibiotic-resistant bacteria calls for alternative treatment strategies. An interesting option would be to increase the endogenous antibiotic, the antimicrobial peptides, which may serve as an alternative or as a complement to traditional antibiotics or even to...
prevent recurrences. This may in the future open the door to new opportunities for treatment and prevention of recurrent urinary tract infections.

14 June 2008, Saturday
WORKSHOP 4 WHAT’S NEW IN THE DIAGNOSIS AND TREATMENT OF TUBERCULOSIS?
Hall C - 09:30-10:30

WS-4.1 An update on treatment of tuberculosis in children
B Kampmann
Department of Paediatrics and Wellcome Centre for Tropical Medicine, Imperial College London, UK

For the first time in three decades there is a promising pipeline of new anti-tuberculosis agents (ATT) at various stages of development, and several have already entered clinical trials. Clinical trials of ATT are usually carried out in adults with microbiologically proven pulmonary TB, allowing objective microbiological case definitions and treatment outcomes. The difficulty achieving a clear microbiological diagnosis in the majority of paediatric cases severely hampers trials in children, as microbiological case definitions and treatment endpoints are impractical. As a result no randomised controlled trials have been conducted in children to establish optimum ATT regimens, and current treatment guidelines are largely inferred from adult data. Furthermore, although first line drugs have scarcely changed for over three decades, there is still a lack of pharmacokinetic studies in children, particularly in the context of HIV infection and malnutrition.

My presentation will address the following issues:
- Choices of drugs for the treatment of tuberculosis in children - old and new
- Complications of treatment for tuberculosis in the context of HIV-coinfection
- Modifications of treatment options in the context of MDR-TB
- Pharmacokinetic considerations in children
- Research opportunities - what do paediatricians want?

14 June 2008, Saturday
WORKSHOP 5 WHAT’S NEW IN ANTI-INFECTIOUS PROPHYLAXIS?
Hall C - 15:30-16:30

WS-5.2 Non-antibiotic prophylaxis
S Ashkenazi
Director, Pediatrics A, Schneider Children Medical Center, Petach Tikva; The Pickel Chair for Pediatric Research, FMRC, Sackler Faculty of Medicine, Tel Aviv University, Israel

Since Edward Jenner coined the statement “prevention is better than cure”, more than 200 years ago, vaccines have proven their high efficacy in preventing infectious diseases and were selected by the WHO as the most important medical achievement of the 20th century. Although initially active vaccines were mainly inactivated or live attenuated, current vaccines focus on component or conjugate vaccines. Innovative approaches to vaccine development, which hold great promise, include naked DNA vaccines, reversed vaccinology, surface proteomics, reassortment of RNA segments, induction of innate immunity, plant vaccinology and novel adjuvants.

Serum-derived passive immunization, of human or animal source, is typically used as post-exposure prophylaxis of infectious diseases. Palivizumab, produced by recombinant DNA technology, is the first humanized monoclonal antibody licensed for a pre-exposure prophylaxis of an infectious disease. It binds to the fusion protein of respiratory syncytial virus (RSV) and in the IMPACT study, which enrolled 1500 subjects, its administration resulted in 55% reduction in RSV hospitalizations of high-risk populations of premature infants. Later studies have proven its efficacy also in young children with hemodynamically significant congenital heart diseases. Motavizumab, an enhanced potency monoclonal antibody against RSV, has recently shown a 26% higher efficacy than palivizumab in reducing RSV hospitalizations.

Another approach attempts to prevent infectious diseases by blocking the human receptor of the pathogen. Celcentri, which blocks the CCR5 receptor of human immunodeficiency virus (HIV)-1, has been recently licensed as a treatment of this infection, in combination with other antiretroviral agents. Carbohydrates which block the binding of bacteria to their urinary epithelium receptor are examined for their efficacy to prevent recurrent urinary tract infections.

15 June 2008, Sunday
WORKSHOP 6 KAWASAKI DISEASE
Hall C - 09:30-10:30

WS-6.1 What is Kawasaki disease?
S Ozen
Hacettepe University, Faculty of Medicine, Department of Pediatrics, Ankara, Turkey

Kawasaki Disease is the most common vasculitis in certain parts of the world. It is characterized by inflammation in predominantly the medium-size arteries along with skin and mucosa involvement. The most serious manifestation/complication of Kawasaki disease is the coronary vessel involvement. Kawasaki disease is now the leading cause of acquired heart disease in western countries. Diagnosis depends on the presence of characteristic fever and additional features suggested in the diagnostic criteria. Early diagnosis is crucial in the management of the disease. Thus every pediatrician should have a thorough knowledge of the clinical features and differential diagnosis. Atypical and incomplete cases pose a problem in the pediatric practice. The clinical picture and approach to the diagnosis will be reviewed.
After the WWII in the Republic of Serbia, i.e. former SFRY, the centralized system of comprehensive health care of population was adopted, based on the state-owned facilities in health sector and financed by the compulsory health insurance contributions imposed to the employees and employers. The health care of children and adolescents was organized at three levels. At primary level in preschool and school dispensaries in health centres present in every municipality, pediatricians provide 80% of preventive and therapeutic services necessary for this population group. Thanks to such established system, as well as the successful cooperation with UNICEF and WHO, excellent results in the control of the most frequent causes of infant and under fives morbidity and mortality were achieved, comparable with those in developed countries (Table 1. and 2.).

The health care system for children and adolescents in Serbia has endured during the last decade of 20 century enormous temptations: tragic destruction of SFRY with more than 9,00,000 refugees and internally displaced persons on the territory of Republic of Serbia, where 2,00,000 aged 0–18 years, longterm sanctions imposed to population, huge loss of gross domestic product and per capita income, privatization of factories and enterprises, with acute increase of jobless persons and finally, NATO bombing in 1999. and the occupation of the part of Serbia's territory in 2008. Some international health organizations suggested in these years privatization of health sector and elimination of pediatricians from primary level of children and adolescents health care, i.e. their substitution with the profile of so called family doctor, justifying that proposal with the need for system rationalization (otherwise obviously necessary). We consider such "activities" in actual situation in Serbia as professionally and ethically irresponsible behaviour. According to the assessment performed by UNICEF Belgrade office in 2001, as a direct participant in provision of health care for the youngest population and reliable witness in this period, the accomplished results are "surprising in the light of the prolonged crisis which had devastating effects on the country during the last decade and they undoubtedly reflect priority investments in health care and maternal education, adequate nutrition of pregnant women, relatively low number of births and good coverage with prenatal, perinatal and postnatal health care, as well as relatively high level of socioeconomic development of the country achieved before the year 1990". In favor of UNICEF's assessment it is necessary to emphasize that the key preventive pediatric programmes were preserved and no epidemics of preventable contagious diseases were recorded in this period. Further decrease of infant mortality rate is recorded, as well as of total fertility rate (Table 4.).

According to the Law on health care (article 11, article 238, article 239) and the Health insurance act (article 22) of the Republic of Serbia children and adolescents from the families with the refugee and internally displaced persons status, independent of their ethnic or religious origin, have the same rights to health care as the domicile population. The article 25 of the Law on health care contains one of the

WORKSHOP 6 KAWASAKI DISEASE

WS-6.2 Management and treatment of Kawasaki disease

R Vesely

Faculty Children’s Hospital, Kosice, Slovakia

Golden standard of therapy is acetylsalicylic acid 80–100 mg/kg daily divided to four doses in acute febrile stage and intravenous immunoglobulin (IVIG) 2 mg/kg as single dose as soon as possible to decrease the occurrence of coronary aneurysms. This is followed by long-term anti-platelet dose (3–5 mg/kg) acetylsalicylic acid. The role of corticosteroid treatment remains controversial though the aversion created by the early study by Kato et al. was overcome and recent studies show potential benefit in adding i.v. steroid pulse to management of early stage disease.

In children who fail to respond to initial treatment second IVIG infusion is recommended. The role of other treatments (methotrexate, statins, anti-TNF agents, abciximab, doxycyclin) is not clearly established yet.

Vaccination against influenza and varicella should be performed in children on long-term aspirin prophylaxis due to higher risk of Reye syndrome.

16 June 2008, Monday

WORKSHOP 7 PROVIDING CARE TO MIGRANT AND IMMIGRANT CHILDREN OF EUROPE

Hall A - 15:30-16:30

WS-7.2 The health care of children and adolescents in Serbia

M Banicević

President of Pediatric Association of Serbia

Modern pediatrics, i.e. successful health care of children and young in the European countries was established since the middle of the 20th century thanks to immunization against the most important contagious diseases, rational use of antibiotics and other contemporary pediatric methods. Radical lowering of former high maternal, newborn and infant mortality rates marked the beginning of the epidemiologic transition of the European population (radical change in the structure of the main causes of children and adult morbidity and mortality, lenghtening of average life expectancy, increase in the incidence of chronic noncontagious diseases). Confidence on the side of the parents that their born children will survive early childhood (what was casual, but very important effect of the infant mortality rate decrease) contributed to the adoption of low reproductive norms. Starting from 60’s years of the last century, simultaneous beginning of massive use of modern (hormonal) contraception in the countries of Western Europe initiated the fertility transition, i.e. lowering of natality rates.
key paragraphs of the UN Convention on the right of the child (adopted by former SFRY in 1989): “every child up to turning 18 years of age shall have the right to the highest possible standard of health and health care”. Inspite of all the past and present misfortunes in Serbia, this article is maximally honored and realized in practice.

Pediatricians in Serbia, today, are faced with the problems of “new morbidity” of young on one side, and the frightening consequences of depopulation on the health sector and the pension system, on the other. They still believe in a vision of more just and more human international order which is the absolute prerequisite for better health and health care for all children and adolescents in Europe. Such an order must be founded on the following basic postulates:

- respecting of universal ethic principles,
- establishment and promotion of humane and dignified relations between men and women as a prerequisite for renewal of family, childbearing and childrearing,
- adjustment of individual freedoms and rights with responsibilities and obligations toward their families and wider community,
- adjustment of the need of a community for scientific-technological development of a society and the need for preservation of nature, i.e., reestablishment of harmonic relations between man and nature, as a cradle of mankind.

References

16 June 2008, Monday
WORKSHOP 8 PREMATUREITY AND NEUROLOGIC PROGNOSIS
Hall C - 15:30-16:30

WS-8.1 Follow-up of NICU graduates: role of the general pediatrician

Z Ince

Department of Pediatrics - Division of Neonatology, Istanbul University, Istanbul Medical Faculty, Istanbul, Turkey

Advances in neonatal care have been associated with improved survival of preterm babies. Some of these babies, who are moderately preterm (between 32 and 35 weeks of gestation), may have an uncomplicated neonatal intensive care (NICU) course and doing well at the time of discharge, yet still carry various risk factors associated with prematurity. On the other hand, the smallest and sickest infants with a complicated NICU stay may need complex medical care even after discharge. The medical and developmental sequelae in these babies may be evident from the beginning or identified later in infancy or childhood calling for long-term follow-up. Although most of the high-risk infants are monitored by neonatal follow-up clinics and specialists, general pediatricians are increasingly involved in the follow-up process and must be familiar with the problems of these high-risk babies that will alter their primary care.

It is imperative that adequate information about the NICU course and post-discharge follow-up plan of the baby should be obtained during the first visit. The schedule of subsequent visits may be more frequent than that of term babies. Special areas of attendance include the following:
1. Use corrected age for growth and development monitoring and if a developmental delay is suspected refer for diagnosis and treatment if the baby is not involved in a high-risk follow-up programme.
2. Be alert for emerging medical problems specific for the NICU graduate (inguinal hernias, late onset sequelae of intubation (subglottic stenosis) and necrotizing enterocolitis (intestinal stenosis), persistant PDA, late-onset hydrocephalus secondary to intraventricular hemorrhage)
WS-9.2 The clinical spectrum of tics

A. Rothenberger
University of Goettingen, Germany

Tic disorders are characterized by muscle twitches (motor tics) and vocalisations (vocal tics). In the majority of cases their onset is in childhood. They build a continuum ranging from transient tics during childhood to chronic motor or vocal tic disorder up to the variants of Tourette’s Syndrome.

Usually, the tic symptoms vary in form, frequency, localisation and severity during the course of the disorder and they are waxing and waning. Many tic patients experience sensorymotor urges before a tic and use different strategies to voluntarily influence their tic symptoms in order to get a certain degree of self-control over their tics in daily life. As the overall prognosis is positive the degree of psychosocial impairment is essentially determined by co-existing neuropsychiatric symptoms (attention deficit/ hyperactivity disorder, obsessive-compulsive disorder, emotional impairments, personality disorders, reading and spelling disorder).

Concerning therapy the pharmacological treatment with d2 receptor antagonists has the greatest empirical evidence and is first line. As frontal brain resources are well preserved also several behaviour therapy methods (e.g. habit reversal with awareness training, relaxation techniques, training of tic incompatible reactions) can be used, maybe in combination with drug treatment in the framework of a multimodal therapeutic concept which is adapted to the overall psychosocial situation of the patient.

WS-9.3 Dystonia and choreoathetosis in children

M Kyllerman
The Queen Silvia Children’s Hospital/Sahlgrenska University, Gothenburg, Sweden

The pediatric movement disorders cover a wide range of conditions, static and progressive ones, with heterogeneous causes from neurogenetic traits, acquired lesions and dysimmune conditions to well-defined metabolic diseases.

The most accurate data are found in dyskinetic cerebral palsy syndromes. According to SCPE (1) dyskinetic syndromes are subgrouped into mainly dystonic and mainly choreoathetotic conditions. Dyskinetic CP accounted for 15% of all CP. Of all CP syndromes dyskinetic CP is the one most prone to perinatal asphyxia at full term pregnancy and sequelae secondary to hypoxic/ischaemic encephalopathy at birth. Children with choreoathetotic
CP may have an antecedent of severe jaundice in the newborn period. Well organized gestational health control systems enable a practically total control of severe jaundice secondary to Rh and ABO incompatibility. The problem remains in less fortunate populations and in preterm newborns with concomitant hypoxic events.

Organic acidurias may present with progressive motor problems including dystonia (2).

In the largest collected international series comprising 279 patients with glutaric aciduria type 1 (GA1) most symptomatic cases had experienced acute encephalopathic stroke-like events by two years of age resulting in bilateral striatal damage and dystonia. It is a disease with preventable neurologic manifestations if detected before symptom onset eg by neonatal screening by gas chromatography-mass spectroscopy assay of the urine or in siblings of affected probands.

Leigh syndrome presents with dystonia and bulbar signs and is a disorder of the mitochondrial OXPHOS system. Respiratory chain complexes I, II, IV and V may be involved due to either a maternally inherited trait with mtDNA deletion/mutation or an autosomal recessive trait due to nuclear DNA mutations. Focal necrosis or spongiform degeneration of the basal ganglia may be visualised on MRI (3).

The most rewarding condition among pediatric movement disorders is Segawa dystonia with diurnal variation. Typically deterioration of gait with dystonic/spastic patterns occur towards end of day from about the age of 4 years. The disorder is caused by a rate limiting bioprotein dependent block in the synthesis of L-dopa due to GTP cyclohydrolase I deficiency. Low dose l-dopa treatment reverses symptoms completely. Early onset dystonia with oculogyric crises caused by mutations in the tetrahydrobiopterin pathway involving sepiapterin reductase and responsive to l-dopa was recently described.

Recently regarded as derelict it has become clear that Sydenham chorea still is a reality with an immunological relationship to streptococcus group A antigen. PANDAS (Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcus) is a wider concept and may show a seasonal variation (4).

The genetic dystonias are now classified as DYT1-13 or even more. DYT1, torsion dystonia follows an autosomal dominant trait with about 1/3 non-symptomatic and 1/3 severely affected individuals. The gene encoding torsin A is enriched in the Ashkenazi Jewish and occurs sporadically in all other populations. DYT11 has a feature to be relieved by alcohol (5). Heterogeneity of neurologic manifestations from writing cramps to oscillating tremor and dystonia is characteristic. One responsible gene encodes for epsilon-sarcoglycan. Standard genetic testing methods are available for these disorders.

References:
In this video session, selected videos of PMD will be shown and discussed.

**Table: Types of abnormal movements**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rigid-hypokinetic</td>
<td>Rigidity, brady/hipokinesia, rest tremor</td>
</tr>
<tr>
<td>Athetosis</td>
<td>Dystal, continuous, slow, irregular, dystonic movements</td>
</tr>
<tr>
<td>Dystonia</td>
<td>1) simultaneous and sustained tonic contraction agonist and antagonist muscles 2) diffusion of contraction to muscles that would not normally participate in the assumption/maintenance of a given posture (overflow contraction).</td>
</tr>
<tr>
<td>Chorea/Ballismus</td>
<td>A state of excessive spontaneous movements, irregularly timed, non-repetitive, randomly distributed and abrupt in character occurring haphazardly with variable frequency and intensity. This may result in simple restlessness with mild intermittent exaggeration of gestures or expressions, walking motions like those of a dancer or produce a continuous flow of violent and incapacitating movements (Ballismus).</td>
</tr>
<tr>
<td>Tremor</td>
<td>Rhythmical oscillation of a part of the body around a fixed point or plane</td>
</tr>
<tr>
<td>Myoclonus</td>
<td>Sudden, brief, involuntary, contractions of a muscle or group of muscles</td>
</tr>
<tr>
<td>Tics</td>
<td>Stereotyped, involuntary, sudden, inopportune, non-propositional, absurd, irresistible movements or sounds or noises, of variable intensity</td>
</tr>
<tr>
<td>Stereotypies</td>
<td>Motor behavior that is repetitive, patterned, often seemingly driven, and nonfunctional</td>
</tr>
</tbody>
</table>

**WORKSHOP 10 WHAT’S NEW IN THE TREATMENT OF RHEUMATIC DISEASES**

**WS-10.3 Paediatric primary vasculitides**

P Doležalová

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The extent and type of vascular wall involvement is the main distinctive factor of vasculitis against other, tissue-specific processes. The term, “primary vasculitis” is reserved for conditions where the vessel wall is a main inflammatory target. Primary vasculitides are a heterogeneous group of disorders with unknown aetiology. Current classification proposals are largely based upon the size of the blood vessels involved. For disease in children, new set of classification criteria has been recently proposed for common as well as rare paediatric diseases: Henoch-Schönlein purpura (HSP), Kawasaki disease (KD), Childhood Polyarteritis Nodosa (cPAN), Takayasu Arteritis (TA) and Wegener’s Granulomatosis (WG). Differences to the previous set of criteria will be reviewed. The currently undergoing criteria validation process will be finalised by the end of 2008.

Clinical features of primary vasculitides may differ from those in adults mainly in diseases grouped under the term Polyarteritis Nodosa (PAN). Collaborative effort of the Vasculitis Working Party of PRES has enabled a large-scale data collection of 110 children with PAN. Following clinical categories were distinguished: Systemic PAN (57.2%), cutaneous PAN (50%), microscopic polyarteritis of adulthood associated with ANCA (8.1%), classic PAN associated with hepatitis B surface antigen (HBsAg) (4.6%). Clinical features of the most common category of systemic PAN varied in the systems affected (musculoskeletal, skin, renal, GI tract, CNS), almost all of these patients had constitutional symptoms, and all had elevated acute phase reactants.

Differential diagnosis of primary systemic vasculitides is often difficult as systemic symptoms are usually non-specific and may overweight initial subtle organ-specific manifestations. Diseases to be ruled out include mainly systemic malignancies and other systemic inflammatory conditions as IBD, systemic juvenile idiopathic arthritis, SLE, autoinflammatory diseases. In the absence of marked inflammatory response other rare conditions mimicking vasculitis should be considered.
Primary angiitis of the CNS is a rare granulomatous or segmental necrotizing angiitis affecting medium and small intracranial arteries. Initial manifestations include acute, progressive encephalopathy with headaches, confusion, mental deterioration, cranial nerve involvement, hemiparesis, and focal CNS symptomatology. There are no signs of systemic disease or other organ involvement. Diagnosis in children is difficult, rendering CNS vascular imaging and sometimes leptomeningeal or brain biopsy necessary for confirmation of the diagnosis. A differential diagnosis typically means CNS vasculitis accompanying other connective tissue diseases, infections and inherited or acquired thrombophilic conditions.

In children, there are no evidence-based data on the efficacy and tolerance of various therapeutic regimens in rare primary vasculitides. Therefore, basic principles of adult disease management have been adopted by pediatricians. The staged approach is characterized by initial aggressive therapy aimed to induce disease remission, which is followed by long-term maintenance therapy. This is continued for a variable duration of time, according to the individual disease severity scoring. Assessment of disease activity and damage has become an integral part of systemic vasculitis management in adults and has been currently a subject to the pediatric adaptation.
Healthy children cough 1–34 times per day. Cough is a physiological parameter with the aim to clean and to protect the airways. Cough starts with a mechanical or chemical stimulus of the cough receptors, which is transferred by the vagal nerve to the brainstem, followed by a deep inspiration to increase the volume and the extension of the expiratory muscles. Afterwards the glottis is closed briefly with a consecutive increase of the intrathoracic pressure and opening of the glottis which leads to supramaximal expiratory flows. Chronic cough is defined as recurrent or persistent (> 4 weeks) and should always be investigated further. Frequently, asthma can be diagnosed after further investigations. However, cough as a single symptom is not characteristic for asthma and is generally accompanied by wheeze and dyspnoea. Therefore, an antiasthmatic therapy should not be started before the diagnosis is made by objective measures. Case history and examination are crucial points in the investigation of chronic cough. If an underlying disorder can be found, therapy addressing this disorder is usually effective. However, the therapy of chronic unspecific cough is difficult and lacks evidence.
ORAL PRESENTATIONS

OP-1

Development and introduction of new effective non-medicamental methods of therapy bronchial asthma in children in out-patient conditions

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2. Department of Physiotherapy, Children’s Hospital named after N.F. Filatov, Russia

Background: The bronchial asthma (BA) is one of the most widespread allergic diseases of children. Frequency of the disease as well as its severity has markedly increased for the last few years all over the world. Absence of the due control over current disease and efficiency of therapy remains a weak part in long-term treatment of patients with bronchial asthma. At the same time, chronic character of disease, constant threat of an exacerbation dictates necessity of search of new approaches to therapy. Opportunities of application of non-medicamental therapy and combination of physiotherapeutic methods with standard schemes of treatment of patients with bronchial asthma are very great but unfortunately they are almost not used now due to absence of the sufficient information on the controlled studies. The purpose of research: to study end – points of treatment’s efficiency. The research done by the method of the flow cytometry with direct reaction of monoclonal antibodies to the mentioned above cytokine receptors.

Methods: Research is multicenter and is held in different regions of Russia. About 40 patients are included at each study site. All patients receive adequate basic therapy; also we administer an optimum mode of use of the device of not medicinal influence «ASTER» to them. Examination of patients including an estimation of clinical symptoms was done regularly throughout the study. Check of the appropriate admission of medication of basic therapy, appropriate use of the device of not medicinal influence, FEV1, daytime and night symptoms, frequency of application of β2-agonists were also registered. Parameters of PFT, tests on hyperresponsiveness of bronchial tubes, test with physical activity and the test of the control over asthma (ACT-test-Asthma Control Test) for children of above 12 years old were assessed during monthly visits to the clinic.

Conclusion: The device of microwave therapy of not thermal intensity «ASTER» is used for the first time in children’s allergology considering necessity of the complex approach to therapy and influence of the device on parts of pathogenesis of BAA. Results of research will show the efficiency of microwave therapy in children, suffering bronchial asthma of various degrees of severity.

OP-2

The research of big salivary glands and the estimation of the dynamic cytokine receptors of blood lymphocytes along with the course of ASIT

I Gromov, L Namazova, M Riazanov

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To expose the sensitivity peculiarities to cytokines with children having bronchial asthma during the (ASIT) course we analysed membranous receptors to IL 2, 4, 5, 8, 10 On a membrane of lymphocytes a blood, estimated the condition of the cells’ immunity before and after ACIT, along with the complex X-ray analysis of big salivary glands. One hundred and twenty children aged 5–17 with remission of atopic bronchial asthma ranging from mild to moderate persistent formed the study group.

The research done by the method of the flow cytometry with direct reaction of monoclonal antibodies to the mentioned above cytokine receptors.

Equipment and materials used are by BD Biosciences, USA: laser analyser FASC Calibur, Cell Quest programme. Ultrasound analysis of big salivary glands done in regimes as following: research with colour doppler (CFM), power Doppler (PD), pulsed wave doppler (PW), fine parenchymatous vessels on the apparatus Voluson 750 expert (GE) with use of the linear probe 10–16 MHz. Ultrasound analysis done with the following system parameters same for all patients: PRF 0.9 kHz (corresponding with the speed of parenchymatous blood flow 3 sm/sec), WMF low1, Frq mid, Gain 2.0, Pwr 100%. We found out that children having bronchial asthma during the allergen specific immunotherapy (ASIT) course gain the increased level of B-cells, increased expressions receptors towards IL 5, inclination to the increased expressions receptors towards IL 4. At the same time the sublingual course of (ASIT) (apart from the complex one) shows the immunity more active, children’s circulation of blood increased no ¼ in comparison with the starting condition on the jaw and under the tongue glands. Normalization of an index of peripheric resistance of vessels (RI = 0.6–0.69). Children taking complex (ASIT) course had circulation active to a less degree, on the jaw and under the tongue glands and normal RI.

Hypodermic and intronose ways of introduction of allergens did not result in activated circulation in all the three pair big salivary glands. Therefore, the complex estimation of immunity and X-ray indicators with children having bronchial asthma can be used for the estimation of the treatment’s efficiency.
**OP-3**

**Hypoallergenicity of a new amino acid formula in infants with documented cow’s milk allergy**

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Medical Affairs, Mead Johnson Nutritionals, France

Amino acid-based formulas are used for dietary management of infants with cow’s milk allergy who are unable to tolerate extensively hydrolyzed protein-based formulas.

Objective: To assess the hypoallergenicity of an experimental amino acid-based formula in infants and children with documented cow’s milk allergy.

Method: Twenty-nine confirmed milk allergic infants and children were randomized and challenged to receive placebo (Neocate®) and experimental amino acid-based formulas by double-blind, placebo-controlled food challenge (DBPCFC), followed by an open challenge with the experimental formula in case of a negative DBPCFC. Participants without reaction were then fed study formula for 7 days to assess long-term tolerance.

Results: No positive allergic reactions attributable to the experimental formula were noted in either the DBPCFC or open challenge. For the extended feeding with the experimental formula assessment, 28 participant diaries were returned with one participant lost to follow-up. No adverse events were reported during the DBPCFC, open challenge, and extended feeding periods.

Conclusion: This study proves the hypoallergenicity of an experimental amino acid-based formula in infants and children with documented cow’s milk allergy.

Keywords: infant, amino acids-based formula, hypoallergenicity, cow’s milk allergy.

**OP-4**

**Dentofacial abnormalities in pediatric patients with allergic diseases**

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Background: Pediatrics allergic patients with chronic oral breathing (adenoid facies) can present an early alteration on development dentofacial to be causally related to specific facial, skeletal and occlusal features.

Objective: This study was performing to determine the prevalence of relationship between dentofacial abnormalities and allergic diseases in pediatric patients.

Methods: Two hundred and sixty two subjects were examined in a pediatric clinic: “Asistencia Pediatrica Integral” (API) in Mexico City. They were included in two groups a) allergic and b) healthy control; excluding patients with genetic syndromes, craniofacial surgeries and previously antiallergic treatment. Dentofacial abnormalities to identify were: halitosis, decays, gingivitis, malocclusion and crowding and their allergic status was confirmed with skin prick tests. All data were calculated and analyzed using SPSS statistical software.

Results: One hundred and forty three males and 119 females from 2.8 to 18 years old (mean = 6.9). Group a) 128 and group b) 134. Patients with asthma (A) were 7%, rhino sinusitis (RNS) 27%, allergic rhinitis (AR) 41% and coexistence between atopic dermatitis and respiratory allergy (DA/RA) 25%. The predominant allergens were weeds (32%), grasses (22%), tree pollens (16%), dust mites (14%) and dander pets (8%). Dentofacial abnormalities in group a were: crowding 99 (77%), malocclusion 94 (73%), gingivitis 75 (57%), decays 68 (53%) and halitosis 36 (28%). The significant association between both abnormalities were:

**Table 1:** Relation between orofacial abnormalities /allergic diseases

<table>
<thead>
<tr>
<th>Association</th>
<th>Frequency</th>
<th>OR</th>
<th>CI(95%)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+crowding</td>
<td>11</td>
<td>6.11</td>
<td>1.23–41.31</td>
<td>0.008</td>
</tr>
<tr>
<td>A+halitosis</td>
<td>5</td>
<td>3.27</td>
<td>0.87–11.9</td>
<td>0.052</td>
</tr>
<tr>
<td>RNS+malocclusion</td>
<td>22</td>
<td>2.28</td>
<td>1.06–4.96</td>
<td>0.02</td>
</tr>
<tr>
<td>AR+malocclusion</td>
<td>51</td>
<td>4.39</td>
<td>2.38–8.14</td>
<td>0.001</td>
</tr>
<tr>
<td>AR+crowding</td>
<td>57</td>
<td>4.75</td>
<td>2.5–9.09</td>
<td>0.001</td>
</tr>
<tr>
<td>AR+halitosis</td>
<td>21</td>
<td>2.58</td>
<td>1.26–5.29</td>
<td>0.004</td>
</tr>
<tr>
<td>AD/RA+crowd</td>
<td>15</td>
<td>5.7</td>
<td>1.46–25.7</td>
<td>0.002</td>
</tr>
<tr>
<td>AD/RA+halitosis</td>
<td>13</td>
<td>3.94</td>
<td>1.24–13.2</td>
<td>0.007</td>
</tr>
</tbody>
</table>

Conclusions: It was observed greater association between allergic diseases and crowding, malocclusion and halitosis. Although decays and gingivitis have high prevalence did not have significant association in this group, perhaps it is explicable since other no allergic factors existent that generate them. Finally, this study tried to sensitize to pediatrician to detect in allergic children dentofacial complications and to refer the corresponding specialists.

Keywords: dentofacial abnormalities, allergic, pediatrics

**OP-5**

**Clinical study of a fermented infant formula in cow’s milk allergy (CMA) prevention**

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2. Pediatrics, St Vincent de Paul Hospital, Paris, France
3. Research and development, Blédina, France

Background: Intestinal microbiota role is often mentioned in the food allergy (FA) genesis, justifying the study, in allergy prevention, of formulae known to have an effect on the infant microbiota development.

Methods: A fermented infant formula (FIF) with cow’s milk proteins (CMP) processed through bacterial lactic fermentation (with Bifidobacterium breve C50 and Strep-
**OP-6**

**Perinatal administration of probiotics may reduce the development of allergic manifestations later in life**

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2. R&D, Mead Johnson Nutritional, France

Background: Probiotic bacteria are increasingly used in clinics and experimental evidence on their beneficial role in gastrointestinal health and disease is accumulating. Experimental models are not only vital to understand mechanism of action, but also to substantiate probiotic strain selection. Little is known about pre- or perinatal probiotic supplementation and its effect on allergies in offspring. Hence, we evaluated maternal pre- and perinatal *Lactobacillus rhamnosus* GG (LGG) consumption in Balb/c mice on parameters of experimental asthma in their offspring.

Methods: Female mice received LGG during pregnancy (prenatal) or pregnancy and lactation (perinatal), while offspring received no probiotics. After the lactation period, offspring were sensitized to Ovalbumin (OVA) and exposed to OVA-aerosol; an animal model of allergic asthma. Parameters of experimental bronchial asthma were assessed by lung function analyses, histology, and bronchoalveolar lavage (BAL). Systemic reactivity was evaluated by antibody levels and cytokine responses.

Results: Allergic airway inflammation, goblet cell hyperplasia, and expression of TH2-cytokines in BAL fluid were significantly reduced in offspring from pre- and perinatally LGG supplemented mothers compared to controls. Perinatal LGG supplementation seemed more effective to reduce lung inflammation than prenatal supplementation. Airway responsiveness was not affected by pre- or perinatal LGG treatment. Prenatal LGG exposure affected placental inflammatory cytokine and TLR-9 mRNA expression and preliminary results suggest increased splenic regulatory T cells in offspring from LGG exposed mothers.

Conclusion: Pre- and perinatal LGG supplementation in mice has beneficial effects on allergic asthma development in their offspring. These effects may in part be mediated via the placenta.

Keywords: probiotics, allergic manifestation, LGG, asthmamice

**OP-7**

**Dietary management of atopic eczema by long chain polyunsaturated fatty acids**

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Background: Epidemiological data suggest a possible beneficial role of long-chain polyunsaturated fatty acids (LCPUFA), e.g. docosahexaenoic acid (DHA) and arachidonic acid (ARA) on development of allergic disorders. In this study we explored the impact of dietary intervention with LCPUFA’s on the development and severity of atopic eczema (AE) in a mouse model.

Methods: In female OVA sensitised BALB/c mice skin inflammation was induced by three OVA patches accompanied by feeding a solid food containing DHA only, ARA only and a combination of DHA/ARA as well as control diet without fatty acid supplementation. Total skin score was used to evaluate AE symptoms. Skin lesion severity was assessed by clinical parameters and assigned into severity grades. Immunohistological features were also investigated.

Results: Dietary ARA/DHA significantly improved the severity of AE in a dose dependent fashion. The total skin score was reduced to 64 ± 29% compared with the control diet group (100%). ARA and DHA alone were not as efficient. Accordingly, investigation of the histological features revealed no impact on epidermal thickness and lymphocyte infiltration in the ARA/DHA-supplementation group.
Conclusion: Dietary intervention with a combination of ARA/DHA is effective in mice in reducing the inflammatory immune response in the skin. This effect seems not be caused by T-cells infiltrating the skin. The beneficial effect may be caused by alterations in cellular fatty acid profile which may support anti-inflammatory mechanism. The data suggest the fatty acid composition of the diet to be important for therapeutic application in AE.

Keywords: LCPUFA, atopic eczema, dietary management, DHA ARA

OP-8
Lactobacillus GG improves recovery from cow milk allergy colitis compared to extensively hydrolyzed formula alone

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Background: Cow milk allergy (CMA) can cause colitis which resolves feeding an extensively hydrolysed protein formula. Fecal calprotectin (FC), a marker of intestinal inflammation, has not been evaluated in infants with CMA colitis. Lactobacillus GG (LGG) is effective in treating atopic dermatitis caused by CMA. Objectives: i) compare FC in infants with allergic colitis at diagnosis with that of age matched controls and changes after 4 weeks of dietary antigen elimination and ii) determine the effects of the addition of LGG to an extensively hydrolyzed protein formula, Nutramigen LGG versus Nutramigen alone on FC and hematochezia.

Methods: Twenty six formula-fed infants with hematochezia (Group A) were randomly assigned in a double blind manner to Nutramigen LGG (12) or Nutramigen without LGG (14). Group B: age matched, formula fed healthy controls.

Results: At diagnosis FC in group A was significantly higher than in B (Mean μg/g 328 versus 132, P < 0.001). At 4 week group A FC had decreased to one half the values but was still significantly higher than in group B (159 ± 151 versus 94 ± 37, P < 0.03). At 4 week, none of the Nutramigen LGG infants had occult blood in stools, while 5/14 on Nutramigen (P = 0.002) did. Mean FC decrease in the LGG group (221 ± 110) was significantly larger than in the Nutramigen (111 ± 105) (P = 0.01).

Conclusion: In CMA colitis: i) FC appears to be a good marker of inflammation; ii) Addition of LGG to an extensively hydrolysed formula resulted in a significant reduction of intestinal inflammation compared to the formula alone.

OP-9
Prognostic value of N-terminal pro-B-type natriuretic peptide in children with acute rheumatic carditis: a preliminary report

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2. Department of Biochemistry, Selcuk University Meram Faculty of Medicine, Konya, Turkey

Background: Acute rheumatic carditis (ARC) is a very common cause of cardiovascular mortality and morbidity all over the world. N-terminal pro-B-type natriuretic peptide (NT-proBNP), mainly being secreted from the left and right ventricles as a response to ventricular volume expansion, pressure overload and resultant increased wall tension, is widely being used as biomarkers in acute and chronic heart failure. The aim of the study was to investigate plasma levels of NT-proBNP in children with ARC.

Methods: Fourteen (7 boy, 7 girl) children ages varied from 6 to 17 years (median age 11 year-old) with ARC and 14 (7 boy, 7 girl) age- and gender- matched healthy controls, ages varied 6 to 17 years (median age: 11) were enrolled into this study. All patients underwent a corticosteroid treatment as an anti-inflammatory therapy. Follow-up studies were made at the first day of diagnosis and the last day of the treatment. The other data recorded were baseline clinical, echocardiographic, and laboratory parameters.

Results: Children with ARC had significantly higher plasma NT-proBNP than the controls at all measurements (287.11 ± 249.13 pg/ml, 48.5 ± 35.87 pg/ml, respectively). Following the anti-inflammatory therapy, we found a progressive decrease in NT-proBNP levels in the patients group (34.06 ± 20.72 pg/ml) (P = 0.002).

Conclusion: The present study is preliminary, but raises the possibility that measurement of NT-pro BNP in the plasma could be used as a laboratory test for active state of ARC. Therefore, evaluation of children with ARC by NT-pro BNP may be useful for monitoring cardiac function and following up the clinical outcome. Further investigations will be needed, nonetheless, to determine the clinical application of this technique. Further investigations will be needed, nonetheless, to determine the clinical application of this technique.

OP-10
The spatiotemporal expression of histone acetyltransferases P300 and CBP during mouse embryo heart development

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2. Pediatric Institute, Chongqing Medical University, China

Background: Histone acetyltransferases(HATs) including P300,CBP, PCAF, GCN5 and SRC1 are transcriptional co-activators that activate the expression of eukaryotic
Effects of histone acetylated modification on MSCs differentiation into cardiomyocyte

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2. Pediatric Institute, Chongqing Medical University, China

Aim: The aim of this study is to explore the effects of histone acetylated modification in regulating MSCs differentiation into cardiomyocytes in myocardium microenvironment by detecting the acetylase activities, the expression level of histone acetylation gene (Gcn5) and special myocardial gene (GATA4) within the myocardium tissues transplanted by MSCs transfected by plasmid ZJ3.

Methods: Abstract the successfully constructed shRNA(ZJ3) and transfecit into MSCs for 24 h. Transplant the MSCs transfected by plasmid ZJ3 into the rat myocardium tissues and detect the expression of acetylase activity, acetylation gene and myocardium development gene after two weeks.

Results: The acetylase activity of experiment group is significantly lower than all control groups; Gcn5 and GATA4 expression in myocardium of experiment group has significant reduction to control groups.

Conclusion: Inhibitory state of histone acetylation can inhibit the transcription process even if in the myocardium microenvironment. The result establishes foundation for researches of histone acetylation in the regulating mechanisms of MSCs differentiation into cardiomyocytes.
The determination of risk behaviour frequency, the difference of frequency in a group of young and older adolescents, attitude connection for health and risk behaviour.

Results and Discussion: The most frequency of physical abuse is notified in the street (10%), the least is in the family; 13.8% tested went through psychical abuse, 1/4 of them in the school. The exposure to abuse was statistically significantly higher with older male adolescents ($P < 0.01$). More than 1/5 of adolescents committed physical, 28% psychical violence. More frequent offenders of psychical violence were older adolescents ($P < 0.01$). The frequency of emotional disturbance was 70%, statistically taken was more frequent with older adolescents and girls ($P < 0.01$), which was in accordance with results of numerous domestic and foreign studies. The exposure to violence/emotional disturbance of tested were positively correlated with undesirable attitudes of psychoactive substances and health, but negatively correlated with desirable attitudes of physical activity.

Conclusion: The significant presence of the abuse/violence and emotional disturbance with adolescents in Belgrade shows bigger exposure to stress factors in last decade, ineffective protection of mental health and weak accessibility of health-preventive service for adolescents inside of the primary health service.

OP-14

Orphans in Bosnian orphanages – aspects of morbidity

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1. Pediatrics Department, Public Health Institution of Canton Sarajevo, Bosnia and Herzegovina
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8. Institution for Family Medicine, Medical Faculty of Sarajevo, Bosnia and Herzegovina
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10. Department for Cardiology, Pediatrics Clinic Sarajevo, Bosnia and Herzegovina

Background and aim: Ongoing surveillance of this unique population is needed to detect changing epidemiology and provide appropriate care. Adopted and orphans children are at increased risk of infections acquired in their region of origin. Aim of this article is showing that all diseases and specially infectious diseases are more often in orphans then others children in younger ages until 3 years but after that orphans and adopted become healthier and more immune.

Methods: A retrospective cohort study was performed. A descriptive analysis of patient demographics and an analysis of the prevalence of infections were performed with the use of Microsoft Access.

Results: We demonstrated increased rates of bacterial and viral infections especially infections of respiratory and gastrointestinal systems. This investigations show that we
had more severe diseases in orphanage in the beginning of life after that situation were changed.

Discussion: The unique medical needs of adopted and orphans children have been recognized.

Conclusions: Adopted children and orphans continue to be at high risk for numerous infectious diseases. We demonstrated increased rates of bacterial and viral infections especially infections of respiratory and gastrointestinal systems. Despite these delays, some adoption-orphanages professionals have supposed that Bosnian children are "healthier" than children who are adopted or they are children in orphanage from other countries.

Keywords: kids disease, orphanage, morbidity, adaptation

OP-15
Change management in a high risk area: introducing standard strength infusions in PICU

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This presentation highlights some of the issues of managing change in a high risk area using an example from practice. In paediatrics intra venous infusions traditionally use weight based formulae but there are risks from the complicated and numerous calculations required. Because of this the United States has moved to using standard strengths infusions. However, this does not eliminate the risk because calculations are moved further along the process with different weight ranges, designing software datasets, addressing manufacturing and labelling issues, developing quality control assays, writing procedures, undertaking risk analysis, validating the software and the procedures developed, designing an evaluation tool, and training and supporting staff. Lewin's model of change and forcefield analysis were used for the management of change. Evaluation identified that banding was used for the majority of patients and was successful 81%(n = 340) of the time. The reason when banding was not successful and the changes implemented as a result of the findings are described and discussed. Re evaluation is currently taking place. Future plans include; submitting a proposal for funding for the software and for manufacturing of new products, increasing the range of standard strength infusions and implementing “Bar coding” technology to further improve patient safety.

Keywords: safety software, standard strength infusions, paediatrics

OP-16
Severe pneumococcal meningitis in paediatric intensive care unit: A 12-year survey in Rome, Italy

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Background: We have retrospectively reviewed the burden of severe pneumococcal meningitis in Paediatric Intensive Care Unit (PICU) at two major institutions of Rome, Italy, between 1994 and 2005, i.e., following the HiB vaccination introduction. Substantial differences exist between pneumococcal meningitis and other bacterial meningeval infections, in terms of pathophysiology, clinical course and outcome.

Methods: We conducted a retrospective study to determine the factors associated with hospital mortality of 26 children admitted to PICU during a 12-yr period.

Results: Preliminary data were available for 26 patients (M/F = 1, mean age 18.2 months, range 1–66 m) PICU mortality was 23% (6/26), and neurologic sequel were
observed in 70% of survivors (30% severe neurological impairment). The mean gap before PICU entry was 2.6 days (1–5 days). On admission, 30.7% of patients were in shock, while 76.9% and 38.4% had GCS <8 and <5, respectively. Globally, 54% of children underwent intubation and mechanical ventilation, and 69.2% needed inotropic support. On early neuroimaging, brain ischaemic lesions were noticed in over 50% of patients; seizures within 24 h were present in 73%. On univariate analysis dead patients’ age and weight in our series resulted significantly higher \((P = 0.015\) and \(P = 0.031\), respectively); more, poor outcome children showed uniformly a severe hyperglycaemia on admission \((P = 0.0003)\). Among survivors, infants with worse neurological outcome were significantly younger (age \(P = 0.018\), weight \(P = 0.021\)); they presented more often as septic shock \((P = 0.02)\), and needed prolonged PICU stay \((P = 0.035)\). Due to the limited sample, no differences were noticed regarding other hematological or blood chemistry data, but a trend towards protective effect exists for leukocytosis (WBC >16,000/mmcc).

Discussion: Pneumococcal meningitis still presents a high morbidity and mortality rate despite effective antibiotic therapy, probably due to an exaggerated inflammatory response of the CNS. As suggested by several authors penicillin nonsusceptibility did not impact significantly on pneumococcal meningitis mortality. Thus, it is presumed that adjuvant therapy rather than new antibiotics will improve its prognosis. Most importantly, due to the severity of illness of these patients, the new heptavalent pneumococcal conjugate vaccine offers a promising opportunity for reducing these \(S.\ pneumoniae\) invasive infections.

Keywords: \(S.\ pneumoniae\), meningitis, complications, intensive care, adjuvant therapy, vaccination

OP-17

Role of nasal continuous positive airway pressure (nCPAP) in bronchiolitis – experience from a large district general hospital in United Kingdom

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Aim: To determine if commencing nCPAP in bronchiolitis reduced the need for invasive ventilation.

Methods: Retrospective review of case notes of patients admitted to the high dependency unit with bronchiolitis from Oct 2003–Feb 2007 and requiring nCPAP.

Results: 4.6% patients required PICU before nCPAP was introduced as opposed to 0.7% with nCPAP. Children requiring nCPAP had an oxygen requirement of 0.26–0.5 (0.38), tachypnoeic (RR 60/min), mean PaCO2 of 7.9 Kpa and pH of 7.27. An initial PEEP of 4–8 cms of H\(_2\)O (5.1) was applied. nCPAP days were 0–4 (1.96). 9/50 (18%) patients on nCPAP failed and required invasive ventilation. Three patients were intubated in A&E for respiratory failure. Of those who failed nCPAP, ex-premature babies (44%). No underlying problems (44%) and Down’s syndrome (11%). Irrespective of their underlying conditions, all received nCPAP on HDU. Fall in respiratory rate was the first noticeable improvement, (<2 h) and subsequently a fall in PaCO\(_2\), followed by decreasing oxygen requirement (approx 6 h) and PEEP. The latter two were also used as weaning criteria. All our patients survived.

Discussion: Continuous positive airway pressure is widely used in infancy, but its role in bronchiolitis lacks evidence. Increasing trend in early intervention was noticed in recent years, probably because of HDU care and improved training of staff. Over all significant improvement was noticed in 4 h (mean). Advent of nCPAP has significantly reduced PICU transfers for respiratory support. NCPAP is easy to apply and is non-invasive. There were no complications noted.

OP-18

Video games influence on the young in Belgrade, Serbia

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Background and aim: The first contemporary computer video game showed up in 1962. With new generation of computers in the 80’s and in the 90’s of the twentyth century, computer games become very popular. Are these games just a harmless entertainment or they still hide a threat against the health of the young? Aim of this study is diffusion evaluation of the video games among pupils of the age of 12 (5th grade in elementary school).

Methods: By an anonymous survey 258 pupils of the fifth grade were interviewed in five elementary schools in Savski venac community, Belgrade, Serbia.

Results: 24.4% don’t play video games, and many of them don’t have computers; 41.8% spend less than 100 dinars a week on video games. 42.6% play games 2 h a day, 27.3% spend 2–4 h playing, and 5.4% more than 4 h. Most of them play at home (63%), and the rest of them in amusement arcades. To the arcades 9.6% go every day, 27.9% of them go 2–3 times a week, and once a week remaining 37.9%. In the amusement arcades 41.8% spend less than 100 dinars a week, 18.8% up to 300 dinars, and 15.5% more than this sum. The most interesting thing is the way parents consider this occurrence. Even 33.3% of children said that their parents are agreeable with how they spent their spare time, another 25.6% of children said that their parents didn’t fuss about it, while the remaining 22% think that their parents criticize this form of amusement. We wanted to know if playing video games had any influence on playing sports. We were surprised by the fact that 41% do sports every day, 31% of them two or three times a week, whereas 25.5% of the interviewees never do sports.

Conclusion: To many parents it’s very difficult to follow the latest trends and influences that their children were bombarded with. But don’t let this discourage you. Many of them still manage to help their children concentrate on things that are really important in life- reading, writing,
having friends among their peers, sports. At the end let's confront with possible threats that video games can bring: - Violent computer games can encourage aggression; and make them participants, and not only violence observers; games can result the loss of clear borders between reality and imagination; they can make children neglect important duties; spend time necessary for other important activities; spend money. Long hours in front of a monitor can cause tired eyes, physical activity deficiency.

Discussion/Conclusion: Functional dyspepsia is connected with other somatic complaints, elevated anxiety and depression, and internalisation disorders. Psychosocial factors influence treatment efficacy. Further longitudinal research is needed to precise effectiveness of simultaneous pharmacological and psychosocial therapies.

OP-20
Developmental follow-up of high-risk premature infants with very low birth weight
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Background: Perinatal brain damage is the most common contributor for neurological suffering of premature infants. The early diagnosis and detection enable early intervention on time, as well as the right treatment of the risk neonates. To accomplish this we need to do a neuro-developmental follow-up, especially on high-risk newborn children. The most common reasons for conducting this kind of survey are developmental problems, cerebral palsy, broncho-pulmonary dysplasia. Also there is a need for survey of other developmental problems, such as ROP, deafness and cognitive deficit.

Method: A multidisciplinary approach was used during this survey, which included pediatric and neurological examination, ultra-sonography and CT of CNS (if needed), developmental tests, developmental monitoring and early treatment, and additional professional examinations. The high-risk neonates were characterized by the very low GA and BW, perinatal difficulties such as IHE and HIC. The monitoring process started in the first month of discharge from hospital, again in the 4-th month of the CGA and at the end of the 3rd year. Measurements related to general developmental accomplishments (GDA) by GW, were categorized in the following areas of psychomotor development: loco-motor movements, eye-hand movement, speech and hearing, personal and social development.

Results: The evaluated sample consisted of 50 risk neonates processed in NICU with GA range of 27–32 GW, monitored by the end of their 3rd year. The initial test examination, ultra-sonography and CT of CNS (if needed), revealed that 24% had normal psychomotor development, 50% delayed psychomotor development (this group was treated for early intervention) and 26% had disorders of psychomotor development. At the end of the 3rd year the results are as shown in the table.

Conclusion: We found that there was an improvement in the GDA in neonates by the end of the 3rd year, especially in the group of high-risk neonates with GA of 27 GW. Also, there was an impending need to undertake adequate measures in the guiding process of these neonates, such as appropriate and fast transportation to the tertiary care-giving institution, protocol of on-time intervention, multidisciplinary approach towards the risk neonate and efficient coordination between the relevant services.
Keywords: neuro-developmental follow-up, psychomotor development GDA high-risk neonates

GDA in risk neonates at the end of their 3rd year grouped by

<table>
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<tr>
<th>GW (N)</th>
<th>GDA (%)</th>
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<td>32 (10)</td>
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OP-21

Script concordance test (SCT): a new tool for assessing clinical competence in paediatrics/undergraduate education

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Background and aim: Clinical encounters represent the major teaching and learning experiences for medical students. They must learn two forms of knowledge: clinical knowledge and cognitive biomedical knowledge. Multiple-choice questions are accepted as standard test-format to assess the trainees level of factual knowledge. Clinical reasoning as diagnostic skill is based on factual knowledge and the ability to solve ill-defined clinical problems (1). We introduced the Script concordance test as a valid and reliable test method to assess clinical reasoning competence (2). The script theory explains how medical diagnostic knowledge can be structured for diagnostic problem solving (3). Aim of this study was to test the feasibility of an SCT in pediatrics’ undergraduate education as test-tool to assess the students’ clinical reasoning abilities.

Methods: During a 1 week internship students had to complete their practical diagnostic training on our wards. A pool consisting of 120 questions was the starting point at the end of the week a test of 45 SCT-questions was extracted from. The test is based on authentic clinical task which are presented through short case descriptions (vignettes). A Likert scale measures the examinees judgments. All questions have to be answered by the students and the jury members of our department. The students’ answers are referenced to the answers of the experts.

Results: The scoring method takes into account variation of answers among jury members. The results show that experts do not provide uniform answers but differ in their decisions. The results of the script concordance approach permit reliable and valid testing of difficult clinical situations, which cannot be represented through other assessment tools. The test is easier to construct and to deliver as traditional test formats. It should not replace traditional multiple choice testing but supplement the test setting by adding the opportunity to test students clinical reasoning competence.

References

OP-22

Hospital-based surveillance of rotavirus gastroenteritis (RVGE) disease burden in Turkey

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Background: Rotavirus is the leading cause of acute GE-related hospitalisation, morbidity and mortality in young children. Surveillance to gather data on RVGE burden is needed to optimise policy decisions for universal mass vaccination strategies with newly registered RV vaccines.

Methods: Children <5 years of age admitted to seven university hospitals in Turkey, were enrolled in a prospective, hospital-based surveillance study to estimate the proportion of GE hospitalisations in children attributable to RV, and predominant RV serotypes [Study ID: RV-104377]. Questionnaires were used to solicit information about the patients’ age, medical history, socio-economic status and area of residence. Severity of RVGE was assessed using the 20-point Vesikari scale. Stool samples collected during GE episodes were tested for RV by ELISA and typed by PCR using standardised methods in a central laboratory.
Results: Between June 2005 and 2006, 364 subjects with acute GE were enrolled, and 179/338 (52.9%) of subjects tested RV-positive (32.58%-67.35% across study sites). Severe GE episodes (Vesikari score >=11) were reported in 89.9% of subjects. Overall, 33.2% of RV cases were 12-23 months old. G1P[8] (76%) was the most prevalent RV strain, followed by G2P[4] (12.8%), G1P[4] (7.3%) and G4P[8] (4.5%).

Conclusions: Rotavirus is a major cause of diarrhoeal hospitalisations in children <5 years. Vaccination could be an optimal intervention to substantially reduce severe GE-associated disease burden in Turkey. Surveillance should be continued to monitor the impact of RV vaccines on the epidemiology of RV disease.

**OP-23**

**Monitoring rare diseases in France: which priority?**

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Background: In France a national plan for rare diseases has been set up in 2005, asking to the French Institute of Health surveillance to establish an order of priority of diseases to monitor in terms of incidence, of prevalence, of severity, of morbidity, of handicap and of mortality. Rare diseases (RD) are defined by their prevalence (>1/2000), but their epidemiological aspects are poorly known. Almost 7000 RD are described, with very different medical conditions, and various social, familial and educational problems.

Methods: To define criteria to set up this priority order, we worked with a 10 people group. They determined a listing of 26 questions and addressed them to a panel group of experts (99, of which 48 answered), through a Delphi process.

Results: We kept 19 prioritisation criteria, and gave them a note, thus obtaining an impact score, raising from 2 to 63. The heaviest criteria were about patient care (improvement of prognosis through early diagnosis and/or medical treatment), availability of genetic testing and/or prenatal diagnosis, high lethality, existence of environmental or teratogenous risk factors. The heaviness of social repercussions (motor, sensorial or behavioural handicap) had a lower weight. This impact score was tested with 18 RD, showing the feasibility of the approach, and leading to some changes. The modified score (going from 2 to 67), when applied to 38 diseases varied from 16 to 39. The dispersion of data was bad, and we could not define priority diseases. So we set a second score, called “public health score”, with the five criteria corresponding the best with our Institute goals, because useful to decision makers to propose and/or evaluate public health recommendations; possibilities of medical treatment and/or early diagnosis to improve prognosis, of prenatal diagnosis, of genetic counselling and of neonatal screening. The approach was extended to 90 diseases, and allows the identification of 11% of diseases with both a high impact score and a high public health score. We are now extending this scoring to the 370 diseases whose prevalence is >1/100,000.

Keywords: rare diseases, Delphi, epidemiology, priority

**OP-24**

**Prevalence and features of migraine and episodic headache in Turkish children and relationship with anthropometry and H. pylori infection**

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Background and aim: The most common cause of recurrent headache among children and adolescents is migraine. It was suggested that *H. pylori* infection is common in primary headache, and bacterium eradication appears to be related to a significant reduction in clinical attacks of the disease.

To show the prevalence of recurrent headache and migraine in school children and investigate the relationship between anthropometry and headaches. Also evaluation of the role of *H. pylori* infection on recurrent headache.

Methods: Children attending to primary and secondary schools in Istanbul were evaluated. A questionnaire including sociodemographic features and multiple-choice type questions on headache, mainly migraine were filled by children and their parents. Anthropometric measurement were done and *H. pylori*-specific serum IgG antibodies were studied.

Results: Six hundred fifty nine children with a male to female ratio of 0.78 aged 6–15 years were studied. Prevalence of recurrent headache was 33.2%. 76 children (11.5%) were identified as having migraine based on the International Classification of Headache Disorders (ICHD-II) criteria. Migraine was more prevalent among females, older children, children living in families with lower socioeconomic status (SES) and crowded houses. School performance was also related with migraine. Gastrointestinal symptoms including abdominal pain, vomiting and flatulance was more common among migrainers. Migraine was more common in children whose height was smaller than 10th percentile of his or her age.

Conclusion: Recurrent headache among children with *H. pylori* infection and migraine.

Keywords: Headache, migraine, children, *Helicobacter pylori*, prevalence
**OP-25**

**Diosmectite in association with oral rehydration salts reduces stool output in children with acute diarrhoea: results of 2 placebo-controlled studies**

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Aim: Study aimed at assessing the effect of the clay diosmectite (DSM) on stool output and diarrhoea duration in children with acute watery diarrhoea.

Methods: Two parallel double-blind, randomized, placebo-controlled studies in 1–36 months male children were conducted in Peru (n = 300) and Malaysia (n = 302). Selection criteria were 3 watery stools/day for <72 h, weight/height ratio [≥] 80%, no intravenous rehydration need, no gross blood in stools, fever <39°C, no concomitant anti diarrheal or antibiotic. Rotavirus in stool was sought. DSM dosage was 5g (1–12 months) or 6 g (13–36 months) tid over at least 3 days, then half the dose till recovery. All children took oral rehydration salts (ORS) (WHO guidelines). Primary criterion was stool output in g/Kg of body-weight for the first 72 h. Other criterion was time to recovery (h).

Results: Both treatment groups in ITT population of Peru and Malaysia were similar: mean (SD) age: Peru = 12.5 (6.1) months, Malaysia = 15.9 (8.5) months; Body-Weight: Peru = 9.35 (1.67) Kg, Malaysia = 9.02 (2.05) Kg, ORS consumption: Peru = 1426 (983) ml, Malaysia = 1022 (674) ml. Rotavirus frequency was: 22% in Peru, 12% in Malaysia. Mean (SD) stool output for the first 72 h was significantly decreased by DSM (ANOVA adjusted for Rotavirus): Peru: DSM = 102.0 (65.5) g/Kg, placebo = 118.8 (92.5) g/Kg (P = 0.032), (difference = 14%). Rotavirus positive children: DSM = 146.9 (90.1) g/Kg, placebo = 187.9 (122.1) g/Kg, (P = 0.039), (difference = 22%). Malaysia: DSM = 87.9 (81.2) g/Kg, placebo = 90.7 (94.0) g/Kg, (P = 0.007) (3.1% difference). Rotavirus positive children: DSM = 91.8 (103.0) g/Kg, placebo = 184.5 (192.4) g/Kg, (P = 0.002), (difference = 50.3%). Pooled studies: DSM = 94.5 (74.4) g/kg, placebo = 104.1 (94.2) g/Kg, (P = 0.002) (9.2% difference). Rotavirus positive children: DSM = 124.3 (98.3) g/Kg, placebo = 186.8 (147.2) g/kg, (P = 0.001), (difference = 33.5%). Median [95% IC] time to recovery: Peru: DSM = 68.2 [60.2-85.0] h, placebo = 118.9 [94.9-140.5] h, (P < 0.001); Malaysia: DSM = 25.1 [20.5-29.0] h, placebo = 32.6 [27.5-39.3] h, (P < 0.001). DSM was well tolerated.

Conclusions: Two randomized double-blind placebo-controlled studies in 602 children with acute watery diarrhoea showed that diosmectite, in association with ORS, significantly decreases stool output and duration of diarrhoea, especially in rotavirus-positive children and is well tolerated.

Keywords: acute diarrhoea, stool output, diosmectite, rotavirus, children

**OP-26**

**Prevalence of celiac disease in a sample of Turkish children with epilepsy**

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Background: Celiac disease is defined as a permanent sensitivity to gluten in wheat and related proteins found in barley and rye. There is a well-documented relationship between epilepsy and celiac disease.

Methods: We investigated celiac disease 77 children with idiopathic epilepsy. Of subjects, 40 (51.9%) were boys and 37 (48.1%) were girls. Mean age was 8.8 ± 3.9 years (range, 2–16 years). None of the patients had IgA deficiency. Patients were tested for anti-tissue transglutaminase IgA. Parents of the children who had positive test result were informed about the disease, and a small intestinal biopsy was proposed. A pathologist blinded to the serology results examined all biopsy specimens according to the modified Marsh criteria.

Results: Of 77 children with epilepsy, 12 (15.6%) had positive anti-tissue transglutaminase IgA. of children, 10 (83.3%) were girls and two (16.7%) were boys. Five family refused further investigations. Biopsy of small intestinal mucosa was performed in other seven children. All of them had enteropathy of Type III-c according to Marsh’s criteria. We calculated the prevalence of celiac disease in the1263 children as 0.87% same city.

Conclusion: These findings indicate that prevalence of silent celiac disease is increased among children with epilepsy. We emphasized that children with epilepsy be screened for celiac disease.

**OP-27**

**Autonomic nervous system in infants with gastroesophageal reflux: preliminary study**

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Background and aim: It was recently shown that a dysfunction of the autonomic nervous system seems to be involved in the occurrence of Gastroesophageal Reflux GER) episodes in adults. The aim of the present study was
to determine whether or not a dysfunction of this system was associated with GER in infants.

Methods: The experiments were performed in 13 infants (10 ± 7 months) hospitalized for suspicion of GER. A 24 h pH monitoring, ECG and actigraphy recordings allowed to distinguish a group control (n = 6) (without GER) and a group with GER (n = 7). Short-term heart rate variability, which characterized the functional state of the autonomic nervous system, was investigated during quiet 10 min-periods.

Results: The power in the normalized High Frequency band (HFn), which describes the parasympathetic tone, is higher (P = 0.08, +45%) in the GER group than in the control group whereas the LF/HF power ratio, which reflects the sympathetic-vagal balance, is lower (P = 0.08) (1.1 ± 0.40 versus 1.9 ± 0.6). A regression analysis points out the higher the reflux index the higher is the HFn power (P = 0.022; R2 = 61%).

Conclusion: These preliminary results which suggest a difference in autonomic nervous system status in infants with GER must be confirmed by increasing the number of infants investigated.

**OP-28**

*Prospective European multi-centre study on gastric and duodenal ulcer disease or erosions in children: incidence and risk factors*

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**Background and aim:** Ulcer disease is said to be rare in children but data on frequency are scarce. In this study, we assess the incidence and analyze the risk factors of gastric or duodenal ulcers and erosions in children.

Methods: In a prospective study carried out simultaneously during one month in 21 centres among 15 European countries indications, ulcers or erosions and risk factors were recorded for all children undergoing an upper GI endoscopy.

Results: Ulcers or erosions were observed in 153 (10.6%) children varying from 0 to 22% in different centres, out of a total of 1443 children (638 female, median age 8.1 years, range 1 month–18 years). The main indications for endoscopy were epigastric or abdominal pain (24%) and suspicion of gastro-oesophageal reflux disease (15%). Children with ulcers or erosions were significantly older than those without lesions (10.5 ± 5.4 versus 7.9 ± 5.7 years, p 0.002). Children age group >10 years exhibited significant risk factor for ulcers or erosion compared to younger ones. Epigastric tenderness, hematemesis, melena and FTT were reported as significant main endoscopic indications risk factors for ulcers or erosions lesions. On the contrary gender, *H. pylori* infection, family history of ulcer, child and mother country of birth, father and mother educational level, drugs, alcohol, tobacco and narcotic consumptions were equally distributed. However *H. pylori* infection was very frequent in institutionalized Russian children compared to non-institutionalized ones: 98.9% versus 25.4%, *P* < 0.001.

Conclusion: An incidence of 10.6% of ulcers or erosions was observed in children referred for upper GI endoscopy, mainly around the second decade of life. Epigastric tenderness, hematemesis, melena and FTT were reported as significant clinical risk factors. We found an unexpected low frequency of *H. pylori* infection and drugs consumption in these patients.

**Keywords:** *Helicobacter pylori*, ulcer, erosion, child

**OP-29**

*Patterns of gastritis in French children: primary is more frequent than Helicobacter pylori gastritis*

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**Background and aim:** To analyze the histological characteristics according to the updated Sydney classification [intensity of gastritis, degree of activity, gastric atrophy,
intestinal metaplasia and *Helicobacter pylori* (H. pylori)) in symptomatic children referred for upper GI endoscopy.

**Methods:** A 4 years retrospective descriptive study carried out in 619 children (282 females & 337 males), median age 3.75 years (15 days–17.3 years) referred for endoscopy. Six gastric biopsies were done (3 antrum & 3 corpus) for histological analysis (n = 4), urease test & *H. pylori* culture (n = 2). *H. pylori* status was considered positive if at least 2/3 tests were positive & negative if all three tests were negative.

**Results:** Sixty six children only (10.66%) were *H. pylori* positive. Histological antral and corpus gastritis was detected in respectively 53.95% and 59.12% of cases, most of them exhibiting a weak grade (I). Antral and corpus activity was grade I in 18.57% and 20.03% of cases. *H. pylori* positive versus *H. pylori* negative children did not reveal any significant difference, as measured by moderate and severe histological gastritis and grade II or III activities. One girl had *H. pylori* negative moderate gastric atrophy and another one a moderate intestinal metaplasia also *H. pylori* negative.

**Conclusion:** Primary is five times more frequent than *Helicobacter pylori* gastritis in children, with usually weak histological gastritis and activity. Gastric atrophy and intestinal metaplasia are rare.

**Keywords:** *Helicobacter pylori*, children, primary gastritis, Sydney classification

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**OP-30**

**H63D HFE mutations in Russian children with chronic sideremia**

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Background and aim: Frequency and assortment of HFE mutations in Russian population are another then in Europe and America (C282Y 3–5%, H63D 15%). Symptoms of haemochromatisis (HH) are similar to Europeans are too variable: hyperpigmentation of closed skin (navel, wrinkle and other), tiredness, abdominal pain, arrhythmias and other, laboratory signs – indirect hyperbilirubinemia, high level of hemoglobin, beta-globulinemia, glucose intolerance and cytolysis. Pediatricians are poorly informed about HH in course of preclinical or early stage of that disease. Several stage of haemochromatosis long-term prospective investigation will be done in Russian children.

**Methods:** The fist step – phenotypic diagnosis, based on “iron status”: ferritin >100 ng/mL, transferrin saturation >45%. The second step – genetic testing. 75 children, 3-18 aged, m:f 49:26/Patients with phenotypic sings of HH were typing with standard kits for most frequent in Russia H63D mutation, C282Y and S65C.

**Results:** Heterozygous H63D was found in 41 pts (54.7%), 3 of them were compound with C282Y, H63D homogygous– in 4 patients, 2 – compound H63D\S65C. 4 children with severe HH complicated with cardiac and multorganic failure had compound heterozygous.

**Conclusion:** The first step of investigation show another genetic map of haemochromatosis in Russian then in Europe. The next step propose another HH mutations searching.

**Keywords:** Heamochromatosis, HFE, early diagnosis

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**OP-31**

**The prevalence of Helicobacter pylori infection in school children and relationship with nutritional anthropometric indices**

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Background and aim: Some studies suggest that gastric colonisation with *Helicobacter pylori* (H. pylori) is associated with suboptimal nutrition and growth in childhood. We aimed to evaluate the effect of *H. pylori* infection on various anthropometric indices of children with a cross-sectional study.

**Methods:** Children attending to four different primary and secondary schools in Istanbul were evaluated to acquire sociodemographic and anthropometric nutritional parameters including weight, height, mid-upper-arm circumference (MUAC), triceps skinfold (TSF) thickness, waist and hip circumferences, and to detect *H. pylori*-specific serum IgG antibodies. Standard deviation scores (SDSs) for weight, height and BMI were calculated for both children and parents.

**Results:** Of 509 children (291 females, 218 males) aged 6–15 years, 179 (35.2%) were infected. Socioeconomic status (SES); lower income and parental education levels, residential crowding, low school performance, and older age were significant risk factors for infection. In subgroup analysis, in children older than 12 years, *H. pylori* was significantly more common in children whose height is above 10th percentile (*P* < 0.05). Whereas in children at 10–12 years of age, *H. pylori* was significantly more common in children whose height is above 10th percentile (*P* < 0.05). Regarding the whole population, height SDSs were slightly lower in infected children (mean: –0.15 versus -0.03) however this difference was not statistically significant. By using linear regression analysis, none of the anthropometric indices was significantly associated with *H. pylori* infection.

**Conclusion:** *H. pylori* appeared to have no effect on the nutritional status of the studied children; the differences detected were small and likely due to sociodemographic factors.

**Keywords:** Helicobacter pylori, anthropometry, growth, children, prevalence
OP-32

The usage of electronic chromoscopy during endoscopy examination of children

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Background and aim: Endoscopy examination is an objective index of children’s mucous membrane state in upper section of digestion canal. But traditional endoscopy examination does not ever allow to discover all defects of mucous membrane. To make diagnostics more exact, when there are such diseases as ectopia, neoplasm and so on, it was used the method of chromoscopy with mucous membrane coloring by Lugol solution, Indigokarmin, methylene blue, that reduced much time in comparison with other investigations. Presently to addition to traditional endoscopic researchment a new method of diagnostic - Fice-system (electronic chromoscopy) is worked out. It allows to use electronic filters to detail questionable parts of digestion canal mucous membrane.

The aim of research is the evaluation of the effectiveness use of electronic chromoscopy method in endoscopic practice when examine children.

Methods: It was examined 35 children from 1 month up to 17 years old. Middle age was 11.8 years old. There were 21 boys and 14 girls. seven patients were with Krone disease, nine with erosive lesion in upper section of digestion canal mucous membrane after hormone therapy, eight children were examined extrahepatic portal ven hyper-tension to find. 11 children had erosive haemorrhagic gastritis and six had duodenal ulcer disease. Gastrosopy were made to all children and to nine of them were made colonoscopy. The researchments of digestion canal upper section were made with intranasal gastroscope and lower colonoscopy. The researchments of digestion canal upper section of 35 children were made with intranasal gastroscope and lower colonoscopy. The researchments of 35 children were made with intranasal gastroscope and lower colonoscopy. The researchments of 35 children were made with intranasal gastroscope and lower colonoscopy. The researchments of 35 children were made with intranasal gastroscope and lower colonoscopy. The researchments of 35 children were made with intranasal gastroscope and lower colonoscopy.

Purpose of research: To show safety and diagnostic value of mucous membrane biopsy during endoscopy.

Methods: The analysis of endoscopic notes and mucous membrane biopsy results.

Results: For the period from June till November, 2007 in department of endoscopy of Science centre of childrens health Russian Academy of Medical Science children have been examined: 915 boys and 704 girls, in the age of from 0 till 17 years. Average age of children has been 10.3 years. It has been executed 72 bronchoscopy, 121 colonoscopy and 1426 gastroscopy. It is taken 35 bronchial tree’s mucous membrane biopsies, 836 intestine crassum and rectum’s mucous membrane biopsies and 1225 gastric and jejunum mucous membrane biopsies.

Results: From 1178 gastric mucosa biopsies on definition H. pylori with rapid urease test, 620 (53%) of them had appeared positive. Thus visual signs of HP infection has been at 570 children, that on 8% (p ≤ 0.05) less than positive results of rapid urease test. From 73 children with ulcer or erosive lesions, rapid urease test result was positive only at 17 children (23%).

Conclusion: So, HP infection not always probably to assume at an estimation of a visual picture of a mucous membrane at gastroscopy. In connection with that HP obligatory pathogenicity in development of ulcer and erosive lesions of gastro-intestinal tract is proved by researchers, authentic diagnostics of HP infection is necessary. On the contrary, at presence erosive and ulcer processes of gastroduodenal zones, they not always associated with HP and they need other treatment tactics. All this raises diagnostic value of gastric mucosa biopsy. At other pathological conditions mucous membrane biopsy allows to confirm authentically such diagnoses, as a malabsorption syndrome, erosive and hyperplastic processes of various parts of gastrointestinal tract, ciliary diskinesia. Thus, mucous membrane biopsy during endoscopy, is safe and valuable method for diagnostics and choice of treatment.

OP-33

Diagnostic value of biopsy during endoscopy

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Now endoscopy is inconceivable without biopsy. Histologic verification of endoscopic findings is necessary for diagnosis.

Purpose of research: To show safety and diagnostic value of mucous membrane biopsy during endoscopy.

Methods: The analysis of endoscopic notes and mucous membrane biopsy results.

Results: For the period from June till November, 2007 in department of endoscopy of Science centre of childrens health Russian Academy of Medical Science children have been examined: 915 boys and 704 girls, in the age of from 0 till 17 years. Average age of children has been 10.3 years. It has been executed 72 bronchoscopy, 121 colonoscopy and 1426 gastroscopy. It is taken 35 bronchial tree’s mucous membrane biopsies, 836 intestine crassum and rectum’s mucous membrane biopsies and 1225 gastric and jejunum mucous membrane biopsies.

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Conclusion: So, HP infection not always probably to assume at an estimation of a visual picture of a mucous membrane at gastroscopy. In connection with that HP obligatory pathogenicity in development of ulcer and erosive lesions of gastro-intestinal tract is proved by researchers, authentic diagnostics of HP infection is necessary. On the contrary, at presence erosive and ulcer processes of gastroduodenal zones, they not always associated with HP and they need other treatment tactics. All this raises diagnostic value of gastric mucosa biopsy. At other pathological conditions mucous membrane biopsy allows to confirm authentically such diagnoses, as a malabsorption syndrome, erosive and hyperplastic processes of various parts of gastrointestinal tract, ciliary diskinesia. Thus, mucous membrane biopsy during endoscopy, is safe and valuable method for diagnostics and choice of treatment.

OP-34

The quality of our children’s eating behaviours

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Prevention of obesity and related dietary imbalances should be a primary aim for public health institutions. The onset of obesity in childhood is very likely to persist; therefore, early interventions are to be pursued. Teaching healthy eating behaviours at school is thought to help prevent obesity in childhood.
Aims: (i) To know the quality of our children’s diet. 
(ii) To analyse the relationships between diet and age. 
(iii) To establish a priority to improve our children’s diet. 
(iv) To identify the optimal age for intervention for a better outcome.

Methods: We enrolled 294 children attending from school in our village. Age ranged from 5.5 to 12.6 years. Parent’s consent was obtained from all subjects. We measured height, weight, blood pressure, body mass index and waist/hip circumferences. Diet information was obtained from: (i) a 7-day diet questionnaire; (ii) the Healthy Nutrition K13Plus (HNK13P) scale; (iii) the Mediterranean Diet in Childhood (MD) scale.

Results: Mean daily portions Dairy products Vegetables Fruits Protein foods Carbohydrate Pastries %vegetable protein intake Observed 1.6 1.1 1.1 2.4 3 1.4 5.90% Recommended 2–3 2–3 2–3 2–3 3–6 < 0.4 50% Scales All subjects Preschool Elementary-middle school HNK13P 7.1 7.7 6.8 MD 6.9 7.5 6.7.

Conclusions: Our children’s eating behaviours are suboptimal. - Quality of diet is higher in younger children. - Consumption of dairy products, fruits and vegetables should be increased. - Pastry and protein of animal origin should be reduced. - The beginning of elementary school may be an optimal time for nutritional intervention.

Keywords: eating behaviours, children, obesity prevention

OP-35

14 years experience with health and vaccination record (HVR) in the Czech Republic

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Society for Primary Paediatric Care The Czech Pediatric Society aided by the practical paediatricians introduced the first edition of HVR, supported by CZ-Ministry of Health in 1994. The intention was to follow experience of paediatricians in western countries and add some CZ- specifics (a purely primary paediatric care system in CZ). The records on preventative examinations are the most important part of this document, including records on vaccination, previous health disorders, antibiotics treatment and radiological/radionuclide exams. An important part is an addendum with essential information on neonatal screening, preventative exams, breast feeding, nutrition, oral health, injury prevention, first aid, how to avoid smoking and drugs and Information on pubertal and sexual behaviour for youngsters. An important part are percentile growth charts (based on data of Czech children). For the last 5 years percentile nomograms of blood pressure value (the STFR) and information on psychomotoric development (instructive pictures) have been included. A document on oral health has been appended for 2 years. The childrensmothers are provided with HVR free of charge whilst in maternity care, the document is property of the child's family. The task of primary care pediatricians is to provide records on preventative exams and note further important disorders and events. Course of things hitherto the use of HVR revealed that it is not so rare, the parents working with percentile nomograms are early in drawing attention to growth disorders or high blood pressure. The content, graphical workup and particularly the specific antropological supplement of the Czech HVR have been high evaluated by the European WHO office. The Health and Vaccination Record encourage parents and youngsters to take an active interest in health in this age category. There are also attempts to introduce electronic personal health records in CZ using the internet. Nevertheless, such information system is not as yet adequately exploited by policlincs, hospitals, or other MD. The contemporary use of HVR may fulfill an important role particularly in emergencies when the child is taken to a policlinics or a hospital. It should abridge the period required to reach new safe technologies on the internet.

OP-36

Morbidity of teenagers: structure and dynamics of Ivanovo region (Russia)

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The most of chronic illnesses are formed at adolescence.

Methods: The analysis of officially verified morbidity has been lead according to out-patient cards for complex studying of structure and dynamics of morbidity in Ivanovo region. Research problems included definition of ratings of diseases and studying of their outcomes, development of research methodology of illness rate in pupils of schools from 15 to 17 years old, comparison of the received results with data of prophylactic medical examination of teenagers in Ivanovo region and an estimation of dynamics of sickness rate for 3 years. The documentation of patient care and prophylactic institutions and statistical data of Ivanovo region (1000 out-patient cards of teenagers 1989–1991 of a birth) was used as sources.

Results: The greatest morbidity in children was presented by acute respiratory infections - 67% (more than 93% - infections of the upper airways, 6% - acute infections of the lower airways and influenza). On the second and the third place were diseases of nervous system and digestive system (5% each), on the fourth - traumas and consequences of external impact, on the fifth and the sixth - illnesses of a skin, hypodermic cellular tissue and infectious diseases (2.9% each), allergic diseases were on the seventh place (about 2.7%). Some sexual and age distinctions in illness rate and quantity of visits to a doctor were revealed in study. More than 80% of all teenagers consulted in policlincs
received release of employment in school. Hospitalization was a result of visit to polyclinic in about 3% from all references. The highest percent of hospitalization was presented by diseases of blood, cardiovascular organs, and infections. Acute respiratory diseases were the low interest of hospitalization. The illnesses of organs of breath, nervous system, digestive system, an infectious pathology and skin diseases were more often verified at the appeal of teenagers to a polyclinic in comparison with statistic data of the general morbidity in Ivanovo region. The diseases of bone-muscular system, eyes, urinary tract were verified infrequently. The quantity of teenagers with diseases of digestive tract revealed in study was 5.2%. Each second teenager with this pathology received release of employment.

Conclusions: The further studying of the structure of morbidity on example of Ivanovo region will allow to develop programs of preventive maintenance and rehabilitation of children with various diseases.

OP-37

Kawasaki disease with acute tonsillitis and cervical lymphadenopathy as the initial clinical features

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Kawasaki disease (KD) is an acute, self-limited vasculitis of unknown etiology that occurs predominantly in infants and young children. Coronary artery aneurysms are the most common cardiac findings, which occur in 20–25% of untreated Kawasaki patients and may lead to myocardial infarction, ischemic heart disease, or sudden death. KD is difficult to diagnose in the absence of the classic clinical features. This condition is known as an incomplete Kawasaki disease. An 8-year-old girl came with 7 day-high fever, distinct cervical lymphadenopathy, painful movement of the neck. Before the hospital admission, the girl had already had 5-day oral antibiotics because of acute tonsillitis, but the fever persisted. Echocardiography on 11th day of fever showed a right coronary artery wall thickening. 4 days later a left coronary artery aneurysm developed and laboratory findings showed elevated CRP, leukocytosis and thrombocytosis, so that the diagnosis of Kawasaki disease was confirmed. The therapy with immunoglobulin and high dose of ASS was initiated. The fever disappeared on day 13th of admission after a second administration of immunoglobulins and additional glucocorticoid. Two days later desquamation on fingertips developed. Echocardiography performed 7 weeks after discharge from the hospital revealed a small left coronary artery aneurysm. Kawasaki disease should be considered early in patients with prolonged fever. Especially young children often lack the classical features. It is important to repeat diagnostics like echocardiography, abdominal ultrasound, laboratory investigations and slit lamp examination to confirm the diagnosis.

OP-38

Antiphospholipid syndrome in a boy with double mutation of MTHFR and protrombin genes

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Background and aim: Antiphospholipid syndrome (APS) is a systemic autoimmune disorder characterized by combined arterial and venous thrombosis and presence of antiphospholipid antibodies (aPL). We described a case of antiphospholipid syndrome in a 13 year old male with mutation of both MTHFR and protrombin.

Case report: A 13 years old boy was charged for headache, nausea, visual disturbance and painful in the right leg. Familial and personal anamnesis were negative for coagulation disorders and autoimmune diseases. Painful of the leg started one month before, playing a soccer game and in the time worsened; the boy developed headache and nausea with occasional vomiting. At the admission the right leg was warm and swollen; the signs of increased intracranial pressure were significant: diplopia, vomit, headache and papilloedema. Autoantibodies were absent with the exception of antiphospholipid antibodies and serum levels of homocystein were in the normal range. Abdominal and leg ultrasonography demonstrated a deep venous thrombosis of cava, femoral, and popliteal right veins, confirmed by total body CT which showed also intracranial involvement. Cranial Angio-RMN confirmed cerebral venous sinus thrombosis. Thrombophyllic test showed double heterozygosis of MTHF and protrombin G20210A mutation. Patient was treated with mannitol, steroids and low molecular weight heparin (LMWH) in order to maintain INR between 2.0–3.0. Clinical condition gradually improved and 8 weeks later angio-RM showed a partial recanalization of thrombotic vessels. The boy was discharged with a plain of anticoagulant therapy (cumadin) and decreasing dose of steroids. One week after we downgraded steroids, the boy dramatically relapsed with seizures, headache and blooding vomit. Angio-RM showed a deep thrombosis of circumflexis veins in the rolandic area, which quickly resolved with high dose steroids. Actually he receives a long term oral anticoagulant therapy (coumadin) and steroids (deltacortene); no further relapses are observed in one year follow-up.

Conclusion: Although both conditions – i.e. antiphospholipid syndrome and the double heterozygosis of MTHF and protrombin mutation might promote thrombosis, in our case the prompt response to steroids suggest the leading disease as the antiphospholipid syndrome; the double mutation of MTHF and protrombin may influenced their severity favouring the wide extension and preferentially intracranial localization of thrombosis.
OP-39

Transient hypogammaglobulinemia of infancy (THI): IVIG as first line therapy

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Background and aim: Transient hypogammaglobulinemia of infancy was firstly described by Gitlin and Janeway in 1956: they reported children suffering from repeated respiratory infections with a temporary deficiency of serum immunoglobulin and normal antibody response. Since serum immunoglobulin levels normalized in the first years of life, they hypothesized that hypogammaglobulinemia might result from prolongation of normally diminished gammaglobulin synthesis seen in the first months of life (1). Many aspects of this syndrome are still controversial: prevalence is unknown; clinical and immunological features are poorly characterized, prognostic markers are lacking and the need of substitutive therapy is debated (2).

We report 12 infants with THI treated with IVIG until complete normalization of immunoglobulin serum levels, treated with substitutive therapy after the first infection with excellent results.

Cases: 12 children less than 12 months old received diagnosis of THI on the basis of the following features: - serum levels of one or more of the major immunoglobulin classes <2SD below the mean for age by our laboratory standard on two or more specimens; -normal antibody response to tetanus toxoid; -normal number and function of T cell subpopulation; -absence of clinical or laboratory features of other immunodeficiencies. All children had received one or more antibiotic therapies because of recurrent otitis, wheezing bronchitis, pneumonia, bronchiolitis, urinary tract infection, gastroenteritis; none of these had at presentation more serious infection such as sepsis, osteomyelitis or meningitis. Instead of repeated course of antibiotics as needed, we start with substitutive therapy with IVIG, 400 mg/kg b.w/21 days until normalization of IgG serum level, obtaining rapid clinical improvement, weight gain and no more infections. All children remained negative for HBV, HIV and HCV, confirming the safety of IVIG preparation.

Conclusion: We proposed IVIG therapy as first line therapy of symptomatic children with THI in order to avoid repeated or prolonged antibiotic administration, to allow the admission to day-care services and restore a normal growth in short time. In our experience, infusion of IVIG do not delay autoctonous production of IgG and the overall cost-benefit ratio is satisfactory.

References:

OP-40

Italian network for primary immunodeficiencies (IPINET): a useful operative model for rare diseases

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Background and aim: The management of Primary Immunodeficiency Diseases (PIDs), rare diseases due to defects of the immune system, presents difficulties concerning assistance organization, clinical care and research. To overcome that, the IPINet, established in 1999 within the Italian Association of Pediatric Hematology and Oncology and with the support of the Italian patients Association of Primary Immunodeficiencie s (AIP), aims to: -assure a definitive molecular diagnosis to all cases with clinically diagnosed or suspected PIDs by means of highly qualified referral laboratories; -decrease health migration and its related individual and social costs by means of a network of Centers of expertise and non-specialized centers, that produces, shares and updates disease-specific diagnostic and therapeutic protocols; -build a centralized system for PIDs data collection to evaluate both patient accrual and the long-term efficacy and late-effects of previously and currently adopted treatments; -share knowledge and experience between centers participating in the web network program.

Methods: Fifty-nine centers have jointly formulated and adopted common protocols for diagnosis and treatment of children and adults with X-linked and Autosomal recessive Agammaglobulinemia, Chronic Granulomatous Disease, Common Variable Immunodeficiency, Transient Hypo-gammaglobulinemia, Wiskott Aldrich syndrome, Deletion 22 syndrome and Ataxia Teleangectasia, available on Italian web site www.aieop.org; an english version is available linked to the ESID web site, www.esid.org/links. The IPINet identified referral laboratories for molecular diagnosis and utilized a web-based centralized system for data collection and analysis of the PIDs at the Italian Interuniversity Computing Center. The system allows management of the whole informative flow with consultation of protocols and exchange of information across forum.

Results: Each center enters patients information by electronic forms of registration, diagnosis, therapy, side
effects, annual follow-up. From 1999 to the present day, the IPINET obtained the enrolment of large series of cases (129 XLA, 30 AAR, 68 CGD, 303 CVID, 85 THI, 59 WAS, 103 DEL22), has assured a large amount of high quality data, optimized operator work, improved the ability of physicians to manage such a rare diseases and has lead to a quality of care improvement of PIDs children and adults.

Keywords: primary immunodeficiencies, multicenter network, web based system, quality of care

**OP-41**

**Hospital-based surveillance study to estimate the cost of rotavirus gastroenteritis (RVGE) in children < 5 years of age in five European countries**

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Background and aim: It has been estimated that 3.6 million episodes of rotavirus disease occur annually among the 23.6 million children younger than 5 years of age in the EU. Every year rotavirus accounts for 231 deaths, 87,000 hospitalizations and almost 700,000 outpatient visits.

Methods: The SHRIK study was an observational, prospective, multi-centre, hospital-based project. Resource use data were collected, including: hospitalizations; physician visits/contacts; product usage (i.e. medication, re-hydration solution, nutritional products); transportation; supervision/carer costs, other costs (e.g. diapers); days lost at work, days lost at daycare/school. The types of cost and cost perspectives were estimated for each country.

Results: Cost data were available for 548 hospitalized children with GE (France 99; Germany 212; Italy 125; Spain 78; United Kingdom 34). 58% of subjects were male; 79% were aged 0–2 years. 72% had a Vesikari score for moderate/severe GE; 60% were confirmed positive for RV. After adjusting for OECD purchasing power parity the mean societal cost per child per episode was highest in France (2845.5€) followed by Spain (1824.3€), Germany (1802.2€), Italy (1746.9€) and the UK (1422.6€). The distribution of resources and subsequent costs varied considerably between countries in line with national practices. As a percentage of the total cost of an episode, families in the UK paid the greatest proportion (36.6% compared with 12.8% in Spain, 7.4% in Germany, 7.2% in Italy and 5.6% in France).

Conclusions: This study provides valuable information to support assessment of the potential cost benefits of RV vaccination. This work was supported by GlaxoSmithKline Biologicals.

Keywords: Rotavirus, epidemiology, cost

**OP-42**

**Severe Stevens–Johnson syndrome due to an infection with Mycoplasma pneumoniae in a nine-year-old German girl**

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Stevens-Johnson syndrome (SJS) is a severe, idiosyncratic reaction, usually in response to medications, which is characterized by fever and mucocutaneous lesions. After a prodromal stage with malaise and fever, a rapid onset of skin lesions can be noted progressing to epidermal necrosis and sloughing. Mucosal membranes are affected in almost all of the patients, usually at two of three distinct sites (e.g. ocular, oral, and genital). We report on a 9-year-old girl that presented in our emergency department with high spiking fever, cough, radiological signs of pneumonitis as well as severe conjunctivis and stomatitis. There was no history of medication in the past. On admission to the hospital no skin lesions were noted, but rapidly developed during the next 2 days, so that the diagnosis of SJS was made. The patient was initially treated with high doses of systemic corticosteroids and antibiotics. Intravenous fluids, parenteral nutrition and analgetic therapy were administered. The ocular involvement including severe conjunctivitis and an extensive hyposphagma was treated symptomatically with steroid ointment. The serologic results showed positive titers for IgM-antibodies of mycoplasma pneumoniae, the serologic control 8 days later showed a marked rise in both, IgG- and IgM-antibodies. After two weeks the child was discharged home in a good physical condition, however, still suffering from residual skin and mucocutaneous lesions that disappeared another couple of weeks later.
OP-43

Childhood chronic renal failure (CRF): an extra-ordinary experience

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Aim: The aim of this paper is to report our extra-ordinary experience with childhood CRF in Iraqi children.

Methods: From January 1993 to July 2007, 80 patients with a diagnosis of chronic renal failure (CRF) were observed at the University Hospital in Al Kadhimiya, Baghdad. Fifty one patients were males (63.75%) and 29 (36.25%) were females. The male-female ratio was 1.75, and the age at referral ranged from 2 months to 18 years (mean 9 years).

Results: The single most common cause of CRF was chronic glomerulonephritis (19%). The largest etiological group was hereditary disorders and genetic syndrome (28.8%). Cystinosis was the most common hereditary disorder causing CRF. Oculo-cerebro-renal syndrome and severe variant of Hinman syndrome which are rare causes of CRF accounted for 10% of the patients. Most patients (93.6%) were treated by conservative measures with or without intermittent peritoneal dialysis (IPD). Five patients were treated with chronic hemodialysis. Only two patients received live related donor kidney transplant. In 14 (16.5%) patients of acacia gum supplementation was added to the conservative measures and resulted in amelioration of the uremic symptoms and lowering of blood urea levels and delaying the need for dialysis. The longest survival of 6 years was achieved in two patients, both treated initially with IPD. One of the was transplanted and the other was treated with a combination of the traditional conservative measures and acacia gum supplementation.

Conclusion: The pattern of childhood CRF in Iraq is unique and differs from previous reports.

OP-44

Circulating fetal ischemia-modified albumin levels in normal and intrauterine growth restricted pregnancies

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Background and aim: Ischemia-modified albumin (IMA) is a sensitive biomarker of cardiac ischemia. Intrauterine-growth-restriction (IUGR) may imply fetal hypoxia, resulting in blood flow centralization in favour of vital organs (brain, heart, adrenals – “brain sparing effect”). Based on the latter, we hypothesized that cord blood IMA levels should not differ between IUGR and appropriate-for-gestational-age (AGA) full-term pregnancies.

To investigate cord blood IMA levels in IUGR and AGA pregnancies at birth and correlate determined levels with gestational age, gender and mode of delivery.

Methods: IMA was measured in blood samples from doubly-clamped umbilical cords (representing fetal state) of 110 AGA and 57 asymmetric IUGR pregnancies.

Results: No significant differences in IMA levels were documented between AGA and IUGR groups. IMA levels were elevated in cases of elective cesarean section ($P = 0.035$), and offspring of multigravidas ($P = 0.021$).

Conclusions: The “brain sparing effect” is possibly responsible for the lack of differences in cord blood IMA levels at term, between IUGR and AGA groups. Furthermore, higher oxidative stress could account for the elevated IMA levels in cases of elective cesarean section and offspring of multigravidas.

Keywords: Ischemia-modified albumin, intrauterine growth restriction, appropriate for gestational age, umbilical cord blood, brain sparing effect

OP-45

The impact of intrauterine growth restriction on perinatal plasma monocyte chemotactic protein (MCP)-1 concentrations

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Background and aim: Monocyte-chemotactic-protein-1 (MCP-1), a chemotactic factor that attracts and activates monocytes/macrophages into sites of inflammation, plays vital roles in immune response, angiogenesis and pregnancy outcome. To investigate plasma MCP-1 concentrations in 40 mothers and their intrauterine-growth-restricted (IUGR-n = 20) and 20 appropriate-for-gestational-age (AGA-n = 20) fetuses and neonates on postnatal day 1 (N1) and 4 (N4).

Results: Maternal and fetal MCP-1 concentrations were decreased ($P < 0.001$ and $P = 0.018$, respectively), whereas N1 MCP-1 concentrations were elevated in the IUGR group ($P = 0.012$). In both groups, fetal MCP-1 concentrations were lower compared to N1 and N4 ones ($P = 0.045$, $P = 0.012$, respectively for AGA, $P < 0.001$ in each case for IUGR).

Conclusions: Reduced maternal and fetal MCP-1 concentrations in IUGR may reflect failure of trophoblast invasion, suggesting that down-regulation of MCP-1 may be involved in the pathogenesis of IUGR. Increased MCP-1 concentrations in IUGR neonates and higher postnatal concentrations in all infants may be attributed to gradual initiation of ex utero angiogenesis, which is possibly enhanced in the IUGR state.

Keywords: Monocyte, chemotactic protein-1, intrauterine growth restriction, fetus, neonate, pregnancy
OP-46

Fetal survivin concentrations in normal and complicated pregnancies at term

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Background and aim: Survivin, a member of the inhibitors of apoptosis (IAP) family, is important for fetal development, as well as placental survival and differentiation. Intrauterine-growth-restriction (IUGR) and fetal macrosomia, due to maternal diabetes mellitus (DM), are associated with excessive and decreased feto-placental apoptosis, respectively. To study umbilical cord blood survivin concentrations at term in IUGR, large-for-gestational-age (LGA, due to gestational DM) and appropriate-for-gestational-age (AGA) pregnancies and investigate possible correlations of survivin concentrations with several demographic parameters of infants at birth.

Methods: Survivin concentrations were determined by enzyme immunoassay in 160 mixed arterio–venous umbilical cord blood samples (representing fetal state) from IUGR (n = 48), LGA (due to gestational DM, n = 11) and AGA (n = 101) singleton full-term infants.

Results: No significant differences in cord blood survivin concentrations were observed between IUGR, LGA and AGA groups. The effect of birthweight, customized centile, gestational age, gender, mode of delivery and parity on survivin concentrations was not found to be significant. Additionally, no significant positive or negative correlations were observed between survivin concentrations and all the above-mentioned variables. Median (range) cord blood survivin concentrations were 138.49 pg/mL (71.54–349.89 pg/mL).

Conclusions: Cord blood survivin concentrations at term are independent of intrauterine growth, gender, parity and mode of delivery. Thus, cord blood survivin concentrations probably do not reflect the disturbances of feto-placental apoptosis, expected in IUGR and fetal macrosomia, due to gestational DM. Moreover, our results provide a useful set of survivin reference values in full-term infants at birth.

OP-47

Is gastrochisis increasing in newborns in Wirral, UK?

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Background and aim: Gastrochisis is a congenital abdominal wall defect, the causes of which remain controversial. To date, geographical differences in the total prevalence of gastrochisis have been partially explained by differences in maternal age distributions in the populations surveyed. Social deprivation and maternal drug use have also been implicated in the pathogenesis of gastrochisis. What is interesting about gastrochisis in UK is that its incidence has reported to be increasing last decade. Similar increase has been described in other European countries, however no explanation has been given for this trend. The aim of our study was to assess the prevalence of gastrochisis in Wirral and to identify possible aetiological factors.

Methods: We detected all neonates born with gastrochisis in Wirral from 1995–2005 by reviewing the register books and we examined retrospectively their neonatal and maternal case notes. We evaluated the relationship between gastrochisis and maternal age, use of medications during pregnancy, use of drugs, smoking and alcohol.

Results: The prevalence of gastrochisis during the period 1995–2000 was 2.7 in 10,000 registered births, while during the period 2001–2005 the respective prevalence was 6.0 in 10,000 registered births. The prevalence of gastrochisis in Wirral from 2001–2005 is the highest that has been reported in UK, however it is similar to the prevalence that has been reported for Merseyside, Cheshire and the Isle of Man. In 2 out of the 15 studied cases maternal age was less than 20 year old, while only in two mothers there was documented drug use. Interestingly, six babies were born during the winter months (December, January, February), four babies were born during autumn months (September, October, November), while only two babies were born during summer or spring.

Conclusions: Further research in the existing large gastrochisis series is required to investigate the aetiological factors for gastrochisis and its increase in the last decade.

Keywords: Gastrochisis, prevalence, UK

OP-48

Nasal injury associated with nasal CPAP in premature infants and beneficial effect of silicon gel sheeting

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Background and aim: To determine the incidence of nasal injury in preterm infants ventilated with nasal continuous positive airway pressure (CPAP) and to investigate the efficiency of the silicon gel application on the surface of nares in prevention of injury.

Methods: This study was designed as a prospective randomized controlled trial. Eligibility criteria for inclusion required to be a premature infant needing nasal CPAP treatment. Patients were randomized into two groups: Group 1 had no silicon gel applied to nares, and in Group 2,
the silicon gel sheeting was used on the surface of nares during ventilation with nasal CPAP. Demographic data of the patients and the incidence rates of nasal injury were compared between the two groups.

Results: A total of 179 patients entered the study: 87 (48.6%) infants received nasal CPAP without silicon gel sheeting (Group 1) and the remaining 92 (51.4%) infants were ventilated with nasal CPAP by using silicon gel sheeting (Group 2). There were no significant difference in the mean birth weight, birth weight classification, mean gestational age, gender and mortality rates between the two groups. During the study period, a total of 17 infants developed nasal injury: Group 1 had 13 (14.9%) and Group 2 had 4 (4.5%) infants. Logistic regression analysis showed that the most significant risk factor for the development of nasal injury associated with nasal CPAP usage was the duration of nasal CPAP application. Our study also showed that silicon gel sheeting of the nares reduces the nasal injury resulting from CPAP usage.

Conclusion: Infants should be closely monitored for the development of nasal injury during nasal CPAP. In addition to proper nursing and vigilance, a silicon gel sheeting can be applied to nares to prevent nasal injury that might originate from CPAP use in preterm babies.

Keywords: nasal, continuous positive airway pressure, nasal injury, columella necrosis, silicon gel sheeting

OP-49
‘TORCH’ screening in neonates: how long does it take?
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Background and aim: Congenital infections are acquired transplacentally and are caused by a group of viral, bacterial and protozoan pathogens including Toxoplasma, Rubella Virus, CMV, HSV and Parvovirus. The possibility of congenital infection is usually explored by evaluating mothers and neonates using a ‘TORCH’ screen. The time taken to obtain screen results can generate anxiety and lead to a delay in initiating treatment. This audit examined the time taken to obtain the result of TORCH screening and its impact on the clinical management of neonates with possible congenital infection.

Materials and methods: We assessed retrospectively all TORCH screens that were performed during 2007 in the Department of Microbiology at the Countess of Chester Hospital (covering a population of 700,000 in Cheshire, UK). Parts of the TORCH screen required samples to be sent on to other reference laboratories.

Results: During the studied period, 624 samples were received. Twenty-seven samples were taken from neonates, 5 from children and 592 from mothers. The period of time to obtain the results of the different components of the screen ranged from 2 to 81 days (mean 10.38 days, SD 5.65). There was a minimal delay in delivering samples to the Laboratory (mean 1.13 days, SD 3.47). Two out of 27 (7.4%) samples from neonates were positive for CMV and in both cases anti-CMV therapy (ganciclovir) was administered.

Conclusion: ‘TORCH’ screening involves the co-ordination of several laboratories, and this can cause delay in receiving the ‘TORCH’ screening results. Minimizing this delay would improve the management of neonates with suspected congenital infections.

Keywords: TORCH screening, CMV, neonates

OP-50
Shall we continue to use erythropoietin in the preterms older than 28 weeks of gestational age?
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Background and aim: Clinical trials have reported that human recombinant erythropoietin (rhEPO) reduces the number of transfusions in Very Low Birth Weight infants. From these results, rhEPO has become a routine treatment since 1990. However, no study reported benefits in older preterms (i.e. 28–30 WG). Objective is to evaluate the benefit of rhEPO between 28–30 WG.

Methods: We compared two groups of preterms between 28 and 30 WG, in a prospective case-control study: Period #1, with rhEPO (January 2005–October 2006), and period #2 without rhEPO (November 2006–May 2007). Newborns with intra-uterine growth retardation, rhesus isoimmunisation or surgical procedures were excluded. The main criterion was the number of blood transfusions; second criteria were hemoglobin at 4 weeks of life and before hospital discharge. Morbidity was evaluated on necrotizing enterocolitis and intra-ventricular hemorrhage (IVH).

Results: 59 newborns receiving rhEPO and 19 not ( Controls) were included. Our two groups were similar for birth weight (rhEPO: 1470 ± 181 versus Controls: 1545 ± 139 g; = 0.10). Only one child (rhEPO group) needed a transfusion. Hemoglobin at 4 weeks (rhEPO: 12.9 ± 2.4 versus Controls: 12.6 ± 3.1 g/dL; = 0.75) and hospital discharge (rhEPO: 11.85 ± 2.20 versus Controls: 11.3 ± 2.7 g/dL; = 0.35) were not statistically different. There were no differences between both groups for necrotizing enterocolitis (rhEPO: 3 versus Controls: 0; = 0.31) neither for IVH (rhEPO: 6 versus Controls: 2; = 0.92).

Discussion: We did not find any biological or clinical benefit using rhEPO in 28–30 WG preterms. As it is a painful and expensive procedure, other methods, such as limiting blood samples could be more effective in this population.
Remifentanil v. bupivacaine or pethidine analgesia during labor; cord blood cortisol and IL-6 levels and newborn’s condition during the first 24 hours

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Background and aim: New methods of relieving pain at labour which are safe for both the mother and the newborn are still being looked for.

The aim was to assess the influence of different methods of analgesia (Remifentanil (R) intravenous (n = 23) in patient control analgesia (PCA), Bupivacaine epidural (n = 31) in PCA or Pethidine intramuscular (n = 34)) on the newborn’s state (Apgar score, umbilical arterial blood gas analysis) cord blood concentration of cortisol and interleukin-6 and the newborn’s adaptation in the first day of life: condition and behavior, saturation, heart rate, arterial blood pressure (BP). All newborns were full-term with mean GA 39 ± 1.3 weeks and birth weight 3362.2 ± 391.4 g. 21 newborns born without any type of analgesia was a control group.

Results: 1’ and 5’ Apgar score was significantly lower in R than in control. Mean pH was significantly lower and pCO2 higher in all group compare to control. The different methods of analgesia do not influence cortisol and interleukin-6 levels. Oxygen hood was used significantly frequent in R group that was a tendency to change the saturation, heart rate, arterial blood pressure (BP). All newborns were full-term with mean GA 39 ± 1.3 weeks and birth weight 3362.2 ± 391.4 g. 21 newborns born without any type of analgesia was a control group.

Conclusions: Since it was proved that analgesia using Remifentanil has negative effects on the newborn’s birth condition and on cord blood gas analysis, it cannot be considered better than the methods already in use for years.

Keywords: remifentanyl, bupivacain, pethidine, labor analgesia, newborn’s condition

The applicability of end-tidal carbon dioxide level in the gastric tonometric examination of neonates

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Background and aim: With the help of gastric tonometry the gastric-arterial partial CO2 pressure (PCO2) gap may help us to monitor the stability of circulation: if a deterioration of perfusion occurs, the increase of intragastric PCO2 (PgcCO2) and the worsening of the gastric tonometric parameters can be the first sign.

However, it is very difficult to follow-up the condition with frequent acid-base examinations, especially in the case of neonates. In our present examinations we wanted to compare the conventional PCO2 gap (PgCO2-PaCO2) with an alternative gap of PgCO2-PETCO2, end tidal carbon dioxide (PETCO2).

Methods: We performed a prospective study on ventilated, neonates requiring intensive care (n = 24, weight: 1930 ± 1136 g). Gastric tonometric examinations were performed with the help of a new, balloon free tool developed at our department. PaCO2 was determined with the help of an acid-base automate, while PETCO2 and PgCO2 were measured with a side stream capnograph. Patient data were divided into group 1 of patients in severe condition (i.e. CRIB score higher than 10 and/or non surviving patients; n = 7) and group 2 of patients with stable condition (n = 17).

Results: PgCO2-PETCO2 gap was higher, than PaCO2-PgCO2 (0.9 ± 9.9 versus 6.1 ± 9.9 mmHg, P < 0.01). Significant correlations (P < 0.01, r = 0.6) were found between each two of the three CO2 gaps parameters. Both gaps were higher in group 1 (P < 0.01).

Conclusions: According to our findings the PgCO2-PETCO2 gap may be used as a method for continuous estimation of splanchnic perfusion and a prognostic index also in critically ill neonates. However, conventional PaCO2-PgCO2 gap should not be abandoned.

Keywords: Neonate, gastric tonometry, monitoring PCO2

The mortality results of 23770 newborns who are followed in our neonatology unit between 2002–2007

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Background and aim: In our country more than half of the infant deaths are seen in newborns. In our unit, in which so many newborns are treated, we follow the sick babies, who born in our hospital and come from other hospitals. The 25% percent of the patients are the babies who were born in other hospitals. Our object was to find out our units mortality results according to their risks.

Material and methods: We observed the mortality results of the newborns who are followed in our newborn unit in January 2002–December 2007 (born in our hospital and come from other hospitals) according to gestation weeks and birth weights. We observed 23,770 patients in our newborn unit in 6 years. According to gestation weeks the number of the babies: ≤24 week: 30, 25–26 week:163, 27–28 week:314, 29–30 week: 545, 31–32 week: 810, 33–34 week:1763, 35–36 week: 5113, 37–41 week: 16174, ≥42 week: 838 When we observed the patients according to birth weights: ≤500 g: 37, 500–749 g: 105, 750–999 g: 432, 1000–1249 g: 1420, 250–1999 g: 3531, 2000–2499 g: 2097, 2500–3499 g: 9903,
OP-54
The spectrum of renal tubular disorders in Iraqi children
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The pattern renal tubular disorder (RTDs) has been infrequently reported in the literature, and the pattern of RTDs in Iraqi and Arab children is not known.

Methods: From June 2000 to April 2007, 42 children with suspected RTD were evaluated to determine the type of tubulopathies. Ages at referral ranged from 8 months to 14 years (mean 4.8 years). There was evidence of RTD in only 37 patients; 23 males (62%) and 14 females (38%). Their ages at referral ranged between 8 months and 14 years (mean 4.8 years). In 4 patients with oculo-cerebrorenal syndrome, there was no evidence of RTD and one patient has hyperoxaluria which not a RTD.

Results: Seven types of RTDs were identified. The three most common disorders were: idiopathic hypercalciuria (35%), cystinosis (21.6%) and renal tubular acidosis RTA (21.6%). Four of the patients with RTA have proximal RTA, and four have distal RTA. Four of the patients with hypercalciuria have also significant hyperoxaluria >3mg/kg/day.

Conclusion: The pattern of RTDs in Iraqi children differs from the previous studies: In Germany the three most frequent disorders were cystinosis, XLHR, and idiopathic hypercalciuria.

OP-55
Relationship between sleep quality, depression and quality of life in children with monosymptomatic enuresis
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Background and aim: Children with monosymptomatic nocturnal enuresis might demonstrate poor sleep quality, higher rate of depression and worse health related quality of life (QoL).

The aim of this study was to compare QoL, sleep quality and depressive symptomatology in children with monosymptomatic nocturnal enuresis with healthy controls and to evaluate the relationship of these parameters.

Methods: The study consisted of 44 children with monosymptomatic nocturnal enuresis and 27 healthy controls aged 6–15 years. KINDL QoL, Pittsburgh Sleep Quality Index (PSQI) and Children’s Depression Inventory (CDI) questionnaires were filled in by all children.

Results: There was no statistically significant difference of total PSQI score and PSQI subscores between the groups (P > 0.05 for all). Frequency of poor sleep was higher in children with enuresis (24.2% versus 14.8%, P = 0.36). Mean total KINDL scores in the enuresis and control groups were 65.1 ± 11.0 versus 67.4 ± 13.7 respectively (0.44). In the enuresis group, disease duration showed significantly negative correlation with total KINDL score and self-esteem domain (r = -0.32 and r = -0.39, P = 0.04 and P = 0.01 respectively). Mean scores of CDI were not significantly different between the two groups (P = 0.77).

Conclusions: Although significant difference in PSQI, QoL and CDI scores could not be found between children with enuresis and healthy controls, higher frequency of poor sleep and correlation of disease duration with sleep and QoL parameters necessitates follow up of sleep disturbance, depressive symptomatology as well as QoL parameters in children with enuresis to improve the quality of health care provided.

Keywords: Enuresis, sleep quality, quality of life, depression, anxiety
Methods: The study consisted of 57 children with monosymptomatic nocturnal enuresis and 57 healthy controls aged 6 to 12 years. Conners’ Parent Rating Scale-48 (CPRS), a 48-item multiple-choice questionnaire, was completed by the parents to identify attention deficit and hyperactivity symptoms in children.

Results: Mean age of the enuresis group (23 male, 34 female) was 8.54 ± 2.18 years while that of the control group was (25 male, 32 female) 9.12 ± 2.13 years. Attention deficit score in the enuresis group was significantly higher than that in the control group (P = 0.026). Hyperactivity score was not statistically significant between the groups (P > 0.05). Among the children in the enuresis group, bedwetting frequency in the ones with attention deficit or hyperactivity symptoms was not significantly different from the ones without these symptoms (P > 0.05).

Conclusions: Children with nocturnal enuresis may have higher frequency of attention deficit symptomatology; therefore they need to be watched for these symptoms and referred for further evaluation if suspicion of attention deficit hyperactivity disorder arises.

Keywords: Nocturnal, enuresis, attention deficit, hyperactivity disorder, child

OP-57

FC gamma receptor polymorphism: a risk factor for urinary tract infections?

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Background and aim: The bacteria adhere to the uroepitelium and trigger adaptive immune response with synthesis of chemokines and cytokines. Chemokine and chemokine receptors lead to recruitment of inflammatory cells results in inflammatory response or healing or scar formation. FcγR are divided in three classes: FcγRI (CD 64), FcγRII (CD 32), FcγRIII (CD16). FcR initiates the effector functions like degranulation, cytokine production, arrangement of the antibody synthesis, antibody dependent cellular cytotoxicity, superoxide production, phagocytosis. FcγR polymorphisms may contribute to disease susceptibility or may alter disease course. These receptors differ in cell distribution and affinity for Ig G subclasses. Our aim in this case-control study is to determine the role of FcγR polymorphism in urinary tract infection to investigate the genotypic diversity of FcγR and to demonstrate phenotype–genotype relationship in UTI.

Methods: One-hundred thirty-one UTI and 118 healthy Turkish subjects without any urinary tract abnormality were participated in the study. Infections were defined by urine culture. Polymorphisms were determined by using amplification refractory mutation system polymerase chain reaction (ARMS-PCR).

Results: In study group, FcγRIIa R/R genotype and FcγRIIa R/R allele are found significantly higher than the control group. FcγRIIa IIIa genotype distribution and allele frequency is not significantly different between UTI and control group. FcγRIIb-NA2/NA2 genotype and NA2 allele are found statistically higher when compared to control FcgRIIa-131-R allele is found to be related; lower urinary tract infection (OR = 1.12, 95% CI 0.86–1.46, P = 0.015), gram negative bacterial infection risk (OR = 1.20, 95% CI 0.7–1.4, P = 0.012). FcgRIIb-NA2 allele is found to be related; upper UTI (OR = 1.11, 95% CI 0.4–2, P = 0.001) gram negative bacterial infection (OR = 1.2, 95% CI 0.85–1.4, P = 0.001), renal scar development risk (OR = 1.95% CI 0.76–1.37, P = 0.001).

Conclusion: FcγRIIa-R131R and FcγRIIb-NA2/NA2 gene polymorphisms may increase the risk and susceptibility to UTI in children.

Keywords: UTI, FcγR, children

OP-58

Special characteristics of temporal lobe epilepsy in children

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Background and aim: Temporal lobe epilepsy is the most common type of focal epilepsies. We examined the characteristics of childhood TLE and compared them with those of adults.

Methods: We performed a video analysis of 605 archived seizures from 155 consecutive patients (age 10 months to 49 years) selected by seizure freedom after temporal lobectomy. Age-dependency of etiology and several axes of seizure semiology were assessed: (i) aura, (ii) number of lateralizing signs, occurrence of ictal (iii) emotional signs, (iv) autonomic symptoms, (v) automatisms and (vi) secondary generalization as well as (vii) the ratio of motor seizure components.

Results: From the 155 patients, 117 reported aura, 39 had ictal emotional signs, 51 had autonomic symptoms, 130 presented automatisms, while 18 patients showed secondary generalization at least once during their seizures. Altogether 369 (median: 2/patient) different lateralizing signs were recorded. Frequency of hippocampal
sclerosis ($P < 0.001$), ictal automatisms ($P < 0.001$), secondary generalization ($P = 0.014$), number of different lateralizing signs ($P < 0.001$) increased while the ratio of motor seizure component ($P = 0.007$) decreased by age. Auras, emotional symptoms and autonomic signs occurred independently of patients’ ages.

Assessed patients’ age groups; Age-dependent characteristics

Conclusion: Childhood TLE has some special characteristics. Our findings support that brain maturation significantly influences the evolution of some important aspects (motor seizures, lateralizing signs) of temporal lobe seizure semiology. Conversely, other aspects (aura, emotional and autonomic signs) are independent of the maturation process. This is the first report assessing comprehensively the special characteristics of childhood TLE. We would like to present our data illustrated by video sessions.

Keywords: temporal lobe, epilepsy, seizure, etiology, age

Lateralizing signs versus age; Motor seizure components versus age

**OP-59**

Effectiveness and safety of beta interferon in the treatment of early-onset multiple sclerosis in children: about an observation

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The Multiple Sclerosis begins in children and adolescents than among three to ten percent of patients. It is a rare neurological disease in the population of less than 10 years.

Case: We report the case of a little girl whose disease started at the age of 20 months 3 weeks after vaccination against hepatitis B with a first episode of optic neuritis followed by some events monthly evoking a Devic's disease. The initial MRI brain was normal and it was not until around the age of 30 months that have appeared demyelinating lesions in the white cerebral substance. While inflammatory onset are repeated every months, treatment with interferon $\beta$ is started at the age of five; the events become casual. The safety of interferon $\beta$ was marked by episodes of fever during each injection. But our patient begins at the age of eight articular inflammatory chronic pathology.
Discussion: The very early beginning of the disease in the form of an optical neuromyelitis is unusual and discuss relations between Devic’s disease and multiple sclerosis. Several studies have shown no relationship between hepatitis B vaccination and the occurrence of MS. The vaccine in this observation may have been a precipitating factor. The frequency of events has led to establish very early interferon β whose effectiveness and safety have been outstanding despite, several years after starting treatment, the occurrence of inflammatory arthritis in which the responsibility of interferon is uncertain.

Conclusion: The early initiation of interferon is discussed because of the possible appearance of neutralizing antibodies, but should not be delayed in severe forms considering the serious prognostic in the forms starting very early.

**OP-60**

The results of ultrasound examination of major salivary glands with children having allergic diseases undergone allergen specific immunotherapy

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Examination goal: To define the effectiveness of different methods of allergens introduction to children having allergic diseases.

Patients and methods: Allergen specific immunotherapy (ASIT), ultrasound examination (USE) before and after ASIT: in B-regime, dopplerographic examination (DG) using colour Doppler mapping (CDM), energy Doppler (ED), impulse Doppler (ID), small parenchymatous vessels with the help of Voluson 730 expert (GE) machine using 10–16 MGz linear sensor. Ultrasound examination was carried out under the following system parameters which were the same for all patients: PRF 0.9 kHz scale which matches parenchymous flow speed of 3 cm/s), WMP low1, Frq mid, Gain 2,0, Pwr 100%. 120 children have been observed, of which 30 were introduced allergens by parenteral method, 30 by sublingual method, 30 by combined method and 30 by endonasal method.

Results: Children undergone ASIT by sublingual method were marked for blood flow intensity increase to DG in comparison with the initial one on Submandibular and particularly on sublingual glands and normalization of peripheral resistance vessels index resistancy index (RI) up to 0.6–0.69. Children undergone ASIT by combined method were also marked for blood flow activity increase, but to a smaller degree, on Submandibular and on sublingual glands normalization of RI. Hypodermic and endonasal methods of allergens introduction did not result in activation of blood flow in all the three pairs of major salivary glands.

Conclusion: Therefore, complex X-ray indicators of major salivary glands can be used for uninvasive diagnostics of ASIT’s effectiveness and outline sublingual method of allergens introduction as the most effective.

**OP-61**

The characteristics of our children’s physical activity

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Background and aim: Clinicians should encourage people to stay away from a sedentary lifestyle and increase their physical activity (PhyA). A wealth of scientific evidence shows that the increased morbidity and mortality attributable to chronic disease is associated with a sedentary lifestyle. A primary goal of public health should be the promotion of physically active lifestyles in children, as it has been reported that this task is unfruitful in adolescence. Aims are (i) To know the intensity and type of PhyA currently performed by our children. (ii) To establish a priority to improve our children’s PhyA.

Methods: We enrolled 288 children attending from school in our village. Parent’s consent was obtained from all subjects. Age ranged from 3.5 to 12.6 years. Sex distribution: 143 girls and 145 boys. We measured height, weight, blood pressure, body mass index and waist/hip circumferences. PhyA information was obtained from: (i) a 7-day PhyA questionnaire; (ii) The K13Plus PhyA and “screen-time” behaviour scale.

Results: Mean time of each activity (min/day) is shown in the figures. Low-intensity PhyA: 53.42. Moderate-intensity PhyA: 54.65. High-intensity PhyA: 27.02. “Screen-time”: 61.64.

Conclusions: According to the current recommendations for PhyA in childhood, our results indicate that low-intensity PhyA should be encouraged. A multidisciplinary work group (health care professionals, physicians, teachers and professional organisations) should promote school and community programs to enhance PhyA and to encourage people to practice “exercise in family”.

Keywords: Physical activity, screen-time, children lifestyles

**OP-62**

The spreading of antiphospholipid antibodies in children without rheumatic diseases

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Aim: The aim our study is determine presence of circulating antiphospholipid antibodies (aPL) in children with
thrombosis, ischemic attacks, epilepsy, thrombocytopenia and hemolytic anemia.

Methods: The 102 children, whose ages ranged from 3 months to 18 years and 15 children with vegetative dystonia (control group) underwent laboratory studies designed to diagnose the lupus anticoagulant (LA), anticardiolipin antibodies (aCL) and b2 - glycoprotein I antibodies (anti b2-GPI). This children not suffered systemic lupus erythematosus and underlying systemic diseases.

Results: The aPL in basic groups was detected in 47.2% children, compared control group, when positive aPL was in 13.5% children. LA in basic group was detected in 18%, aCL in 9.7%, and anti b2-GPI in 15.5% patients. Two and more types aPL was found in 8.8% children. This patients was with hemolytic anemia, chronic thrombocytopenia and thrombosis of deep veins legs. In more cases aPL was low positive. The high positive aPL was detected in patients with hemolytic anemia and thrombosis of leg. The third of this patients had positive aCL and anti b2-GPI. The positive LA and aCL was found in third patients with thrombosis of leg. The half patients with idiopathic thrombocytopenia had positive LA and anti b2-GPI. The patients with epilepsy in 15% cases had LA, other types aPL in this patients not appeared.

Conclusion: The aPL frequency are detecting in children with thrombosis, neurological disorder and hemolytic anemia, idiopathic thrombocytopenia. In more cases aPL was low positive and they was not detected in the repeat study over 12 weeks.

OP-63

Immune regulation defects in high-risk relatives of children with type 1 diabetes

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Background and aim: Abnormalities in CD4 + CD25 + regulatory T cells (Tregs) may contribute to type 1 diabetes (T1D) development. First-degree relatives of T1D patients are at increased risk.

Methods: We evaluated kinetics of Tregs (including surface marker CD127- and intracellular FoxP3 + ) after specific stimulation with diabetogenic autoantigens in 11 high-risk (according to HLA-linked T1D genetic risk) relatives of T1D patients and 14 healthy controls using a cytokine secretion assay based on interferon gamma (IFNg) production. Peripheral blood mononuclear cells were stimulated in a 72 hours assay with a mixture of diabetogenic peptides derived from glutamic acid decarboxylase 65 (GAD65; a.a. 247–279, a.a. 509–528, a.a. 524–543), tyrosine phosphatase (IA2; a.a.853–872), and beta-proinsulin chain (a.a. 9–23) or with a whole molecule of insulin. T cells were evaluated by flow cytometry.

Results: High-risk relatives of T1D patients had significantly lower pre- and post-stimulatory numbers of Tregs then the healthy controls (P < 0.01). A stimulation with autoantigens did not lead to a significant change in the Tregs numbers in both groups, however some increase of Tregs after stimulation was noticed in a control group while slight decrease was noticed in high-risk relatives of T1D patients. Autoantigen activation of autologous T cells with diabetogenic peptides as well as with insulin was significantly higher in high-risk relatives of T1D patients in comparison to a negligible activation in the healthy control group (P < 0.01). Insulin led to higher activation then the peptides. In conclusion, individuals at increased HLA-linked genetic risk for T1D have defects in CD4 + CD25 + CD127-FoxP3 + Tregs.

Conclusion: This study brings the direct evidence of defective function of Tregs in high-risk relatives of patients with T1D before the onset of the clinical manifestation of T1D.

This project was supported by the Internal Grant Agency of the Ministry of Health of the Czech Republic NR 9355-3.

Keywords: Type 1 diabetes, children, Tregs
**Characterization of a novel human anti-GD2 anti-idiotypic antibody GK8 DNA vaccine for immunotherapy in neuroblastoma**

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Background and aim: To overcome tolerance against poorly immunogenic tumour-associated antigen GD2 is a major challenge for immunotherapy in neuroblastoma. We developed a DNA vaccine encoding for a novel human anti-idiotypic antibody GK8. GK8 was identified from an antibody phage library generated from a patient treated with ch14.18, who developed an anti-chimeric serum response.

Methods: With the sequence of GK8, we constructed a DNA vaccines encoding for the human single-chain variable fragment of GK8 and encoding for the known murine single-chain variable fragment of 1A7. Construction was accomplished by a sequential PCR technology as previously described (Young et al., 2004). Heavy and light chains were connected by a 15-amino acid linker. The purified single-chain vF sequences were cloned into pSec-Tag2A, including a kappa leader sequence, a T-cell helper epitope and myc/his Tags. These DNA vaccines were characterized in vitro. Similar protein expression levels were demonstrated following transfection of CHO cells in western blots using anti-myc tag antibodies with specific bands of expected molecular weights. Furthermore, GD2 mimicry was shown by dot blot analysis using anti-GD2 antibody ch14.18. Interestingly, the level of GD2 mimicry was highest in CHO cells transfected with the GK8 construct compared to 1A7. Finally, we tested the efficacy of these DNA vaccines in the syngeneic NXS2 neuroblastoma model using attenuated salmonella typhimurium (SL7207) as a DNA vaccine carrier.

Results: Only mice receiving anti-idiotypic antibody DNA vaccines revealed a reduction of spontaneous metastasis.

Conclusion: We report for the first time the construction, characterization and in vivo efficacy of a DNA vaccine for a new human anti-idiotypic antibody GK8 of anti-GD2 antibody ch14.18.

Supported by DFG (Lo 635 2-3), Fördergesellschaft Kinderkrebs Neuroblastom Forschung e.V.

**OP-66**

**Evaluation of sleep quality in primary ciliary dyskinesia patients**

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Background and aim: Primary ciliary dyskinesia (PCD) is characterized by impaired mucociliary transport and causes recurrent upper and lower respiratory system infections. Sleep disturbances have various impacts in many aspects of quality of life. There are no data on the impact of PCD on sleep quality. The aim of the study to evaluate sleep quality in primary ciliary dyskinesia patients.

Methods: PCD patients followed in our clinic and control children without any respiratory problems were included to the study. All patients were evaluated with Pittsburgh Sleep Quality Index (PSQI) test. According to the index, if the global score was >5 then the quality of sleep was considered as poor. All patients performed pulmonary function tests (PFT) and high-resolution CT (HRCT) of the chest scores were calculated by modified Bhalla scoring system.

Results: Twenty-five patients (12 female) with PCD and 15 control children (10 female) were included in the study. The median age for both study population was 9 years. Mean exhaled nitric oxide for control children and PCD patients were 24.9 and 9.8, respectively (P = 0.001). Mean Bhalla score of the PCD group was 21.8 ± 9.1 (range 6–31). Mean PSQI for control children and PCD patients were 2.93 and 4.04, respectively (P = 0.13). In 7 of PCD patients, sleep quality was poor according to the PSQI whereas only three of the control group had poor sleep quality (P = 0.57). There was no correlation between sleep quality scores, PFT and CT scores.

Conclusion: Sleep quality of the patients with PCD was not affected compared to control children and did not have any correlation with the PFT and CT scores. More patients will be recruited and overnight polysomnographies will be performed to these children.

Keywords: Primary ciliary dyskinesia, sleep, Pittsburgh, Sleep Quality Index, exhaled nitric oxide, modified Bhalla scoring system
OP-67
Prevalence of habitual snoring and its association with socioeconomic status in primary school children in Istanbul

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Snoring is the primary symptom for obstructive sleep apnea and is also associated with adverse health outcomes in childhood. Our aim was to determine the prevalence of habitual snoring and its association with socioeconomic status (SES) among primary school children in Istanbul.

Methods: Presence of habitual snoring (snoring more than 3 times a week, HS), were assessed in children with a parental questionnaire in 70 primary schools from 10 representative districts randomly selected in Istanbul.

Results: 2752 children (age: 8.2 ± 1.2 years, range: 5–13) were included (50.8% girls). HS prevalence was 4.2%. Rate of HS was 8.2% among children who were exposed to passive smoking and 3.2% among children without exposure (P < 0.001). Children with HS were more likely to be mouth breathers (62.2% versus 12.5%, P < 0.0001) and struggle to breathe during sleep (18.2% versus 1.2%, P < 0.0001) compared to non-snorers. During day-time, HS were more likely to fall asleep in the class (12.2% versus 5.6%, P = 0.05) and during traveling (36.4% versus 21.2%, P = 0.001). HS were also more likely to have hyperactivity (19.1% versus 28.7%, P = 0.001), inattention (15.9% versus 10.1%, P = 0.02) and oppositional behavior (20.0% versus 72.2%, P < 0.0001). HS were considered to be inadequate in math by their parents more frequently (6.5% versus 2.0%, P = 0.001). As socioeconomic level increased the rate of HS decreased in a linear trend (P = 0.041).

Conclusions: Children with HS were more likely to have night and day-time symptoms, particularly inattention, oppositional behavior and lower academic achievement. SES and passive smoking was related to HS.

Keywords: Habitual snoring, obstructive sleep apnea, socioeconomic status, primary school children, academic achievement

OP-68
The incidence of tuberculosis pleural effusion in hospitalised children in pulmonology department pediatric clinic, during years 2004–2007

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Background and aim: Tubercular pleural effusion is often a reason for a very severe clinical manifestation so it requires quick steps for diagnosing and treatment as soon as possible. Pleural effusion which requires long treatment is the one that is caused by spreading of Koch Bacillus which is unfortunately steel present in our country as a common cause of a TB and its complications.

Aim of the study is to present hospitalised cases in Pulmonology Department -to present the number of those cases among other hospitalised children in Pulmonology Department.

Methods: This study is descriptive retrospective of hospitalised cases during period 2004–2007. For this study we used patients history, laboratory analyses (biochemistry, microbiology), vaccination status.

Results: During period 2004–2007 in Pulmonology Department were treated in totally 2755 cases and from these number 50 cases with Exudativ Pleurisy (EP), or 1.8% and 35 cases or 70% with specific nature. During 2004 there were treated 752 cases, 6 cases with EP or 0.85 and 4 cases or 0.5% with specific nature. During 2005 there were treated 799 cases, 14 with EP or 1.7% and 10 cases or 1.2% with specific nature. During 2006 there were treated 815 cases, 13 with EP or 1.5% and 9 cases or 1.1% with specific nature. During 2007 (6 months) there were treated 409 cases, 17 with EP or 4.1% and 12 cases or 2.9% with specific nature.

Conclusion: According to results presented above we can conclude: - in Pulmonology Department in these period were treated 50 cases as EP and from these number 35 cases or 70% as Tuberculous Exudative Pleurisy -we have significant domination of cases older than 5 years with 72% comparing to those younger than 5 years with 28%. - male are little bit more affected with 58% than female with 42% - we can see increased number of cases on last 2 years comparing to 2004–2005.

Keywords: Exudative, pleurisy, incidence, TB

OP-69
Rheumatic fever through decades – our experience

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Background: There have been some dramatic changes according to rheumatic fever (RF) through decades, in an epidemiological, clinical and other aspects. Despite that facts, RF is still actual and will be the same, until beta haemolitic group A streptococci infections exist.

Objective: The main objective was to analyze RF during three decades and to make comparison between RF from two representative periods.

Material and methods: Retrospective study of 1215 children with rheumatic fever, hospitalized at University Children’s Hospital, Pristina, between 1974–2004. In order to make easier comparison, in the focus were
patients from two cohorts: from 1981–1985 and from 2000–2004. The diagnosis of RF in the first cohort has been performed using standard techniques, while in the second cohort, except them, echocardiography was used too.

Results: Number of patients in the first cohort was significantly higher (286) in comparison with the second one (123). The number of recurrences was also higher (18.5%) than in the second cohort (10.6%). RF clinical features also showed some differences: chorea minor was more prevalent in the first cohort (25.2% versus 17.2%), while carditis, as the main RF clinical feature and predictor of prognosis was higher in the second cohort (32.5% versus 74.8%). Erythema marginatum and noduli rheumatici, as rare RF manifestations, with 0.5% and 0.7% respectively, were equally present in both cohorts. Rheumatic heart disease (RHD) was present in both cohorts, but severe cases seen in the first cohort with three valve replacement are rare in the second one, characterized with only mild and moderate cases. Treatment of RF was also changed through time: at 80s, of the first choice was steroid therapy, which is now replaced by non-steroid therapy. The RF primary prophylaxis, earlier done with 10 penicillin injections, nowadays is sufficient only one benzathin penicillin. Secondary prophylaxis has also been changed: from one injection monthly (when recurrences occurred) to one injection every 3 weeks, at least 5 years. There have been some recurrences after 5 years secondary prevention with benzathin–penicillin, which need discussion.

Conclusion: Our results from a long-term follow up of RF in our area correspond with results of other authors from developing countries. Although RF is becoming less prevalent and milder clinically, there is no doubt it’ll be present in the future too.

OP-70

Infliximab therapy in patients with juvenile idiopathic arthritis

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Aim: To evaluate the efficacy and safety of infliximab therapy in patients with various variants of Juvenile Idiopathic Arthritis (JIA).

Methods: Seventy-two patients with various variants of JIA were enrolled into the study; 21 patients with systemic JIA were assigned to group I; 28 patients with polyarticular JIA were assigned to group II; 23 children with oligoarticular JIA were assigned to group III. The mean duration of the disease was 6.0 ± 3.69 years in group I; 3.6 ± 4.04 years in group II and 1.0 ± 2.05 years in group III. The mean age was 10.3 ± 4.73 years in group I; 8.0 ± 3.69 years in group II and 7.31 ± 2.20 mg/kg in group III. Infliximab was added to disease-modifying anti-rheumatic therapy. In group I 8 patients (38.1%) received methotrexate; 4 patients (19%) - cyclosporine, 8 children (38.1%) - cyclosporine in combination with methotrexate; 1 child received cyclosporine in combination with leflunomide. In group II 18 patients (64.3%) received methotrexate; 6 children (21.4%) - cyclosporine in combination with methotrexate; 2 patients (7.1%) - cyclosporine in combination with leflunomide; 2 patients (7.1%) - methotrexate in combination with leflunomide. In group III 19 patients (82.6%) received methotrexate; 1 child (4.3%) - leflunomide, 3 children (13.0%) - cyclosporine in combination with methotrexate.

Results: Reduction of the disease activity was observed already after the first infusion of the drug in all groups. However in 81% of group I patients after 1–1.5 months of the therapy the effect of treatment diminished. Remission after 3d, 8th and 12th infusion of infliximab was observed in 3 children only. 60.7% and 82.6% of patients in groups II and III respectively developed clinical-laboratory remission of the disease. Adverse effects related to treatment with infliximab were registered mainly in group I patients. Transfusion reactions were observed in 29.2% of patients; infections – in 5.5%; allergic reactions – in 7%, including the anaphylactic shock occurred in 3 children.

Conclusion: Infliximab is an effective and safe drug for patients with polyarticular and oligoarticular JIA

Keywords: Juvenile idiopathic arthritis, infliximab

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OP-71

Efficacy and safety of rituximab in patients with juvenile idiopathic arthritis

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Background and aim: Treatment of children with severe refractory idiopathic arthritis (JIA) is a complex medical issue, development and implementation of novel therapeutic approaches are essential. B-cell depletion therapy nowadays is a beneficial therapeutic mode for adult rheumatoid arthritis affecting both clinical and radiological parameters with relatively minimal toxicity.
The purpose of this study was to assess the clinical efficacy of rituximab in patients with severe juvenile idiopathic arthritis (JIA).

Patients and methods: A total of 33 patients (16 boys and 17 girls) with severe systemic (24) or articular (9) JIA refractory to immunosuppressive therapy including oral and parenteral glucocorticoids were included into the study. 24 patients were refractory to TNF \( \alpha \) blockers and 1 girl – to 450 mg methylprednisolone weekly, TNF \( \alpha \) blocker and anti IL1. Mean patient age – 6.98 ± 3.6 years (min – 2.3, max – 19) mean disease duration - 3.61 ± 2.4 years. In 23 patients Rituximab was administered at an average dose 375 mg per administration at a rate 2 ml/min on weeks 0, 2, 6 or 4 times weekly with prior intravenous glucocorticoid therapy. In one patient – at a dose 1 g 2 (following 2 weeks). The drug administration was approved by the local ethics committee of the CHRC RAMS. Therapy efficacy was assessed by clinical and laboratory disease activity end-points on treatment weeks 6 and 24.

Results: Decrease in disease activity was observed within 6–8 weeks. A considerable decrease in systemic features per one patient (4.7 ± 1.4 versus 0.6 ± 0.4 before and on week 24, \( P < 0.001 \)), in swollen joints (10.5 ± 2.2 versus 1.6 ± 0.7, before and on week 6 of treatment respectively, \( P < 0.001 \)); joints with function impairment (15.07 ± 4.68 versus 3.5 ± 2.0, before and on week 24 of treatment respectively, \( P < 0.001 \)); a decrease in ESR [mm/h] (49.9 ± 10.1 versus 14.1 ± 4.2 before and on week 24 of treatment respectively, \( P < 0.001 \)); serum CRP [mg/dL] (17.4 ± 7.8 versus 4.4 ± 2.9, before and on week 24 of treatment respectively, \( P < 0.001 \)). Weekly 450 mg of methylprednisolone was withdrawn in one girl within a year of treatment. Ten patients developed adverse effects (3 had nausea, vomiting, abdominal pain, 4 had rash and 4 had flu-like symptoms). Four children developed leukopenia and neutropenia.

Conclusion: Rituximab was shown to produce a marked therapeutic effect, including decrease in clinical and laboratory disease activity parameters, and seems a promising therapeutic option in severe refractory juve.

Keywords: Juvenile idiopathic arthritis, rituximab, efficacy

**OP-72**

**Updated safety profile of prophylactic human papillomavirus (types 6, 11, 16, and 18) L1 virus-like-particle vaccine**

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Background: A prophylactic HPV-6/11/16/18 vaccine (Gardasil/Silgard) has been approved in >80 countries. An updated summary of safety including post-marketing surveillance is reported.

Methods: Females 9–17 (n = 5833) and 18–45 years (n = 20,148) and males 9–17 years (n = 1352) were enrolled and randomized to vaccine or placebo at Day 1, Months 2 and 6. Vaccination report card (VRC)-aided follow-up continued 14 days after each injection. Safety analyses used two populations: (i) VRC-evaluated subjects (n = 14,034) for injection-site and systemic AEs; and (ii) all subjects regardless of methodology for safety evaluation (n = 25,274) for serious AEs (SAEs) and new medical conditions. Post-marketing surveillance includes reports from all countries where Gardasil is used, including pediatric populations.

Results: Within the trials, pain was the most common injection-site AE and headache and pyrexia the most common systemic AEs. Among females, rates of syncope were 0.3% in both the Gardasil and placebo group. SAEs occurred in 0.9% and 1.0% of vaccine and placebo recipients, respectively. Post-month 7, 2,43 9–17-year-old girls (vaccine = 67.3% versus placebo = 75.7%) and 570 9–15-year-old boys (vaccine = 54.3% versus placebo = 63.0%) reported one or more new medical conditions. As of 30-Sep-2007, ~18,000,000 doses of vaccine had been distributed post-licensure (1-Jun-2006). Passive reporting of spontaneous adverse experiences to Merck & Co., has shown a low proportion of serious AEs, comparable to that seen in a typical population in the target age groups.

Conclusions: Administration of quadrivalent vaccine is generally well-tolerated in 9- to 45-year-old females and 9- to 15-year-old boys. The passive reporting of spontaneous adverse experiences post-licensure has confirmed the favorable safety profile of the vaccine.

**OP-73**

**Burden of pneumococcal disease (PD) in eastern Europe: importance of inclusion of pneumococcal conjugate vaccine into national immunization programs**

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Background and aim: *Streptococcus pneumoniae* (SP) is the leading cause of vaccine-preventable deaths in children <5 years. We reviewed PD surveillance data in selected eastern European (EE) countries to estimate the potential regional impact of the available 7-valent PCV (Prevenar, PCV7), and the investigational 10- (iPCV10) and 15-valent (iPCV13) formulations.

Methods: Data were identified searching OVID (1996 to 2007), reference lists of relevant papers, and national websites.

Results: Table for IPD overall, vaccine-serotype coverage in children <2 years ranged from 48–74% for PCV7, 52–77% for iPCV10, and 67–86% for iPCV13, respectively. AOM data are available from the Czech Republic; the five most frequent serotypes isolated in children <2 years (n = 140) were: 3 (15%), 19F (14.3%), 23F and...
Conclusions: Reported data from many EE countries appears to underestimate the true burden of PD due to limitations of surveillance methodology. Recognizing this burden and potential impact of vaccination, the World Health Organization (WHO) considers PCV a priority for inclusion in all national immunization programs.

Keywords: Streptococcus pneumoniae, pneumococcal conjugate vaccine, pneumococcal disease, Eastern Europe, burden of disease

OP-74
Introduction of pneumococcal conjugate vaccine in the Netherlands: consequences for existing prediction rules

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Background and aim: Approximately 20% of all children who survive bacterial meningitis develop sequelae in the long term. Early detection of these sequelae may enable treatment and prevent worsening. We have previously developed two prediction rules to identify children at high risk for hearing loss and at high risk for academic or behavioral limitations. For both prediction rules, risk for hearing loss and at high risk for academic or behavioral limitations model was 0.83 and of the new model 0.84. The AUC of the original academic/behavioral limitations model was 0.83 and of the new model 0.84.

Conclusion: So far it seems that the original prediction rules will also be applicable on a vaccinated population. However the vaccine doesn’t provide 100% coverage in vivo and there might be serotype replacement. Further research is needed to investigate the impact of vaccination.

Keywords: vaccination, bacterial meningitis, prediction, hearing loss, academic/behavioral limitations

OP-75
Influenza vaccination coverage in children with asthma in France three consecutive seasons: 2004 to 2007

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Background and aim: In France, annual influenza vaccination is recommended for asthmatic patients. A voucher for free influenza vaccination is sent by National Health Insurance to patients with an underlying chronic disease including severe asthma. This measure was extended to patients with any severity asthma in November 2006. The national goal for influenza vaccination coverage (IVC) of at-risk patients, including asthmatic patients, is 75% for 2008.

To assess the IVC rates in asthmatic children in three seasons (2004 to 2007), with a focus on the last one.

Methods: A multicentre observational study in eight hospitals throughout France was conducted (March–September 2007). Inclusion criteria: children aged 6–17 years, consulting a paediatric pulmonologist, with an asthma diagnosis for over 6 months and having a vaccination card. Data were collected on a written questionnaire.

Results: We analyzed data from 435 children (mean age: 9.5 years, 61% male). The IVC rate was in 2004–2005, 2005–2006, 2006–2007 seasons respectively: 10.9%,
In the last season, 39.6% had received a voucher. Receiving a voucher increased the IVC (31% vaccinated with voucher versus 5.9% vaccinated without, \(P < 0.001\)). The main reason for non-vaccination was a lack of information (42%). Vaccination was mainly administered by general practitioners (72.1%).

Conclusion: In France, the IVC in asthmatic children is very low: between 10% and 16% over three seasons 2004–2007. Significant efforts will be needed to achieve a 75% rate. The recent extension of free vaccination to all patients with asthma should improve the IVC rate as more information to patients on influenza disease risks and vaccination benefits.

Keywords: Influenza, vaccination, coverage, asthma children
**POSTER PRESENTATIONS**

**PP-1**

Evaluation of systemic oxidant and antioxidant status in amateur adolescent athletes

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Background and aim: Physical exercise in athletes has been seen to create various changes in the oxidant-antioxidant balance. Regularly performed, moderate exercise has many beneficial effects, whereas intense exercise can produce damage in skeletal muscle and other tissues. To investigate and compare the oxidative-antioxidative status and oxidative stress index (OSI) in amateur adolescent athletes (AAA) with those of a healthy control group of similar age and sex but with a sedentary lifestyle, and to determine any relationship between total oxidative status(TOS), total antioxidative capacity(TAC), oxidative stress index(OSI) and regular exercise (RE).

Methods: The study group consisted of 62 adolescent amateur athletes who regularly undertook 2 hours training per day at least 3 days per week. The control group was formed from 34 healthy adolescents of similar age who did no sports and led a sedentary life. Antioxidative status was evaluated by measuring the TAC level in the plasma. Oxidative status was evaluated by measuring the total peroxide level. The percentage ratio of TAC to total peroxide level was accepted as the OSI.

Results: Significantly high levels of TAC, TOS, OSI and lipid hydroperoxide (LOOH) were found in the athlete group in comparison to the control group (P < 0.0001).

Conclusions: It is thought that there is a dual effect associated with amateur adolescent athletes taking regular exercise over a long period of time in that while oxidative stress appears with the development of oxidants, there is on the other hand an increase in antioxidant synthesis induced by antioxidant enzymes.

Keywords: Adolescent athletes, antioxidative capacity, total oxidative status, oxidative stress, exercise

**PP-2**

19-year-old boy with cystic fibrosis, bronchiectasis, pneumothorax and recurrent *Pseudomonas aeruginosa* infection

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*Pseudomonas aeruginosa* colonization is usually difficult to eradicate with antimicrobial therapy and, in some children and younger patients, infection is associated with rapid decline in pulmonary function, increased hospitalization. Diffuse bronchiectasis is seen in patients with cystic fibrosis.

Case Report: An 19-year-old male with CF severe lungs disease and liver insufficiency presented with coughing and breathing difficulties with wheezing progressed to generalized bad situations and *Pseudomonas aeruginosa* opportunistic suprainfection. Effect of combined three antibiotics therapy were very successfull as eridication of *Pseudomonas aeruginosa*. Lungs physiologics tests were pathologics changed with opstructive and restrictive reductions of vital pulmonal paramethers.

Discussion: Cystic fibrosis (CF) is the most common potentially lethal genetic disease in the white population. Improvements in life expectancy have led to an increasing recognition of lungs and hepatobiliary-pancreatics complications from CF.
Conclusions: Cystic fibrosis is a genetic disease usually diagnosed by abnormal sweat testing. As for many other human monogenic diseases, high variability in disease expression is found among young patients, kids. Despite the best efforts of CF clinicians pediatricians, patients with CF eventually reach the point of respiratory insufficiency, and lung can no longer sustain. The timing of transplant is optimal if it occurs just before life with disease become unbearable.

Keywords: children, cystic fibrosis, Pseudomonas aeruginosa, bronchiectasis, therapy Pseudomonas aeruginosa

PP-3

Poland syndrome diagnosed in puberty
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A 11 6/12-year-old-girl was admitted to the Outpatient Clinic of Adolescent Unit with the main complaint of asymmetrical breast development. From history we learned that she had reduced growth of right hand and arm, while at age of 3 years she had surgery for syndactyly, fusion of 2nd and 3rd fingers of the right hand. On physical examination, inspection and palpation revealed hypoplasia of the right pectoral muscles and breast. The right nipple and areola was present. The MRI of the chest reassured the agenesy of right pectoral muscle and hypoplasia of right breast. By radiograph of the right hand and wrist, the shortness of the middle phalanx of the second finger was shown. The combination of agenesy of the pectoral muscle and hypoplasia of breast on the right side as well as symbrachydactyly in our patient fits the diagnosis of Poland syndrome (PS). Although she was operated for syndactyly at the age of three, but the agenesy of the pectoral muscle was not realised, PS was not diagnosed until puberty. Our patient did not have any associated vascular complications, but early diagnosis should be more critical with other cases of PS having vascular malformations as a causative factor and would benefit from early treatment modalities for these obstructions. So clinicians should be aware and evaluate by detailed systemic examination for associated pathologies of the children with minor anomalies.

Keywords: Poland syndrome, puberty, Turkey

PP-4

Evaluation of suicidal behavior by four different scales in adolescents attending a tertiary hospital in Turkey
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Aim: Purpose of this study is to evaluate suicidal behavior by four different scales in adolescents attending to a tertiary hospital in Turkey.

Methods: The study was conducted with 116 adolescent suicide attempters. Adolescents who accepted participation filled in a questionnaire that contained questions about socio-demographics, clinical features, and four scales. Suicide Probability Scale (SPS) was correlated with Reasons for Living Inventory (RFLI), Interpersonal Relationship Scale (IRS), and Problem Solving Inventory (PSI). Associated risk factors with high suicide probability scores were determined by logistic regression analysis.

Results: Mean age of the adolescents was 13.8 ± 1.1 years with age ranging from 11 to 16 years. Of the adolescents 87.1% were girls. The most common precipitating cause for suicide attempt was parent-adolescent conflict (56.9%). Drug overdose was the most common suicide method (97.4%). Total SPS score was negatively correlated with total RFLI score (r = -0.20, P = 0.02) and positively correlated with PSI score (r = 0.39, P = 0.002). There was a negative correlation with total SPS score and “nourishing” subscale of IRS (r = -0.53, P = 0.001). However, “emotionally toxic” subscale (r = 0.46, P = 0.001)
was positively correlated with total SPS score. Logistic regression analysis showed that high suicide probability score was associated with having a previous suicide attempt ($P = 0.04 OR = 1.8$ CI 95% 1.0–3.4).

Conclusions: As it was previously reported, suicide probability risk increases while reasons for living decrease. We believe that having a previous suicide attempt is the most important risk factor for future suicide attempt. The cooperation among family, school, and psychologist may help to decrease the suicide attempt rate of adolescents.

Keywords: adolescent, suicide attempt, scales

PP-5

Psychopathology and way of coping in a group of epileptic adolescents

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Aim: It is aimed to investigate psychopathology and its relationship with the variables like children’s way of coping with stress and self esteem and parental psychopathology and way of coping in a group of adolescents with epileptic disorder.

Methods: The participants were 33 adolescents, 14 girls and 19 boys, ranging in age from 13 to 16 years with epileptic disorder. They were evaluated for psychopathology, way of coping and self esteem. Parents were assessed for way of coping and psychopathology.

Results: Psychiatric assessments with the child Behavior check list identified clinical range psychiatric disorders in 39.4% and borderline clinical range psychiatric disorders in 18.2% of the epileptic adolescents. Psychiatric assessments with the symptom check list identified clinical range psychiatric disorders in 15.1% of the parents. None of the adolescents nor the parents were taking any psychiatric help. No significant differences were found between boys and girls in terms of psychiatric disorders and ways of coping but girls were found to have significantly lower self-esteem scores. Efficient ways of coping and higher self-esteem scores were significantly correlated. No significant relationships were found between symptom severity, duration of epilepsy, age of seizure onset and psychiatric disorders, ways of coping and self-esteem scores.

Conclusions: Psychiatric disorders were frequently observed in this group of epileptic adolescents. Clinicians should be more attentive to psychiatric symptoms in epileptic adolescents and provide adequate care in the early period of the illness in an effort to prevent future mental health problems.

Keywords: Epilepsy, adolescence, self-esteem, coping, psychopathology

PP-6

Clinical characteristics of pathological gamblers with adolescence-onset disorder

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Aim: Objective of this study is describing clinical characteristics of pathological gamblers with disorder onset in adolescence (≤18 years), treated in the Institute for Addiction, Belgrade, Serbia, during 2006.

Methods: Description of psychopathology in consecutively admitted patients.

Results: We identified 10 cases with a DSM IV1 diagnosis of pathological gambling (all males, mean age 24.4 years, mean age at onset 15.7 years, and mean duration of the disorder 8.3 years). Three patients had primary school and the rest secondary school education; 70% were unemployed, 90% lived with their parents, 70% did not have a long-term partner, all were smokers, 50% were also poly drug abusers, and 90% were brought for consultation by their parents. Two patients were addicted to slot machines, five were betting and three patients combined slot machines and betting. Majority of patients had first gambling experiences within the family, through purchase and filling of the lottery slips, betting tickets or instant win cards together with their parents. At the beginning three patients had substantial wins, which were positively perceived by their patients. Both parents (frequently in secrecy from one another) paid out the patients’ gambling debts. Their families were dysfunctional: three patients lost their father by the age of 13 years; two had fathers treated from depression, one patient’s parents were divorced, and parents had a poor partner’s relationship, with distanced father and patients’ being in a symbiotic relationship with their mothers. The subjects were extrovert, impulsive, anxious and with dissociative behaviour.

Conclusion: Our sample was characterised with extroversion, impulsivity and dysfunctional/immature family relationships.

PP-7

Comparison of spinal column deformities in adolescents at two time intervals

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Background and aim: Deformities and defects of the human body are as old as the mankind. Hereditary defects and asynchronous growth of a bone-muscle system are the main cause of deformity and poor body posture. Spine deformities can be manifested in the frontal plane (scoliosis) and sagittal plane (kyphosis and lordosis).
The aim of the study is analysis of prevalence of spinal deformities in students of first and third class of secondary schools, which were encompassed by regular systematic Harran University physical examinations.

Methods: Data on prevalence of body deformities in students of 1st and 3rd class of secondary schools in Zrenjanin were obtained from health records, upon systematic examinations performed in the School Dispensary of the Health Center Zrenjanin in the school year 1981/82 and 2005/06.

Results: Response of students to the regular systematic physical examination in the school year 1981/82 ranged between 86.38% (boys) and 95.05% (girls), reaching the rate of 100% for both sexes in the school year 2005/06.

Conclusion: Deformities of the vertebral column were more prevalent in boys (almost threefold) in comparison with the girls, showing, however, a decreasing tendency, contrary to an increasing tendency in girls. An appropriate treatment of students with body deformities requires more active approach of the health service, community and the school itself, in a view of better informing and pointing out possible consequences that may occur at adult age. Deformities Spinal column sex M F school year 1981/82 21.65% 3.36 school year 2005/06. 17.13% 5.29.

Keywords: Adolescents, column deformities, prevalence health service school itself.

PP-8

Classification of behavioral problems in teenagers from regions of central Greece

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Background and aim: Behavioral problems seen in children and teenagers are a common problem in our days that upsets both parents and teachers and poses a great scientific interest to psychologists and other health care professionals. The aim of this study is: (i) to classify the behavioral problems in a representative sample size of children and teenagers living in central Greece (ii) to determine possible difference between the two sexes (iii) to check whether there is any correlation between handedness and behavioral problems.

Methods: The current study is based on a sample of 100 pupils [Boys (B): 65. Girls (G): 35] the majority of which were between 13–18 years from 4 different cities of central Greece. To classify the behavioral problems the international used Rutter method was used that contains over 40 questions describing behavioral characteristics. The current study does not take under consideration genetic factors or the effect of a problematic family environment.

Results: The lefthandness frequency is 11%, without statistical significance between the two sexes. However statistical significant differences were noticed in the following questions: “Does he run out of school?” (#B, P = 0.09), “Does he move constantly around his seat?” (#B, P = 0.06), “Does he use to destroy his or other’s people things?” (#B, P = 0.003), “Does he use to fight with others?” (#B, P = 0.09), “Does he use to cry, to be sad, desperate or melancholic?” (#G, P = 0.08), “Does he use to disobey?” (#B, P = 0.01), “Does he have a speech problem?” (#G, P = 0.09), “Does he threaten other children?” (#B, P = 0.02). Close to statistical significance between right and lefthanders was found the answer to the following question: “Does he stand up from his seat for no obvious reason?” (#Lefthanders, P = 0.11).

Conclusions: Behavioral problems do show in teenagers of both sexes but more predominantly in males. Lefthandness does not seem to be correlated with the development of behavioral problems although the sample size was small even though it was representative. More multicenter studies using a larger sample size are needed to confirm and further strengthen the results of the current one that concerns the development of behavioral problems in youngsters. #B: Predominance of boys #G: Predominance of girls.

PP-9

Adolescent’s alcohol abuse and their consequences in health

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Background and aim: The alcohol abuse has direct and long-term repercussions in adolescent’s health. Purpose of study was the investigation of alcohol abuse by adolescents, its effects in health, as well as how much they are informed about its consequences.

Methods: 1100 adolescents were interviewed, 12–19 years old. They included 573 boys and 527 girls, high school students. A specific questionnaire was used and the period that it was supplemented was the 10 months, April 2006–March 2007.

Results: Intoxication was reported by 13.7% (1 time a month up to 1 week) of adolescents. Excessive beer consumption had made 5.6% of youths, wine 4.3% and heavy alcohol drinks 4.9%. Dangerous behaviours after alcohol abuse were recorded: argue with friends (17.4%), problems with boy/girlfriend (12.3%), arrested by police (5.6%), car driving (8.5%), absences from school (13.1%), follow-up of school courses (18.1%) and alcohol use early in morning (12.7%). Headaches (66.2%), tiredness & weakness (43.8%) were the symptoms with the bigger predominance. A significant higher proposition of boys in alcohol abuse and their
Consequences was presented, while the group age with the highest involvement in them was 16–17 years-old. Their knowledge about alcohol addiction and the consequences from, was in high levels 90.3% and 90.9%, respectively.

Conclusions: The percentages of alcohol abuse by adolescents are in high levels, with result their attendance in dangerous behaviours and the appearance of pathological symptoms. Alcohol prevention with the detection of adolescents from all the health professionals that deal with youths is judged necessary.

Keywords: alcohol abuse, adolescents, consequences

PP-10

Cigarette use among Greek adolescents

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Background and aim: Smoking cigarettes remains world epidemic, with effects in adolescents. Purpose of the study was the investigation of epidemiological characteristics of tobacco use among Greek adolescents.

Methods: From April 2006–January 2007, 573 (52.1%) boys and 527 (47.9%) girls, high school students of private and public institutions and of different living areas in Athens, were surveyed. A specific (anonymous) questionaire was used.

Results: 28.5% of adolescent by age of 19, smoke cigarettes. By the age of 11–12 years-old boys have start smoking, in addition to girls who start smoking at the age of 13–14 years-old. 21% of adolescents were regular smokers and 60.2% of them smoked from 5–10 cigarettes per day, 23.8% 10–20, 16.1% ≥20. 63.3% of adolescents reported that starting smoking was their choice and 36.7% that were influenced. 44.4% of youths had informed their parents about smoking. Starting reason for 29.1% was their friends use. The predominance of adolescents that smoke regularly wanted to quit smoking and 59.7% of them had tried to (49.8% by personal try, 4.3% to specialist centre and 5.6% by not having relationship with persons who smoke).

Conclusion: Adolescents present a high proportion of smoking attitude. They start smoking from earlier age than the past. Effective methods of tobacco use prevention, such as education and continuous information of public about smoking effects are considered necessary.

Keywords: cigarette use, adolescents, epidemiology

PP-11

Prevalence of cataplexy in Romanian adolescents

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Background and aim: Cataplexy is a unique event in the biology which is sometimes difficult to estimate especially at children’s. It is encountered only in narcolepsy, a disease which usually begins in adolescents or young age. There are few information’s regarding cataplexy and cataplexy-like symptoms at adolescents.

The aim of this study was to evaluate the prevalence of cataplexy and also the prevalence of cataplexy-like symptoms.

Methods: Prospective study on 223 adolescents with the mean age 16.28 years (15–18 years). We used a face-to-face interview in which we coded demographics variables, Cataplexy section of the Stanford Center for Narcolepsy sleep inventory [Sleep 22; 1999: 77–87] which is a validated questionnaire for epidemiological studies, Epworth Sleepiness Scale (ESS), Pittsburgh Sleep Quality Index (PSQI), Fatigability Impact Scale (FIS), Hamilton Anxiety and Depression Scale, Ullanlinna Narcolepsy Scale (UNS).

Results: There were 133 females (57.08%), 87/233 (37.33%) adolescents reported muscles weakness. The majority of these episodes were due to athletic activities (35.19%), after athletic activities (29.18%). We correlated the excessive daytime sleepiness with cataplexy episodes.

Conclusions: In this group there are a big number of adolescents which reported cataplexy-like symptoms. The pediatrician should evaluate carefully the circumstances of the cataplexy and excessive daytime sleepiness.

Keywords: Cataplexy, epidemiology, adolescent, excessive daytime sleepiness, evaluation

PP-12

The assessment of high risk behaviours in adolescents with the use of HEADSSS-S during the personal interview

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Background and aim: The transition from childhood to adult life takes place in adolescence. This is a process characterized by attempts of adolescents to adapt gradually to the social environment, while exploring on new experiences and behaviours. This often results in social behaviours often associated with risks to health, with immediate or long term consequences.

Methods: To identify high-risk behaviours in Greek adolescents. The sample in our study included 572 adolescents (332 girls and 240 boys), age (Mean ± SD): 14.3 ± 2.05 years. They were all followed at the Center for Health and Prevention in Adolescence, during 2005–2008. A personal interview using the HEADSSS-S assessment was performed in order to assess high-risk behaviours. Statistical analyses were performed with SPSS software version 15.0 as well as computing the Pearson correlation coefficient.

Results: Descriptive statistics of 572 adolescents showed that: 68 (11.9%) consume alcohol, 64 (11.3%) smoke, 80 (14%) are sexually active, 14 (2.5%) are high-school dropouts, 14 (2.5%) have eating disorders, 24 (4.2%) have
internet addiction, 8 (1.4%) use drugs, 8 (1.4%) have suicidal ideation, 5 (0.9%) engage in criminal behaviour, 4 (0.7%) have runaway behaviour, 2 (0.35%) had an unintended pregnancy. There was a statistically significant correlation ($P < 0.05$) between substance abuse and sexual activity, as well as between internet addiction and smoking.

Conclusions: Although the occurrence of high-risk behaviours is lower compared to international references, there is a clear trend in the Greek adolescent population. Therefore youth health risk behaviour surveillance should be a primary focus of the clinician.

**PP-13**

**Multiple health complaints of 11–13 year old school children in Turkey**

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Aim: The aim of this study was to determine the prevalence of multiple health complaints in primary school students and to investigate the relationship between multiple health complaints and other health related factors.

Methods: This study involved the completion of international version of “Health Behavior in School Age Children (HBSC) 2005/2006” survey questionnaire by 3966 grade 6th and 8th students. Health complaints were measured by eight items (Headache, stomach-ache, back ache, feeling low, irritability or bad temper, feeling nervous, difficulties in getting to sleep and feeling dizzy). Chi square tests and backward stepwise multiple logistic regression model were used for statistical analyses.

Results: Fifty five percent of the boys and 71% of the girls reported multiple health complaints. In logistic regression analyses being 13 years old, being female, feeling unhealthy, dissatisfaction with life, disliking school, having unsupportive peers, pressured by school work, being bullied and difficulty in talking to father were found to be associated with having multiple health complaints.

Conclusions: Multiple health complaints were found to be more common among girls than among boys and that they increased with age. Majority of students report health complaints and that they might be at increased risk of being unable to cope with life challenges young people face in peer relations, at school and within the family. Thus, there is a need to develop policies and strategies that improve health and wellbeing of young adolescents in Turkey.

Keywords: health complaints, adolescent, school experience, peer relations

**PP-14**

**Bullying among 11–13 year old school children in Turkey**

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Aim: The aim of this study was to identify the prevalence of bullying others behavior at primary school students and to investigate the correlates of bullying others behavior in rural and urban areas separately.

Methods: This study involved the completion of international version of “Health Behavior in School Age Children (HBSC) 2005/2006” survey questionnaire by 5966 grade 6th and 8th students. Bullying behaviors were measured by 2 items asking students how often they had taken part in bullying another student(s) and how often they had been bullied at school in the previous couple of months. Chi square tests and backward stepwise multiple logistic regression model were used for statistical analyses.

Results: Three hundred thirty six students were classified as bullies and 1091 students were classified as neither bullies/nor victims. Bullying others behavior was more common among boys than among girls and the prevalence did not change with age and with place of living. In logistic regression analyses, to be involved in physical fight and using computer for chatting on-line, internet, homework etc. were found to be associated with bullying others both in rural and urban areas while, lower socioeconomic status only in rural area and, being pressured by school work and difficulty in talking to same sex friends only in urban area were found to be associated with bullying others.

Conclusions: These results demonstrated that there are some differences between the characteristics of bullies living in urban and in rural areas. Further studies, aimed at understanding biopsychosocial characteristics of bullying others behavior and social environmental factors that lead to this behavior, is needed.

Keywords: adolescent, bullying risk factors, socioeconomic status
Socioeconomic inequalities and health in 11–13 year old school children in Turkey

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Aim: The aim of this study is to examine the relationships between socioeconomic status and health and wellbeing of adolescents.

Methods: This study involved the completion of international version of “Health Behavior in School Age Children (HBSC) 2005/2006” survey questionnaire by 3966 grade 6th and 8th students. Socioeconomic status was measured by using family affluence scale (FAS). Perceived health status was measured by one item, health complaints were measured by a symptom list which included physical and psychological symptoms, life satisfaction was measured by a one-item scale and mental health index (KIDSCREEN-10) was used to measure mental and psychological well-being of students. Chi square tests and one-way Anova test were used for statistical analyses.

Results: Twenty percent of students reported fair or poor health, 37% reported dissatisfaction with life, 56% percent reported two or more symptoms more than once a week and 60% reported low FAS score. There were significant relationships between low FAS score and perceived poor health, dissatisfaction with life, multiple health complaints and poor mental health.

Conclusions: These results demonstrated that socioeconomic status, which is considered to be a major social basis for inequality, is an important determinant of young adolescents' health and wellbeing as it is the case with adults and younger children.

Keywords: adolescent, health inequality, socioeconomic status, mental health

Physical activity level of 11–13 year old school children in Turkey

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Aim: The aim of this study was to determine the prevalence of physically active primary school students in Turkey and to investigate the relationship between physical activity level and other health behaviors.

Methods: This study involved the completion of international version of “Health Behavior in School Age Children (HBSC) 2005/2006” survey questionnaire by 3966 grade 6th and 8th students. Physical activity level of students was measured by a question which assessed the number of days they had undertaken physical activity of at least moderate intensity for at least 60 minutes in the previous week. Chi square tests and backward stepwise multiple logistic regression model were used for statistical analyses.

Results: Twenty three percent of the students (n = 833) were in physically active group. In logistic regression analyses, being 11 years old, being male, eating breakfast every school day, eating fruits, vegetables and sweets everyday, drinking soft drinks everyday, spending four or more evenings with friends and playing computer games at least 2 hours a day were found to be associated with being physically active.

Conclusions: The low percentage of physically active students indicated that physical inactivity is common among 11 and 13 years old school children in Turkey. Thus, there is a strong need to develop policies and strategies that promote physical activity of young adolescents. These results also demonstrated that physical activity rate was higher in boys and declined with age and that physically active young adolescents express different behavioral patterns than their physically inactive peers.

Keywords: adolescent, physical activity, eating habits, leisure time activities, health

New screening method of drug abuse in hospitalised adolescent patients

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Background and aim: Abusing illegal drugs belongs to risk behaviour syndrome and increases in the Czech republic according to ESPAD study. It relates to most common source of adolescent mortality including accidents, intoxications and suicides. The aim of this study is to make drug screening and to compare questionnaire dependency ICD-10 with new questionnaire CRAFFT for orientation abuse rating.

Methods: In 68 hospitalised adolescents 11–19 age we made an interview about their general psychosocial adaptation and drug screening with a part of Tarters questionnaire, questionnaire of dependency ICD-10 and a czech version of the new questionnaire CRAFFT.

Results: During 8 months we asked 68 adolescents (20 boys, 48 girls, 15.65 ± 1.63 years old) to participate in the study, all agreed and subscribed inform conses, that they would tell the truth. We divided them based on specific criterion and compared the questionnaires ICD-10 and
PP-18
Immunization coverage in Greek adolescents

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The documentation of adolescent immunization status and the completion of the recommended immunizations represent an important aspect of adolescent health care.

Methods: To record and describe the immunization history in Greek adolescents. The sample in our study included 572 adolescents (332 girls and 240 boys), age (Mean ± SD): 14.3 ± 2.05 years. They were all followed at the Center for Health and Prevention in Adolescence, during 2005–2008. Documentation of their immunization status was obtained using the Personal Immunization Record. The following immunization series were recorded: DTP-Td, MMR, Poliovirus, hepatitis A, hepatitis B, meningococcus, varicella, haemophilus influenzae Type B, BCG. Our sample was divided according to sex and age group: Group A: age <14 years, Group B: age 14–17 years, Group C: age ≥17 years. Statistical analyses were performed with SPSS software version 15.0 using t-test.

Results: The percentage of complete immunization coverage was: DTP-Td 459 (76.8%), MMR 493 (86.2%), Poliovirus 484 (84.7%), hepatitis A 190 (33.2%), hepatitis B 445 (77.8%), meningococcus 363 (63.5%), BCG 420 (73.5%), varicella 24 (4.2%) whereas 454 (79.4%) had natural immunity. Adolescents of Group A had statistically significant coverage (P < 0.05) towards DTP-Td compared to Groups B, C. Immunization coverage is relatively low for hepatitis A and meningococcus.

Conclusions: Vaccination coverage was partially inadequate, in our sample of Greek adolescents. This highlights the importance of health surveillance for adolescents to complete their immunization series, aiming towards reducing the expansion of the nonimmunized, susceptible individuals.

PP-19
Difficulty of pain assessment in adolescents

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The adolescence is a difficult period with changes in body perception, difficult relationship with parents, family, and adults, and another way of seeing the world. The somatic complaint in an adolescent can hide a psychological suffering which has to be deciphered. It will take time to establish a good rapport during the consultation, and different tools are needed for a good pain assessment. It is also important to give time and a very empathic listening to the patient. During the consultation it is important that the adolescent understands where the pain comes from with the help of medical books if necessary. Management of pain will associate pharmaceutical and complementary therapies, knowing that the adolescent is sometimes reluctant to take certain drugs, and sometimes refuses psychological help. This management must be re-assessed after a while. In case of life limiting or life threatening diseases, the accompaniment needs a global approach, taking into account all the aspects of the suffering, physical, psychological and spiritual in order to help the adolescent and his family.

PP-20
The association of asthma and serum IgE levels

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Background and aim: The close association of asthma and IgE has long been recognized and it has been suggested that IgE plays a pivotal role in allergic diseases. The purpose of this study was to determine whether post treatment IgE levels decline with treatment and associated with asthma severity, associated allergic rhinitis and treatment modality.

Methods: 199 subjects aged 2–14 years with asthma were included. Pretreatment and post treatment IgE E levels and cutoff value was determined.

Results: It has been found that IgE levels decline in 62.8% of the patients but this decline is not associated with treatment modality. Significant decline is observed after 40 months of treatment.
Conclusion: This decline of IgE levels post treatment adds to the importance of IgE levels in asthmatic patients. Better understanding of the role of IgE levels in asthma may lead to new treatment modalities.

PP-21

Hay fever prevalence and its seasonal distribution in early adolescence in Tetovo, R. Macedonia

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Aim: The aim of the study was to determine the prevalence of hay fever and seasonal distribution of its symptoms in young adolescents in Tetovo, R. Macedonia.

Methods: In a project conducted in 8 cities of The Republic of Macedonia, 1272 young adolescents aged 12/16 yrs from Tetovo filled in the ISAAC phase 3 written questionnaire on hay fever. Missing or any other responses were part of the denominator for calculation of hay fever prevalence figures.

Results: Sneezing or a runny/block nose apart from a cold/flu ever in 30.5%, the same symptoms in the last 12 months in 22.6%, this nose problem accompanied by itchy-watery eyes in the last 12 months in 9.5%, moderate and great interference of the nose problem with daily activities in the last 12 months in 2.6% and ever-diagnosed hay fever in 7.4% of the young adolescents were established. The seasonal distribution of hay fever symptoms shows a peak in January (10.0%) with the highest occurrence from November to March.

Conclusion: The results suggest under-diagnosis of the mild intermittent and persistent hay fever and hypersensitivity to house dust, house dust mites and tree pollens as its trigger factors in young adolescents in Tetovo.

Keywords: hay fever, sneezing, itchy

PP-22

Psychosomatic characteristics and indexes of peroxide oxidation of lipids in children with bronchial asthma

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In the difficult pathogenesis of Bronchial Asthma is important nerve inflammatory mechanism and unbalance of the various group of autonomic nervous system. The process made by bronchial asthma cause lipid phase cell membrane changes. The importance is the oxidation process reinforcement and to development an antioxidant syndrome.

The study aimed to asses the last product of lipid peroxide oxidation (LPO) and personal nervous status in children with bronchial asthma.

Material: The investigation of some index of “oxidation stress” and psychosomatic characteristics in children with bronchial asthma - 90 patient (median age of patients was 7–15 years) with bronchial asthma and 100 practically healthy children were investigated. The last product of lipid peroxide oxidation enzymes: Malon Dealdehyde (MDA), ceruloplasmin (CP) and superoxide dismutase (SOD) and the function of autonomic nervous system. The situation and personal nervous status were fulfilling the diagnosis tests of C. Spielberg, the emotional status were studied with Lusher’s color test. The mathematical treatment of dates had made with program package SPSS version.12.

Results: The results obtained: In the blood serum of the patients the contempt of mda was 65% high than in control group. (P < 0.05). Mda level in the patient with eytonic type of vegetative regulation was lower than in vagotonyc patients (P < 0.05). Especially important was the coefficient dates. LPO product quantity in the patients with vagotonyc tape is straight contact with emotional stress (r = 0.63; p the end of the study was carried out, that bronchial asthma is conducted the high level of LPO products in blood serum. The LPO activate has shown at almost every time – from 1 to 5 year and more.

Conclusions: The conclusion reached: Results of the investigation show us the LPO process activating at the time of bronchial asthma. It’s established the coordination of the LPO level in the blood serum and the severity of disease of the patients with bronchial asthma, which confirmed the antioxidant decrease in the patients. Low antioxidant guard in the patients with eytonic type of vegetative regulation give us a chance to separate them as biochemical “no trustworthy” lipid peroxide oxidative system.

PP-23

Asthma and serum histamine concentration in children

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Histamine (Hi) is one of the most important mediators in atopic diseases-allergic asthma, allergic rhinitis and dermatitis.

Methods: Within our study, we determined the concentration of Hi in plasma in children aged between 7 and 15
suffering from allergic asthma during the asymptomatic period (A = 50) and in healthy children (K = 22). Histamine concentration was measured using the Fogel's modification of Shore's fluorometric method on the blood samples taken from cubital veins in all patients.

Results: Control values of HI concentration in the blood of healthy children were 0.0032 nmol/mL, while HI concentration in the blood of children were 0.0052 to 0.0061 nmol/mL. There were 20 (40%) suffering from allergic asthma were 0.0190 females and 30 (60%) males suffering from asthma, and there was no difference in their HI concentration. We also did not find any difference in HI concentration in relation to age and atopy in their family. HI concentration 0.0045 nmol/mL, in plasma children suffering from mild asthma was 0.0151 to 0.0065 nmol/mL and in children suffering from moderate asthma was 0.0192 to 0.0053 nmol/mL. Although HI concentrations in blood were higher in children with more serious form of illness, we have not found statistically significant difference between the seriousness of illness and HI concentration in plasma in children suffering from asthma. In relation to the age when the illness appeared, the highest HI values in plasma 0.015 nmol/mL were found in patients where the illness began after age 0.0244 to 0.0029. The lowest values of three, then in patients before age of one (0.0192 to 0.0063) were in the group of children where the illness started when they were between 1 and 3 years of age. Using the intergroup analysis, statistically significant difference was found among these groups. In addition to this, our study showed that histaminemia in blood of children suffering from asthma was in correlation with the number of their positive allergy tests, which was especially true with inhalatory allergens that children are exposed to much more in older age groups.

Conclusion: Our results suggest that HI concentrations in plasma asthmatic children could be one of the measures of atopy.

Keywords: Histamine, asthma, children

PP-24

A new amino acid formula is safe and supports normal growth of term infants

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Background and aim: A subset of infants who are allergic to cow's milk protein-based formula exhibit symptoms of intolerance when fed extensively hydrolyzed protein-based formulas and therefore require amino acid-based formulas. Proper growth needs to be established when consuming such specialty formulas. To compare the growth of term infants fed either a casein hydrolysate formula or an amino acid-based formula.

Methods: Normal infants were fed from 14 to 120 days of age either an extensively hydrolyzed casein formula (Nutramigen LIPIL) (Control) or a formula with identical nutritional composition except for free amino acids as the protein source (Study). Amino acid levels in the Study formula were patterned after breast milk amino acid levels. Weight was measured at 14, 30, 60, 90, and 120 days of age. Adverse events were recorded as they occurred throughout the study. Analysis of variance was used to analyze growth rates.

Results: Among the 78 Control and 86 Study infants who consumed formula, no significant differences were observed between formula groups for baseline measurements or weight growth rate (g/day) from 14 to 30, 60, 90, and 120 days of age. No difference between groups was detected in the number of infants who experienced at least one adverse event.

Conclusions: Infants fed a new amino acid-based formula is safe and supports normal growth as compared to infants fed an extensively hydrolyzed casein formula.

Keywords: amino acids-based formula, infant growth

PP-25

Abstract withdrawn.

PP-26

Abstract withdrawn.

PP-27

The impact of early supplementation with DHA/ARA on incidence of wheezing, asthma, and atopic dermatitis in the first 3 years of life

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Background and aim: Epidemiological and interventional studies suggest a protective role of n-3 long chain polyunsaturated fatty acids in allergic disease. To assess the
effect of docosahexaenoic acid (DHA)/arachidonic acid (ARA) supplementation in infancy on the incidence of wheezing, asthma and atopic dermatitis in the first 3 years of life.

Methods: Two cohorts of infants who had completed randomized, double-blind studies of DHA/ARA supplemented (marketed as 0.52%/0.64%, respectively) or non-supplemented formula fed from <5 days through 12 months of age were eligible for this study. A study nurse reviewed the infants’ medical charts for first diagnosis and recurrence of wheezing, asthma and atopic dermatitis according to predefined criteria. Diagnosis of wheezing, asthma, or atopic dermatitis was analyzed using logistic regression. The Cox proportional hazards model was used to determine the influence of supplementation on the time to first diagnosis.

Results: A total of 89/176 (50%) parents of children from the original cohort consented for participation in this study, of which 38(43%) were fed DHA/ARA supplemented formula. On average the infants started formula at day 4 of life (range 0–14 days); 45 (50%) were female and 80 (90%) were white. A 2-fold greater incidence of wheezing, asthma or atopic dermatitis in the first 3 years of life was observed in the unsupplemented (55%) versus supplemented (26%) groups. This resulted in the unsupplemented group having an odds ratio (OR) of 3.4 for wheezing, asthma and atopic dermatitis with 95% confidence interval (CI) 1.4 to 8.5, P < 0.01. Similarly, the unsupplemented group had a shorter time to first diagnosis with a hazard ratio (95%CI) of 2.5 (1.2–5.3, P = 0.01).

Conclusion: DHA/ARA supplemented formula started early in life was associated with reduced incidence and increased time to first diagnosis of wheezing, asthma or atopic dermatitis in the first 3 years of life.

Table: Scintigraphic results of asthmatic children

<table>
<thead>
<tr>
<th>Age</th>
<th>Positive</th>
<th>Negative</th>
<th>Total</th>
<th>% Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 months–2 yrs</td>
<td>20</td>
<td>23</td>
<td>43</td>
<td>46.5</td>
</tr>
<tr>
<td>&gt;2 yrs</td>
<td>20</td>
<td>37</td>
<td>57</td>
<td>35.1</td>
</tr>
</tbody>
</table>

Conclusion: It was concluded that the satisfactory treatment of asthma could be appropriate with the management of coexisting GERD.

PP-29
Atopy in children with recurrent wheezing

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Background and aim: It is difficult to diagnose real asthma in children under 6 years old because of different phenotypes of wheezing related disorders in this age group.

The purpose of this study is to determine atopic status in diagnosing real asthma under 6 years old children.

Methods: This study was performed in the outpatient clinic of Pediatric Allergy Department in Keçiören Education and Training Hospital. Children between 6–72 months old, who began to wheezy under 2 years old and who had three or more episodes of wheezy were included in the study. Results: A total of 236 children (150boys, 63.6%) boys with a mean age of 39.7 ± 20.1 months were included in the study. Three different wheezing phenotypes were identified in this study.

Table: Scintigraphic results of asthmatic children
Poster Presentations

PP-30
Abstract withdrawn.

PP-31
Usefulness of a ready-to-use atopy patch test (Diallertest®) in the course of delayed cow’s milk allergy in paediatric practice

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Background and aim: Cutaneous or digestive clinical manifestations suggesting delayed cow’s milk allergy (CMA) are frequent in toddlers. Among diagnostic tools, the ready-to-use atopy patch test (APT) is easy to perform and well adapted to daily paediatric clinical practice.

To assess the APT performance and safety in toddler and young children.

Patients and methods: A French prospective multi-centre study enrolled 58 children, mean age 34.14 (4–134 months), with digestive (29.3%), cutaneous (20.6%) or mixed (50.1%) manifestations suggesting delayed CMA (according to Sampson et al.). All underwent an allergic work up including APT, cow’s milk skin prick test (CM-SPT) and cow’s milk specific IgE (CM-IgE), milk elimination diet using an extensively hydrolyzed formula (eHF) for at least 4 weeks, followed by an open cow’s milk challenge (OCMC) considered as the reference.

Results: In the 38 patients with all available data, APT, CM-SPT and CM-IgE were positive in respectively 36.8%, 10.5% and 5.2% of cases. Compared with the results of the OCMC, the sensitivity of the three diagnostic tests was respectively 68.4%, 18.8%, 13.3% and the specificity 94.7%, 94.4%, 100%, PPV 92.9%, 75%, 100% & NPV 56.7%, 53.6%. Results did not differ according to the different delayed symptoms. Whatever the age, APT accuracy was significantly better than CM-SPT and CM-IgE, 81.5% versus 58.8% & 56.6% respectively (P < 0.05). APT sensitivity & specificity were higher in children below 2 years of age, respectively 77.8% and 100%. No side effect was recorded using the Diallertest®.

Conclusion: APT performance is better in young children less than two-year-old. In the course of delayed CMA, Diallertest® exhibited a better accuracy than the other diagnostic means, whatever the clinical manifestations and age. It was devoid of any side effects. This ready to use APT is useful in daily clinical paediatric practice.

Keywords: Wheezing, atopy, preschool children, diagnosis

PP-32
Efficiency of combined therapy of inhalational glucocorticosteroids with long-acting beta 2-agonists in treatment of children with bronchial asthma

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Aim: Aim is to optimize inhalation therapy of children suffering moderate and severe asthma.

Methods: Complex examination of 90 patients (6–17 year old) suffering of non-controlled moderate and severe bronchial asthma. 30 patients of group I (17 boys and 13 girls) received fluticasone/salmeterol combination (50/100 or 50/250 μg one inhalation b.i.d.), 30 patients of group II (24 boys and 6 girls) received budesonide/formoterol combination (4.5/160 μg one or two inhalations b.i.d.) and 30 patients of group III (16 boys and 14 girls) received fluticasone (mean dose 600 μg/day) during 6 months.

Results: After 1 week of treatment we have registered a significant increase of mean morning and evening PEF, FEV1, improvement of physical data. After 1 month of treatment we have observed a significant decrease of frequency of daytime and night-time symptoms, diminution in use of rescue β2-agonist in all groups. During the treatment no emergency visits were required. Increasing of heart rate, rhythm disturbances and changes of QT complex on electrocardiogram were not registered. The greater and more
rapid improvements from baseline were observed in groups of combined therapy compared to those who received fluticasone as monotherapy. The clinical improvements accompanied by the following changes in the immune status: significant decrease of serum level of IgE, of Th2 cytokines: IL-4, IL-13 and increasing of serum level of Th1 cytokines: INF-γ, IL-12, IL-10.

Conclusion: Therapy by fluticasone/salmeterol and budesonide/formoterol combination is effective, safe, allows gaining and maintaining control of the disease in children suffering non-controlled moderate and severe bronchial asthma more rapidly than fluticasone as monotherapy and leads to positive changes in immune response.

**PP-33**

**Place of cow’s milk allergy (CMA) in ambulatory paediatric consultations: results of an observational descriptive study**

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Background and aim: Cow’s milk allergy (CMA) is frequently comes across during ambulatory paediatric consultations. The aim of this study is to describe the French paediatric practice in this field.

Methods: During the first semester of 2006, 379 paediatricians provided in a register enrolled an account of 6415 infants of less than 6 months of age exhibiting clinical manifestations that could be suggestive of CMA.

Results: 69.3% of the infants exhibited digestive manifestations and 49.1% cutaneous ones. Only 4.3% exhibited systemic manifestations that were characteristic of CMA. 63.3% of children exhibited a family history of allergy. When suggestive manifestations of CMA were observed by pediatricians, 67.7% of infants underwent an immediate diet modification (elimination diet), where 55% of them received an amino acid based formula. Tests had been prescribed in 2723 infants: ready to use amino acids were prescribed in 55% of them.

Conclusions: (i) CMA was the most common diagnosis presented with digestive and/or cutaneous manifestations. (ii) When infants presented with the relevant manifestations, more than two third of them were immediately undergone a special elimination diet.

(iii) APT was proved to be more sensitive and specific than CM-IgE in infants less than 6 months of age, particularly in cases of digestive and/or cutaneous manifestations.

Keywords: cow’s milk allergy, Infants, ambulatory paediatricians

**PP-34**

**The effect on the quality of life and sleep quality of the therapy in children with allergic rhinitis**

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Background and aim: Patients with allergic rhinitis (AR) frequently report compromised quality of life and sleep quality secondary to their nose disease. The purpose of this study was to investigate the effect on the quality of life and sleep quality of the therapy in children with AR.

Methods: In children with AR (71.4% male) the median age was 10.50 years (8.00–13.25 years). In healthy control group (71.4% male) the median age was 10.50 years (9.00–11.25 years). Fourteen child patients with newly diagnosed AR completed Pediatric Rhinitis Quality of Life Questionnaire (PRQLQ) for quality of life and Pittsburgh Sleep Quality Index (PSQI) for sleep quality. The patients were used topical corticosteroid (Fluticasone) and antihistaminic (Lefosetrizine) for 8 weeks. After the 8-week period, PRQLQ and PSQI were reassessed in the patients. Fourteen child control subjects with no nose disease completed questionnaires about sleep (PSQI).

Results: The AR group in pre-treatment period slept more poorly than the control group. After treatment, sleep quality and quality of life in the patients with AR improved.

Conclusions: Results from this study demonstrate that sleep and quality of life is significantly compromised in patients with AR. The therapy in the patients with AR improves sleep quality and quality of life in the patients.

**PP-35**

**Knowledge and practice of general pediatricians about childhood asthma and its treatment**

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Background and aim: It is essential for public health to provide knowledge about childhood asthma and its treatment to general pediatricians because they are the first centers to which children present. Planning of education
requires determination of the level of knowledge and practice. The aim of this study was to evaluate knowledge and practice of general pediatricians about childhood asthma and its treatment.

Methods: The study included 47 pediatricians who attended one of the seven meetings about asthma treatment held in 2007. A questionnaire of 42 questions, 25 about asthma and its treatment and 19 about their own practice were given to all before meeting.

Results: Mean age of 47 pediatricians (30 male, 16 female) included was 43.6 ± 6.8 and duration of practice was 12.8 ± 6.6 years. It was determined that 25 (54.3%) had done their residency in a university hospital while 21 (45.7%) in an education hospital of ministry of health. It was seen that type of residency hospital did not change the answers significantly. Among the pediatricians who had private office, 80.6% responded to the phrase “systemic steroids have a role in acute asthma exacerbation” as true, 16.1% as “partially true” while among the ones without a private office 40% responded as “true” and 60% responded as “partially true” ($P = 0.009$). Stating that he or she refers patient to a pediatric allergy center for acute asthma exacerbation and for initiation of prophylactic treatment after an acute exacerbation was significantly lower among the pediatricians who owned private office ($P = 0.005$ and $P = 0.047$ respectively). It was detected that duration of practice as a pediatrician influenced knowledge about essence of prophylactic inhaled steroids for asthma significantly ($P = 0.001$). There was similar difference in systemic steroid use in acute exacerbation of asthma though statistically insignificant ($P = 0.17$).

Conclusion: In conclusion, duration of practice and presence of private office influence knowledge and practice of general pediatricians about asthma and its treatment. The essence of postgraduate education to provide children more standardized treatment was emphasized once again with these results.

PP-36

Cognitive functions in children with allergic rhinitis and methods of correction

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Background and aim: The purpose of the study is to investigate the status of cognitive functions in adolescents with long-lasting (persistent) allergic rhinitis (PAR) to work out a strategy for its correction.

Methods: 108 adolescents of 14–15 years old with PAR have been included into the study. Clinical examination, allergic tests, blood oxygen concentration measurement were used. Cognitive functions characteristics/indices, including memory, attention, perception, analytic-synthetic processes, and delicate motor activity were investigated by use of cognitive function questionnaire and BINA & MNEMA quantitative computer-based tests.

Results: PAR in adolescents was associated with deficiency of cognitive functions and deterioration of quality of life including sleep disturbance, variable mood, lowering in school results. Intranasal GCS mometasone furoate (Nasonex) was highly effective in both AR symptoms relief and cognitive functions improvement.

Conclusions: Measurement of quantitative indices of cognitive functions in adolescents with PAR can be used to determine a grade of cognitive deficiency. The role of computer-based testing of cognitive functions for control of treatment effectiveness was determined. Association between PAR and social dysadaptation was observed. All above allows to consider appropriate anti-inflammatory treatment of allergic rhinitis (intranasal steroids, e.g. mometasone furoate) a major factor for both improving of QoL in adolescents and their families and correction of cognitive deficiency in patients with PAR.

PP-37

Total oxidant and antioxidant levels and oxidative stress index levels in children with congenital heart disease

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The types, early diagnosis and the applied treatment model play important role in the mortality and morbidity in congenital heart diseases as much as the frequency of these diseases. Especially, in cases where the primary functional problem is hypoxia, increased free radicals causes tissue damage due to the impairment of tissue perfusion. Because of this the early diagnosis and treatment of complications caused by oxidative stress in patients with congenital heart disease is crucial. There is only one reference in the literature that reports the increase of oxidative stress in congenital heart diseases, which increase is mentioned as significant in cyanotic patients. In this study we searched the relation between congenital heart disease and oxidative stress in the children who have congenital heart diseases by dividing them as cyanotic and acyanotic.

Method: Fifty-nine [mean age: 30.72 (42.51) month] of which 29 cyanotic [mean age: 30.20 (46.15) month] and 30 acyanotic [mean age: 29.46 (42.38) month] congenital heart disease patients were included in the study. Control group was consisted of 30 [mean age: 32.37 (42.51) month] healthy baby and children with innocent murmur, but normal ecocardiography. Total oxidant level and antioxidant level were statistically significantly higher compare to acyanotic and control groups.
Allergic myocardial infarction in the childhood

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Background and aim: Allergic angina and allergic myocardial infarction, referred as “Kounis Syndrome”, have gained acceptance as a new cause of coronary artery spasm. Causes of Kounis Syndrome include drugs, various conditions, and environmental exposures. This condition has not been described in childhood.

Methods: Four children diagnosed with allergic myocardial infarction. Reasons of this unique disease were ingestion of an oral dose of 500 mg of amoxicillin/clavulanic acid in the first and the second patient, hymenoptera sting in the third and the bee sting in the last patient. All patients were admitted to our emergency department with chest pain, mild pruritic skin rashes and ST segment elevations on electrocardiography.

Results: All patients had segmental wall motion abnormality on transthoracic echocardiography and elevated levels of Troponin-I and creatine kinase-MB fraction on admission. Coronary angiography revealed normal coronary arteries in all patients. The serologic tests for viral etiology were negative, however tryptase levels, which reflects mast cell degranulation were elevated in all patients. Amoxicillin specific IgE was also positive in the second patient. After the treatment with oral antihistamines and 8 mg prednisolone every 6 hours for 5 days repeated cardiac markers were within normal limits with resolution of electrocardiographic abnormalities and regression of wall motion abnormalities on echocardiography.

Conclusion: Our cases are the first children with allergic myocardial infarction in the literature and highlights the fact that pediatricians should be aware of the allergic myocardial infarction. The diagnosis of this unique disease should be entertained when acute-onset chest pain is accompanied by allergic symptoms, electrocardiographic changes and elevated cardiac enzymes. All patients admitted to the emergency departments with chest pain and ST elevation on electrocardiography, should be interrogated for allergic insults.

PP-39
B-type natriuretic peptide levels in congenital heart disease in children

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Aim: The goal of this study was to evaluate the diagnostic value of B-type natriuretic peptide (BNP) plasma concentration in congenital heart disease.

Methods and Results: Plasma BNP concentration was measured in 60 children (mean age 7 ± 7.8 years) with left-to-right shunt, left or right heart obstruction and tetralogy of Fallot and compared with age and gender specific normal values, and to haemodynamic and echocardiographic data. In patients with left-to-right shunt, plasma BNP values were compared with the Qp/Qs ratios derived from quantitative Doppler flow measurements. BNP was positively correlated with shunt significance. Mean BNP was 34 ± 33 pg/mL, with range between <5 and >170 pg/mL. BNP was positively correlated with shunt significance. Plasma BNP levels in patients with aortic valve stenosis was slightly increased with significance (P = 0.004). In patients with isolated right-heart obstruction because of a pulmonary valve stenosis we could not find any increase of plasma BNP concentration. In patients with tetralogy of Fallot BNP was positively correlated with right ventricular pressure after surgical correction.

Conclusion: Plasma BNP levels correlates closely to ventricular function in children. BNP concentration may prove to be a useful clinical tool in managing children with

Keywords: brain natriuretic peptide, congenital heart disease, ventricular function, children heart failure

PP-40
Congenital anomalies of the veins - unusual presentation but successfully treated

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Membranous obstruction (partial or complete) of the inferior vena cava (IVC) is an unusual cause of the Budd-
Chiari syndrome. These lesions may be the result of a congenital anomaly or to an acquired thrombotic process. They are rarely diagnosed in children (1), more often if combined with other anomalies (2). Treatments vary from surgical repair to symptomatic medication (1). A 1½ year old boy presented with hepatosplenomegaly, hypertension, pericardial/pleural effusions and ascites. An MRT showed an absent segment of the IVC, just caudally of the liver veins and a stenosis of the superior vena cava (SVC). No thrombosis was seen. A dilated left vena hemiazygos drained blood from the lower part of the body. Three weeks after admission a stent was placed in the SVC, which was dilated from 2.5 to 6 mm, lowering the gradient from 14 to 8 mm Hg. Four months later a perforation from the inferior to the superior part of the IVC was done and a stent was inserted. An ultrasound showed normal blood flow in the liver veins. The boy is now 3½ years old with normal growth and development. He is on medication with diuretics and anticoagulation. A critically ill child with severe congenital anomalies of the veins could be successfully treated with percutaneous balloon/stent dilation.

References:

Keywords: congenital anomalies, budd chiari, percutaneous balloon, stent dilation

**PP-41**

Selective screening of Czech children at risk of developing early atherosclerosis – a prospective questionnaire study

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The authors describe the selective screening of Czech children at risk of developing early atherosclerosis. Furthermore they present the results of a prospective questionnaire study which aimed to elucidate the incidence of individual risk factors in children and adolescents. Thirty seven paediatricians from all districts and regions within the Czech Republic were involved in registering 4473 children into three age groups of 5, 13 and 17 years. A total of 4060 preventive clinical examinations were carried out and 961 lipopigramsf were performed.

Results: 7.9% of children were found to be overweight and 7.9% were obese. 5.4% of 5 year old boys and 7.7% of 5 year old girls were overweight. In the 13 year old group, 10% of boys and 6.3% of girls were overweight, with 10.8% of boys and 8.5% of girls being obese. In the 17 year old group 5.8% of boys and 7.8% of girls were overweight, with 10.6% of boys and 6.3% of girls being obese. Hypertension was present in 4% of children. This was demonstrated in 1%, 6% and 5% of the 5, 13, 17 age groups respectively. 33% of children were discovered to have almost no weekly physical activity and 37% partook in adequate physical activities. A higher risk familial history with regards to the development of atherosclerosis was found in 25% of examined patients and 33% with a history of hypertension. 10% of families had a history of early atherosclerosis and 9% of children had a history of hypercholesterolemia - 6% had a combination of these risk factors. The average level of total cholesterol was 4.27mmol/L, LDL cholesterol 2.50mmol/L, HDL cholesterol 1.41mmol/L and triglycerides 1.0 mmol/L. 3% of 13 year olds and 23% of 17year olds smoked cigarettes regularly. The foremost result of this study was the demonstration of an increase in the weight, obesity and hypertension in 13 and 17 year old Czech children - probably as a result of decreased physical activity and in levels of total, LDL and HDL cholesterol.

**PP-42**

Brain natriuretic peptide might predict an abnormal heart geometry in children with chronic kidney disease

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Background and aim: Cardiovascular diseases are the leading course of morbidity/mortality in children with chronic kidney disease. Recently it has been shown that brain natriuretic peptide is a sensitive cardiac marker for stratification of cardiovascular risk in adults. Whether it has the same diagnostic value in children with chronic kidney diseases has to be established. The purpose of the study was to evaluate whether a brain natriuretic peptide might predict cardiac dysfunction in children with chronic kidney disease.

Methods: The relationship between serum level of a brain natriuretic peptide, echocardiography and cardiovascular risk factors (hypertension, anemia, lipids, C-reactive protein, secondary hyperparathyroidism) has been investigated in 46 children (10 patients with predialysis, 14 on dialysis, 11 children with kidney transplant and 11 healthy controls).

Results: A brain natriuretic peptide was significantly higher in dialysis patients (2.09 ± 0.78) compare to healthy children (1.45 ± 0.34, P = 0012) and both, patients with pre-dialysis stage (1.52 ± 0.42, P = 0039) and after kidney transplant (1.71 ± 0.46, P = 0.19). An abnormal heart geometry has been found in 19 patients (54.28%). Higher levels of brain natriuretic peptide compare to the controls has been seen in children with excentric than in those with concentric hypertrophy (2178 ± 0956 versus 1496 ± 0395, P = 0.05, resp. 1982 ± 0618 versus 1496 ± 0395, P = 0.04). Significant correlation between brain natriuretic peptide and ventricular hypertrophy (P = 0.00) as well as intact parathyroid hormone (P = 0.03) and anemia (P = 0.027) has been observed.
Conclusions: A brain natriuretic protein might predict an abnormal geometry in children with chronic kidney disease. Our preliminary results suggest that it is a suitable marker of cardiovascular stratification in pediatric CKD population.

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Keywords: brain natriuretic peptide chronic kidney disease left ventricular hypertrophy heart geometry

PP-43

P wave dispersion as a cardiac autonomic function test in diabetic children

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Aim: Objective is to investigate p wave dispersion in diabetic children.

Methods: 49 patients with type 1 diabetes (mean age 14.2 ± 4.8 years) and 32 age- and sex-matched healthy subjects (mean age 12.7 ± 4.5 years) were participated in the study. Valsalva ratio, resting heart rate, and orthostatic hypotension were measured in all subjects. P wave dispersion, defined as the difference between maximum and minimum p wave durations, was also measured in 12-lead ECG before and after the Valsalva maneuver.

Results: Maximum P wave duration and minimum p wave duration values were significantly decreased in diabetic children compared to controls. P wave dispersion was significantly increased in diabetics. P wave dispersion values in diabetics were similar before and after the Valsalva maneuver, whereas p wave dispersion in controls was found significantly increased after the Valsalva maneuver. The differences in Valsalva ratio, resting heart rate, and orthostatic hypotension between diabetics and controls, on the other hand, were not found to be statistically significant.

Conclusion: P wave dispersion was significantly increased in diabetics compared to healthy children. Increased p wave dispersion in diabetic children shows the genesis of cardiac electrophysiological heterogeneity before parasympathetic and sympathetic dysfunction are detected with other autonomic function tests.

PP-45

Thrombosis in the pulmonary artery stump after Fontan operation

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A nine years old patient was evaluated in our department with symptoms of cyanosis and early fatigue and diagnosed as double inlet left ventricle, hypoplastic right ventricle, double outlet left ventricle and significant pulmonary stenosis. Fontan operation is done by ligating pulmonary artery distal to the valve.

In early post-operative period no complication was seen and patient was suggested to use digoxin, furosemide, spirinolactone and acetyl salicylic acid (100 mg/kg/day) and to come outpatient clinic for follow up. Drugs except spirinolactone are continued because of decreased ventricular contractility on routine echocardiographic evaluations. No additional problem was observed during yearly follow-ups.

Seven years after surgery, a routine surveillance echocardiogram revealed a 17 mm thrombus in pulmonary artery stump. In literature few cases are reported with stump in pulmonary artery and stroke and emphasized the importance of ligating pulmonary artery at the valve level during Fontan procedure. We report this case to emphasize the necessity of ligating pulmonary artery at the valve level during Fontan procedure.

PP-46

Infective endocarditis in a case of pseudoaneurysm developed after the operation of aort coarctation

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A patient with the diagnosis of severe aort coarctation, bicuspid aorta and small ventricular septal defect was
operated for the coarctation when she was 2.5 years old. Since the distance between the proximal and distal segments of the coarctation area was not adequate for end-to-end anastomosis, aortic patchplasty with Gortex graft was performed. She was out of reach after the operation. The control echocardiography at 8 years of age revealed recurrent aort coarctation (50 mm Hg) and formation of a pseudoaneurysm 3.5 4cm in diameter in descending aorta. She was referred to surgery for resection of the aneurysm. Acute phase reactants were found to be positive in the patient with fever before the operation. The echocardiography demonstrated a mobile vegetation with a length of 24 mm and thickness of 3.9 mm in the aneurysm sac. Treatment of infective endocarditis was started after documentation of S. mutans in blood culture. She underwent operation after negative acute phase reactants were detected with the treatment. Despite the fact that pseudoaneurysms can appear after the operations of aort coarctation, the rarity of development of infective endocarditis and vegetations in the aneurysm sac led us to present this case.

Intractable atrial flutter which presented with bradycardia despite treatment

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Atrial flutter is an uncommon arrhythmia in newborns and infants. In most cases, it is easily converted to sinus rhythm by medical or electrical cardioversion. After resolution of the arrhythmia, the long-term prognosis is excellent. However some patients may have intractable atrial flutter despite to treatment. We aimed to report a 3 months age infant case who presented with bradycardia and diagnosed as atrial flutter without response to treatment. In physical examination, the heart rate was 40 beats per minute (bpm) and bilateral cataract was detected. Echocardiographic examination showed pericardial effusion and normal intracardiac anatomy. Electrocardiography revealed bradycardia with a ventricular rate of 40 bpm. The 24 hours Holter monitorization revealed atrial flutter with an atrial rate of 320 bpm and 1/8–1/10 atrioventricular block with a ventricular rate of 40 bpm. Because of severe bradycardia, transvenous ventricular pacing was applied and then direct current (DC) cardioversion was performed but failed. Next, antiarrhythmic drugs, including propaphenone, sotalol and amiodarone were tried, respectively. These drugs, however, also had no effect. The ventricular rate was still slow, therefore, epicardial permanent pacemaker was implanted. During 25 days of follow-up period, despite amiodarone treatment, atrial flutter was not converted to sinus rhythm.
Report of two cases with aorticopulmonary window

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Aorticopulmonary window is a rare congenital anomaly that comprises 0.1% of all congenital heart defects. We diagnosed 2 cases of aorticopulmonary window who were 5 months and 5 years of age in our clinic during last 3 months. The first patient was 5 months of age and was brought to Pediatric Neurology Department due to poor feeding, difficulty in holding head steadily. In his history, he had poor neurological development, failure to thrive and difficulty with feeding. Physical examination showed heart failure findings, 2/6 systolic ejection murmur over the mesocardiac area. Cardiothoracic index was 0.62 and in pulmonary vascularity increased on telecardiography. Electrocardiography showed normal sinus rhythm, left QRS axis and rSR' pattern in lead V1. Echocardiography demonstrated aorticopulmonary window and severe pulmonary hypertension. Digoxine and furosemide treatments were started and he underwent operation. He is being followed up with a good outcome in the third month of the operation. The second patient was 5 years of age, severe pulmonary hypertension was detected in another hospital and referred to our clinic for investigation of the etiology by catheter-angiography. On physical examination, second heart sound was loud, and there was 2/6 systolic ejection murmur over the pulmonary area. Cardiothoracic index was 0.56 and pulmoner vascularity increased on telecardiography. ECG was normal. Aorticopulmonary window and severe pulmonary hypertension was detected on catheter-angiography. Oxymetric values were \( Qp/Qs = 6 \), \( PVR = 2.3WU \), \( SVR = 15.1WU \). Operation was planned. We reported two cases of aorticopulmonary window which is a rare anomaly.

**PP-51**

Two cases with atrioventricular septal defect: double-orifice mitral valve and single mitral papillary muscle

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Double-orifice mitral valve and single mitral papillary muscle are rare anomalies. They are much more uncommon with atrioventricular septal defects. The echocardiographic examination of a three-years-old girl revealed intermediate atrioventricular septal defect and moderate atrioventricular valve regurgitation. Double-orifice mitral valve was detected in the operation. The orifice at the anterolateral of annulus was large and that at the posteromedial was small. After closure of the primum atrial septal defect and repair of the cleft in large orifice, no valvular stenosis and regurgitation were detected in echocardiography. She is doing excellently 6 months after the operation. The echocardiographic examination of a 4-months-old male patient demonstrated intermediate atrioventricular septal defect, large secundum atrial septal defect, small midtrabecular ventricular septal defect and pulmonary hypertension. Single mitral papillary muscle and therefore mitral stenosis were seen intraoperatively. The mitral valve cleft was repaired with preservation of the mitral subvalvular apparatus and closure of atrial septal defects was performed. He is being followed, with a slight mitral stenosis left, in the 11th month of the operation. Two cases of double-orifice mitral valve and single mitral papillary muscle, which are rare in patients with atrioventricular septal defect, were reported.
PP-52

Balloon angioplasty of atrial fenestration in a patient with fenestrated Fontan procedure

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In a case with fenestrated Fontan procedure and severe right heart failure, significant regression of the right heart failure findings was provided with dilatation of the atrial fenestration through balloon angioplasty. The 24-years-old male patient was diagnosed with double inlet left ventricle, hypoplastic right ventricle, ventriculoarterial discordance, ventricular septal defect and pulmonary stenosis and underwent fenestrated Fontan operation at the age of 12 years. He was doing well with anticoagulant treatment until progression of right heart failure findings in the 5th year of the operation. The echocardiographic exam showed right atrial dilatation, decreased ventricular contractions and small Fontan fenestration. The patient refused the operation of conversion of Fontan circulation to total cavopulmonary circulation. Due to progression of hepatomegaly, edema and ascites under anticoagulant treatment, widening of the atrial fenestration with a 15 mm 4 cm angioplasty balloon was performed after 10 years of Fontan operation. Cyanosis increased and the right heart failure findings regressed in the follow up. The benefit of dilatation of the atrial septal fenestration with balloon angioplasty in improvement of heart failure findings in patients with right heart failure who had undergone fenestrated Fontan procedure was emphasized.

PP-53

P wave dispersion in patients who had undergone Senning operation

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Atrial arrhythmias are common after Senning operation. A lot of clinical studies performed in adults and children showed the benefit of p dispersion and p wave duration in determining the risk of atrial tachycardias. The purpose of this study is to detect p wave duration and dispersion in patients who had undergone Senning operation and its value in detecting the risk of atrial tachycardias. P wave duration and dispersion were evaluated in surface 12 leads ECG of 18 patients (mean age 12.87 ± 5.03 years) who underwent Senning operation and 35 healthy people. We recorded 24 hours Holter ECG in determining the relationship between p wave measurements and atrial tachycardias. In patients undergone Senning operation, maximum p wave duration (129 ± 50.92 ms) and p dispersion (78 ± 31.42 ms) were found to be increased compared with healthy people (103.77 ± 12.44 ms and 54.02 ± 13.74 ms, respectively). We detected supraventricular tachycardia in one of three patient (%33) who had a p dispersion value higher than 100 ms and two of fifteen patients (%13) who had a p dispersion value below the 100 ms, at Holter ECG (P > 0.05). But, statistical difference could not be shown, because of small patient group. In our study, maximum p wave and p dispersion have been found increased in patients who had undergone Senning operation but relation between p wave measurements and atrial tachycardias could not been shown. For detecting the relation between p wave duration, p dispersion and atrial tachycardias; follow-up of patients who had increased p wave duration and p dispersion and studies including large patient groups are necessary.

PP-54

Coronary problems after Jatene operation

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Coronary curling, stretching, stenosis and occlusion due to scar formation can be seen in patients with transposition of the great arteries undergoing Jatene operation. Coronary angiography was performed in a total of nine patients who had undergone Jatene operation ranging between 2 and 15 years of age (median: 11), seven with pulmonary stenosis, one with syncope and one with impaired inter-ventricular septal contractions. Circumflex artery originating from right coronary artery in two patients, occlusion of the circumflex artery in one patient, single coronary orifice in one patient, occlusion of the right coronary artery in one patient and occlusion of the left anterior descending artery in the other patient were detected. Three of patients had no coronary lesions. Stenosis and occlusions of the coronary arteries have been reported after Jatene operations. Neither signs nor symptoms can be seen in some patients despite severe coronary problems. Periodic assessment with cather angiography of all patients after operation could be worthwhile in early detection of stenosis and occlusions.

PP-55

Giant coronary sinus aneurysm with additional cardiac anomalies

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Coronary sinus aneurysms is a very rare cardiac pathology. In our case, a giant coronary sinus aneurysm with additional congenital heart anomalies was detected with echocardiography and visualized with angiography. A 7-days-old male patient, who was referred to Pediatric Cardiology Clinic because of a heart murmur, was detected to have critical
Our cases with Scimitar syndrome

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Scimitar syndrome is a congenital anomaly characterized with the drainage of the right pulmonary veins into the inferior vena cava. Right lung hypoplasia, dextrocardia and aortopulmonary collaterals usually accompany this syndrome. The cases was diagnosed at the ages of 8 months, 23 months, 2 years and 26 years, respectively. The case with the age of 8 months experienced right pulmonary artery hypoplasia and pulmonary hypertension whereas the case with the age of 2 years did not have pulmonary hypertension despite the absence of right pulmonary artery. The 23-months-old case had normal pulmonary artery diameters and pressure. The 26-years-old case exhibited thin right pulmonary artery and normal pulmonary artery pressure. In all cases, the right pulmonary veins (partial or complete) were draining into the inferior vena cava and dextroposition of the heart was present. Four cases presenting with different clinical and cardiac findings in various age groups were reported.

PP-56

Aortic dilatation after bacterial endocarditis in a case undergoing Ross operation and mitral valve replacement

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Since the pulmonary artery root is exposed to systemic blood pressure after Ross operation, dilatations of aortic annulus, aortic root and sinotubular junction take place in time especially in the first postoperative year with a slower course then. Our case experienced posterior aortic dilatation at the level of sinotubular junction owing to development of bacterial endocarditis after the operation. The case underwent Ross operation and mitral valve replacement because of rheumatic heart disease, severe aortic and mitral regurgitation at the age of 16 years. Staphylococcus aureus was identified in blood cultures of the patient suffering from high fever 2 months after the operation. The aortic regurgitation, which was slight in the postoperative period, progressed to moderate degree with bacterial endocarditis and posterior aortic dilatation at the level of sinotubular junction was detected. After catheter angiography, the patient was decided to undergo aortic valve replacement and repair of aortic dilatation due to emergence of significant aort valve regurgitation. After Ross operation, progressive dilatations of aortic annulus, aortic root and sinotubular junction occur in time. The case with rapid progression of aortic valve regurgitation and dilatation of aorta at the level of sinotubular junction of the was presented.

PP-58

The migration of stent implanted to ductus arteriosus in a case with tricuspid atresia

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Transcatheter stent implantation into the patent ductus arteriosus in duct-dependent newborns with cyanotic congenital heart disease is used. Our case was diagnosed as tricuspid atresia, right ventricle hypoplasia, ventricular septal defect and pulmonary stenos with fetal echocardiography at 22nd gestation week. The case was born at term, 3610 gr delivered by cesarean. The diagnosis was confirmed with transthoracic echocardiographic examination. A 4mmx15mm stent was implanted to ductus arteriosus under general anesthesia in order to provide the patency of pulmonary blood flow. The arterial oxygen saturation increased from 45% to 90% after stent replacement. However, three days after, the saturation again decreased and the stent was detected to move to the pulmonary artery on echocardiography. A 4mmx15mm stent was reimplanted to the aortic end of the ductus arteriosus with achievement of 90% arterial saturation. The patient, without any clinical problem in follow up, underwent Glenn operation at the age of 6 months. Stent implantation of ductus arteriosus can be complicated with stent migration which was overwhelmed early reimplantation of a second stent in our case.
A new approach to hypoplastic left heart syndrome: stent implantation to ductus arteriosus and surgical pulmonary banding

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In patients with hypoplastic left syndrome, nowadays, instead of first stage of Norwood palliation, transcatheter stent implantation and surgical pulmonary banding of both pulmonary arteries (hybrid procedure) have been used. The patient was delivered by cesarean section, at term, with a weight of 2700 g and operated for esophagus atresia and transesophageal fistula at 2 days of age. The patient, with the diagnosis of hypoplastic left heart syndrome and under prostaglandin infusion, was referred to our center for hybrid procedure at 11 days of age. A 7 mm 18 mm stent was implanted to ductus arteriosus and after 5 hours, surgical banding of both pulmonary arteries was performed. As a new treatment approach, stent implantation to the ductus arteriosus and surgical banding of the pulmonary arteries in hypoplastic left heart, were presented.

A late diagnosis of aort coarctation in a case which underwent Jatene operation for transposition of great arteries

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Aort coarctation can be isolated or accompany with the other congenital heart diseases such as bicuspid aorta, ventricular septal defect, patent ductus arteriosus and mitral valve anomalies. The association of transposition of great arteries and aort coarctation is very rare. A 20-months-old case, which had undergone Jatene operation for transposition of great arteries in neonatal period, was detected to have pulmonary stenosis in echocardiographic examination. The physical examination revealed weak pulses in lower extremities and a high systolic blood pressure. The catheter angiography demonstrated pulmonary stenosis (with 50 mm Hg gradient) and coarctation of the aorta with a gradient of 40mm Hg. The case, which is an example of rare coexistence of transposition of great arteries and coarctation, was presented.

Effectiveness of hand and foot pulse oximetry for early detection of critical congenital heart disease in newborns delivered in Kashan, Iran

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Background and aim: Congenital Heart Disease(CHD) are relatively common with a prevalence of 5–8 in every 1000 live births. With improvements in diagnosis and treatment, the out look for newborns with CHD has changed considerably, but these malformations still contribute to significant morbidity and mortality in this age group. Early detection of ductal dependent cardiac malformations prior to ductal closure is however of significant clinical importance as the treatment outcome is related to the time of diagnosis.

The aim of the present study is to determine the effectiveness of pulse – oximetry screening preformed on the first day of life for early detection of congenital heart disease in otherwise healthy newborn.

Methods: We performed pulse oximetry in right hand and foot in 1506 healthy infants delivered during six months period. Babies with functional oxygen saturation
below 95% either in hand or foot considered abnormal. A second saturation measurement was performed 2 hours later only in right foot. If repeated measurement was again below 95% an echocardiogram was performed.

Results: A total of 1506 newborns were screened. A functional saturation of less than 95% was found in 100 (6.6%) cases. In 29 (1.9%) babies a second measurement was also less than 95%, and echocardiography was performed for them. Six neonate with congenital heart disease (prevalence 4 in 1000 live birth) detected The types of CHD in our study were :Tetralogy of fallot(3 cases), Transposition of great vessels, Truncus arteriosus, and Total anomalous pulmonary venus return(1 cases).

Conclusion: Pulse oximetry is a simple, non invasive, inexpensive and reliable screening test for early detection of congenital heart diseases in asymptomatic newborns. As there was no significant differences between the measurement in right hand and foot, so the pulse oximetry measurement in foot is adequate for screening.

Keywords: newborn, screening, pulse oximetry, congenital heart disease, Iran

PP-63
Evaluation of Kawasaki disease patients from a tertiary center in Turkey

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Kawasaki Disease, preferentially affecting children younger than 5 years of age, is a vasculitis characterized by fever, rash, cervical lymphadenopathy, conjunctival congestion, and oral cavity and hand-feet changes. The most serious complication is coronary artery aneurysm. In this study, 31 children (12 girls, 19 boys) with the diagnosis of Kawasaki disease in Ege University Hospital Department of Pediatrics, between 1999 and 2007, were evaluated. At admission median age was 25 months (3 months–16 years). At the time of diagnosis, 25 (80%) patients were under 5 years of age. Fever was present in all patients. The second most commonly seen sign was rash, present in 21 (67.7%) of the patients. Ten of 31 (32%) patients had coronary artery involvement All patients diagnosed as Kawasaki disease were treated with intravenous immunoglobulin and acetylsalicylic acid. Resistance to intravenous immunoglobulin was seen in two patients. In one of our patients, cardiac tamponade occurred during the recurrence of Kawasaki Disease. A heightened awareness of Kawasaki disease can prevent the development of serious cardiovascular complications by facilitating early diagnosis and treatment.

PP-64
Evaluation of cardiac status in thalassemia by cardiac MRI and Nt Pro-BNP

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Background and aim: Cardiac failure secondary to transfusional iron overload is the commonest cause of mortality in thalassemia. This cardiomyopathy is reversible if intensive iron chelation therapy is instituted in time, suggesting importance of early preclinical detection of cardiac dysfunction. To evaluate severity of cardiac iron overload and cardiac dysfunction by MRI, biochemical marker Nt Pro Brain natriuretic peptide (Nt Pro BNP), Ferritin and conventional methods i.e. Chest X ray, EKG and Echocardiography.

Materials and methods: Cardiac status of 50 patients (10–24 years) was evaluated by chest X-ray, EKG, 2D-Echocardiography, Nt ProBNP and cardiac T2* MRI. 2D-Echo was done using Agilent sonos 5500 with 3 MHz and 8 MHz probes. Left ventricle wall thickness and chamber dimensions were assessed using M-mode and 2D-Echo. Cardiac MRI was done using Philips 3 Tesla machine using T2* sequence. Nt ProBNP estimated by ELISA.

Results: 2D-Echo revealed pulmonary hypertension with RA and RV dilation with normal LV functions in one, and EF of 20% with LV thrombus in another patient. Cardiac MRI T2* (quantitative evaluation) showed mild involvement (20–12 ms) in 18%; moderate (12–8 ms) in 58%; severe (<8 ms) in 20% and normal (>20 ms) in 6%. Nt-ProBNP was normal in all.

Conclusion: Quantitative assessment of iron overload by T2* MRI is presently the best indicator of cardiac involvement. Serum ferritin, the most commonly used parameter of iron overload may not provide good predictability of cardiac disease.

Keywords: thalassemia, MRI, Nt pro BNP
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Background and aim: Acute rheumatic fever (ARF) still remains one of the major cardiac problems in developing countries in both pediatric and adult population. Osteopontin (OPN), a multifunctional phosphorylated glycoprotein, acts as a fundamental factor in both physiologic and pathologic including bone calcification, immune, inflammatory response, cardiovascular diseases, cell adhesion and migration and apoptosis. The aim of this study is to evaluate the change of plasma levels of soluble OPN concentration in children with ARF by corticosteroid treatment.

Methods: Twenty children, ages varied from 6 to 13 years (median age 11 year-old) with ARF and 20 age- and gender- matched healthy controls, ages varied 6 to15 years (median age: 11.5) were enrolled into this study. Children were evaluated by clinical investigations, telecardiography, electrocardiography, and echocardiography. All patients were given a corticosteroid treatment. Plasma OPN concentrations were measured from the blood samples that were drawn immediately after admission to the paediatric cardiology department and at the end of the treatment.

Results: Our results showed that the plasma levels of soluble OPN in children with ARF did not show any differences compared to the healthy subjects at initial admission (114.11 ± 44.11 ng/mL, 99.95 ± 18.87 ng/mL respectively. The levels of OPN of patient group were significantly increased at the end of the treatment (122.32 ± 18.17 ng/mL).

Conclusion: Although OPN is a predictor of ongoing inflammation for ARF in adult population; we document an increase of OPN by the treatment in childhood. Further studies are necessary to highlight the importance of OPN in children with ARF.

PP-67

Prevention of mortality and morbidity in Bosnia- children in car crashes

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Background: Each year thousands of young children are killed or injured in car crashes. Car beds allow babies to lie down while traveling. Larger babies whose weight or height exceeds the limits of the child safety seat before they reach age 1 should use a convertible seat with a higher rear-facing weight and height limit.

Methods: Twenty eight patients who confirmed with TGA-IVS were reviewed. We analyzed their clinical characterizations, diagnose evidences, preoperative management and outcome, mortality rate and the complication incidence before surgical operation.

Results: There were 19 boys and 9 girls in this group, had mean gestational age of 38 + 4 weeks and birth weight of 3.244 kg. 7 cases (25%) were prenatal diagnosis, while the remaining 21 cases were postnatal diagnosis at the mean age of 45 hours. The karyotype was normal and no extra-cardiac anomalies. Cyanosis is the most common and critical characterization been noticed, diagnosis generally can be confirmed by echocardiography. All patients received prostaglandin E1 (PGE1) infusion once highly suspected or confirmed with TGA-IVS, 25 of them (89%) can effectively maintain the patency of the ductus arteriosus preoperative. Balloon atrial septostomy (BAS) was performed successfully in all cases at the mean age of 21 hours, as judged by oxygen saturation increased from (56 ± 26)% before BAS to (82 ± 19)% after BAS (P < 0.05). Both preoperative mortality and serious morbidity were 3.5%.

Conclusions: All cases in our group managed with PGE1 and BAS preoperative, which was safe and effective, may dramatically improve oxygenation, reduced preoperative mortality and morbidity, supported life until definitive surgery can be performed.

Keywords: Congenital heart defects, transposition of great vessels, balloon atrial septostomy prostaglandin
Methods: A new study has found that children who were using child restraints were 33% less likely to be killed in a crash than children who were wearing seat belts alone.

Results: Infants are at greater risk of injury in crashes because their heads are fragile, their neck bones are soft and the ligaments that help support the neck are stretchy. Properly installed child safety seats reduce the risk of death by 66% for infants.

Conclusion: Recommendations are that all children aged 12 and under ride in the back seat of a vehicle. Previous work quantified a 60% reduction in injury risk for children in belt positioning booster seats (BPB) compared to those restrained in seat belts using a sample of crashes of all directions of impact.

Keywords: Bosnia, injured kids, prevention, car crashes, mortality child restraint system

PP-69

Child and adolescent health in Serbia – possibilities for improvement

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Health of the most vulnerable population groups gives the best present inside and forecast of future health of the whole population, development of health service and health care, as well as development of the whole society. Mother and child health indicators are used in defining of the national goals in the field of health.

Aim: To define the impact of the last decade of the 20th century and of great social changes on the health in Serbia; what interventions should improve of health most efficiently.

Methods: Retrospective analytic study based on official vital, demographic, health, socio-economic, and statistical data as well as data from the specialized research.

Results: From 1991 to 2006, mortality rate of children under five was reduced: mortality rates from 16.8 to 9.4; perinatal from 14.3 to 9.2; infants from 14.6 to 8 per 1000 liveborns; neonatal mortality from 8 to 5.6/1000 births. The causes of infant mortality are: 2/3 preterm delivery or suffering during pregnancy/delivery, 1/5 congenital anomalies. Congenital anomalies causes one-fourth mortality of children under five. Every second school-child and adolescent die from injuries or poisoning, and tumors are the second cause of their deaths. The most important health problems of children and adolescent permanently grow: injuries, malignancy, obesity, sexually transmitted infections, physical inactivity, smoking, alcohol, drugs abuse.

Conclusion: Transition in society causes transition in morbidity and mortality. Possible activities on the state level: Pronatal policy and family protection, perinatal strategy and integrative approach: multidisciplinary and multisectorial; medical and public health.

Keywords: improvement, child, adolescent health, Serbia

PP-70

Bone mineral density (BMD) in early age children fed with toddler milk

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Purpose is to define effects of diet with toddler milk on bone mineral density levels.

Method: Dynamic investigation of 20 children (age range 12–56 month), which were fed with toddler milk (200 mL/day). Tests were carried out before starting and after 4 months of formula feeding. The content of calcium was determined in blood serum. Accumulation of calcium in bone tissue was determined by dual energy X-ray absorptiometry (DEXA) on L2–L4 level. Bone mineral density levels and standard score (Z-score) were calculated.
Results: During the first medical examination muscular hypotonia was found in all children. 85% of children had symptoms of cranial bones osteoid hyper/hypoplasia, 80%–osteoid hyper/hypoplasia of chest, 75%–osteoid hyper/hypoplasia of upper extremities, 80%–osteoid hyper/hypoplasia of lower extremities, 75% of children had combination of more than 6 symptoms. Decreasing of general calcium level was found in 35% children. Decreasing of bone mineral density was found in 15 of 20 children with bone deformations. Osteopenia was found in 9 of 15 children, and in 6 of 15 – osteoporosis. During toddler milk consumption the positive dynamic of calcium accumulation, increasing of bone mineral density levels ($P < 0.05$) and normalization of general calcium level in serum were established. Number of children with normal bone mineral density levels, according to Z-score, increased in 1.5 times, number of children with signs of osteoporosis decreased in three times. High rate of linear correlation ($R = 0.91$) between bone mineral density levels and height ($P < 0.05$) was found.

Conclusions: Additional entry of toddler milk's nutrient complex contributes to normalization of calcium level in serum, calcium accumulation and normalization of bone mineral density in axial skeleton of the part of examined children. The research is carried out with Nutricia Russia support.

PP-71

School children and their extracurricular activities in Thessaly, Central Greece

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2. University of Thessaloniki, Greece

Background and aim: The choice of extracurricular activities (ea) shows some characteristics of the children's personality and possibly indicates their future development.

Aims are (i) record the most popular ea of the pupils. (ii) to determine if there are any differences between the choices of boys (B) and girls (G) and (iii) to point out these differences and comment on them.

Material and Methods: The sample size was 115 children (B: 70%, G: 30%). The age distribution of them is: 7–9 year old: 23%, 10–14 year old: 35%, 15 + year old: 20%, outside these ranges or unknown: 22%. The ea were recorded based on an analytical Achenbach questionnaire that separates the children's activities in four categories.

Results: The three most popular (i) sports activities depending on the sex were: B: football (61.25%), cycling (40%), swimming (31.25%), G: volleyball (40%), swimming (37.14%), cycling (28.57%). 9.57% of the children do not exercise at all. (ii) hobbies depending on sex were: B: PC (65%), music-singing-theatre-dance (28.75%), reading books (23.75%). G: music-singing-theatre-dance (28.57%), reading books (18.57%), crafts and arts/painting (18.57%). 8.75% of the children do not have any hobbies at all. (iii) activities regarding the participation in organizations /societies /clubs depending on the sex were: B: sports clubs (33.75%), cultural/musical clubs (8.75%), theatre-dance club (7.5%). G: sports clubs (20%), cultural/musical clubs (7.14%), theatre-dance club (5.71%). 53.04% of the children do not take part in any club. (iv) house works depending on the sex are: B: helping the parents (52.5%), cleaning up (45%), taking care of younger children (7.5%). G: cleaning up (32.86%), helping the parents (22.86%), and taking care of younger children (7.14%). 25.22% of the children are not contributing at all in the house work.

Conclusions: The children's responses as far as concerns the sports and non-sports activities were expected. However, it is surprising that ~10% of the children is not exercising at all, 1 in 2 does not participate in any team activity, ~25% of them do not show any interest to contribute to the family by helping in the everyday house work, while a significant percentage of children (~8%), takes care of younger children in the house. PCs are the main object of entertainment among the boys. These are characteristics of our era that should give us food for thoughts and comments.
with normal CT had an MRI. 60 (29.1%) of patients had retinal hemorrhages: 20 (33%) intraretinal, 12 (20%) preretinal, 3 (5%) macular; 18 patients (30%) had multiple hemorrhages. 9 (15%) were noted as unilateral and 47 (78%) were bilateral. 7 patients had multiple findings. Associations between retinal findings and CT abnormalities were explored. Retinal hemorrhages were detected in 46/79 (58.2%) patients with subdural hemorrhages ($P < 0.0001$) and 14/20 (70%) patients with subarachnoid hemorrhages ($P < 0.0001$). Children with epidural hematoma were unlikely to have retinal hemorrhages (1/15; 6.7%; $P = 0.042$).

Conclusions: Subdural and subarachnoid bleeding correlate highly with retinal hemorrhages. Children with epidural bleeds are less likely to have retinal hemorrhages, likely indicating a different mechanism of injury.

**PP-73**

**Serum retinol levels of healthy children aged 24 to 59 months from different socioeconomical levels in Izmir, Turkey**

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Background and aim: Vitamin A is essential for vision and cell differentiation. Deficiency results in night blindness and growth retardation. Vitamin A deficiency, especially in its subclinical form, is a world health problem in young children.

The aim of this study was to determine the prevalence of vitamin A deficiency among 2- to 5-year-old children in various socio-economic groups in Izmir, Turkey, and to evaluate the relationship of serum vitamin A levels with different socio-demographic variables.

Methods: One hundred children aged 24 to 59 months were selected for the study with cluster sampling method. A questionnaire was completed by the parents to collect socio-demographic information of the participants. The dietary pattern was assessed by using a 3-day dietary record method. Height and weight of the children were taken using a combined height-weight scale by standard methods. Blood samples were collected from children and serum retinol levels were measured by high-performance liquid chromatography.

Results: Mean serum retinol level of the children was $28.3 \pm 10.2 \, \mu g/dL$. Serum vitamin A level of two children (2%) was below $10 \, \mu g/dL$, whereas 18 (18%) children had a vitamin A levels between $10–20 \, \mu g/dL$. We did not find any relationship between mean serum retinol levels and the independent variables such as socio-economic levels, age groups, birth weight and gestational age. However, there was a statistically significant positive correlation between serum retinol levels and weight-for-age and weight-for-height $Z$ scores of the children ($P < 0.05$).

Conclusion: Because one-fifth of the children under five years have vitamin A deficiency in Izmir, Turkey, nutrition education must be given to the families during well child care visits and, routine vitamin supplementation should be considered especially in children with malnutrition.

Keywords: Vitamin A, retinol, children, malnutrition

**PP-74**

**The morbidity and mortality of children in rural areas**

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The analysis of health indicators related to children revealed that the corresponding lower morbidity and higher mortality in rural areas in comparison with urban areas is registered in children population that live outside the zone of the rural district’s pediatric services. It is evidenced that lowest morbidity in rural area is related to underregistration of the non-severe forms of pathology in children living in above indicated zone.

Results: The mentioned rates correlated with such social and medical organizational characteristics of different rural districts limiting the availability of the high-quality medical care as the poor road and transport communication with the district center (mortality: $r = 0.41; P < 0.05$; morbidity: $r = -0.36; P < 0.05$), the remoteness from the oblast center (mortality: $r = 0.48; P < 0.01$; morbidity: $r = -0.45; P < 0.01$), the pediatrician’s provision and the level of their professional qualification (mortality: $r = 0.43; P < 0.05$; morbidity: $r = -0.43; P < 0.05$). The children from socially ill-being families (mortality: $r = 0.32; P < 0.05$; morbidity: $r = -0.41; P < 0.05$) and the density of population (mortality: $r = 0.45; P < 0.01$; morbidity: $r = 0.41; P < 0.05$). He established patterns demonstrate that to enhance the quality of medical care of children living in the rural areas is necessary to resolve professional, social and medical organizational problems simultaneously.

Conclusion: Thereupon, appears in the need to elaborate a well-grounded differentiated approach to health resources’ planning with an imperative taking into account the characteristics of the rural regions.

**PP-75**

**Television-viewing patterns of school age children on a Greek island**

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Aim: The aim of this study is to assess the relation between children of the ages of 11 and 12 years and television viewing on the Greek island of Milos; especially the fre-
quency and circumstances under which they tend to watch television and the quality of dietary habits of the children population and their correlation with television viewing.

Methods: Questionnaires were completed by the entire school population of the fifth and sixth grades of the Milos Elementary School, where forty-six pupils aged 11–12 are enrolled. We evaluated the answers of our subjects based on their television and food frequency patterns.

Results: 45% watch an average of 2–4 hours of television every day. 37% 0–2 hours. 67% prefer to watch films, 52% prefer series and cartoons, 63% entertainment programmes, 48% documentaries and 23% sports programmes. 74% of our subjects watch television during late afternoon and early evening (4–8 pm), while 39% late evening (9–12pm). In the weekend children spend an average of 3.6 hours in front of the television set 83% emphasize that they do not neglect their homework in order to watch a program, whereas 56% could live without the influence of television. 56% believe that television offers entertainment and 44% believe that it offers information. 65% of the subjects claim that their parents control their choice of viewing. 63% of the subjects consume food in front of the television set.

Conclusions: Though pastime habits of school age children tend to change recently, the majority still prefers to engage in television viewing to a great extent. However, the necessity of parental control should be emphasized, particularly in correlation to childhood obesity.

**PP-76**

**Specifics of dog bites in Bosnian kids during last 15 years**

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Background and aim: Bite wounds result in morbidity and mortality through both physical trauma and infection. Dog bites can cause a spectrum of injuries from lacerations to avulsions and crush injuries. This study focuses on the pattern of incidence, mechanisms, and circumstances of accident and injury in a series of pediatric patients who sustained dog bites in Sarajevo.

Methods: Authors used retrospective study, the medical charts of all kids who were younger than 19 years and sought medical attention after a dog bite between 1992 and 2007 were reviewed. To obtain the total number of each dog breed in the administrative district, we analyzed medical documentation from the municipalities of Sarajevo and dog registers, and we analysed in Excel, Micro-Soft Word 97 using statistics methods in computing SigmaStat.

Results: A total of 786 kids (mean age: 6.6 years) were identified. The annual incidence of dog bites was 0.35 per 1000 kids between 1 and 19 years of age. Incidence was highest in 3-year-old patients and decreased with increasing age. The vast majority (69%) of the dogs were familiar to the children. Of 786 injuries, the legs and arms was the leading site affected (50%). Inpatient treatment was required in 159 (20%) children.

Discussion: Hospitalization is indicated for the treatment of infected wounds complicated by fever, sepsis, or spreading cellulitis. Dog bites in children are more prevalent in certain dog breeds.

**Table 1**

<table>
<thead>
<tr>
<th>Dog bites - Ages of kids</th>
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<tbody>
<tr>
<td>Age (years)</td>
</tr>
<tr>
<td>Hand</td>
</tr>
<tr>
<td>Leg</td>
</tr>
<tr>
<td>Head</td>
</tr>
<tr>
<td>Body</td>
</tr>
<tr>
<td>Multiple</td>
</tr>
<tr>
<td>TOTAL</td>
</tr>
</tbody>
</table>

**Diagram 1**

Percentage of wounds - dog bites - part of body

**Diagram 2**

Dog bites – percentage of part body wounds

**Diagram 3**

Complications after dog bites at kids

**Diagram 4**

Complications

No complications

100

Conclusions: Prevention strategies should focus on public education and training of dogs and their Bosnian owners. Kids who are younger than 12 years represent the high-risk group for dog attacks. Dog bites in Bosnian kids are frequent and influenced by the breed-related behavior of dogs, dog owners, children, and parents. Encourage local leash laws and reporting of bites, and educate the public about responsible dog selection, ownership, and training.

Keywords: dog bites, kids, Bosnian, epidemiology, treatment, hospitalization

PP-77
Correlation between direct and indirect measurement of intraabdominal pressure (IAP) in infants requiring peritoneal dialysis

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Background and aim: During last years intra abdominal hypertension (IAH) and abdominal compartment syndrome (ACS) have been recognized as a significant factors influencing morbidity and mortality. Accurate measurement of IAP is very important part of IAH/ACS management. The aim of this study was to compare directly measured IAP with pressure measured via urinary catheter in infants requiring peritoneal dialysis with two different indwelling dialysate volumes 10 mL/kg and 30 mL/kg.

Methods: We studied five infants after CPB cardiac surgery in CICU at Jo Ann Medical Center, mean age 1.1 months, requiring peritoneal dialysis postoperatively due to ARF. Simultaneous measurement of IAP were performed directly via peritoneal dialysis catheter and indirectly via urinary catheter with bladder filling volume of 1mL/kg. using dialysate volume of 10mL/kg and same measurement were done at volume of 30 mL/kg. All patients were on mechanical ventilation, sedated and paralytic agent were used at the moment of measurement.

Results: This study revealed close correlation between direct and indirect measurement of IAP. Correlation was closer when dialysate volume of 30mL/kg was used ($r = 0.9 P < 0.001$ in 30mL/kg versus $r = 0.82 P < 0.001$ in 10 mL/kg indwelling volume). Mean IAP was higher by 20.1% when dialysate volume was 30 mL/kg.

Conclusion: In infants intravesical IAP measurement technique can be recomended as it is in close correlation with directly measured IAP, and this correlation closer as IAP becomes higher, which is very important for early detection and management of IAH and ACS.

PP-78
Acute isoniazid poisoning presenting with convulsions and coma

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We report a case of acute isoniazid intoxication presented with convulsions, and coma.

Introduction: Isoniazid is a bactericidal drug used in the treatment of tuberculosis. Isoniazid is increasingly being used to control the spread of tuberculosis, and physicians should be aware of its potentially fatal effects. Isoniazid overdose is known to result in the rapid onset of seizures, metabolic acidosis and prolonged obtundation. Severe central nervous toxicity can also be caused by chronic ingestion of higher than therapeutic doses of Isoniazid. In those cases pyridoxine therapy can also be useful. We report a case of obtundation secondary to INH overdose that was immediately reversed by pyridoxine.

Case: An 8-year-old boy had taken 10 isoniazid tablets (100 mg/tb) which had been started as a prophylactic. A nasogastric catheter was administered and gastric lavage was performed followed by the administration of activated charcoal. Immediately after the procedure, sudden convulsions began, which subsided within five minutes of the administration of diazepam infusion. As an antidote, Pyridoxine 1.5 g (50 mg/kg/day),was administered intravenously. After 8 hours the patient regained consciousness, his general condition normalized and oral nutrition was started.

Conclusions: Pyridoxine administration is the best way of treating convulsions. Parenteral pyridoxine administration is an effective method in isoniazid intoxication.

Keywords: Convulsion, isoniazid intoxication

PP-79
Moxonidine poisoning: the first child case

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Purpose of this study is to present a case of poisoning by moxonidine.

Case: A 3-year old girl presented at our clinic having taken 5 tablets containing moxonidine. She was unconscious and there was no deep tendon reflex. After treatment by fluid transfusion, the patient regained consciousness after 24 hours. Vital signs returned to normal and on follow-up, no other findings were determined.

Conclusion: Sedation is the most important finding in patients suffering from moxonidine poisoning as it is an anti-hypertensive agent. To the best of our knowledge there is no published literature on moxonidine poisoning.

Keywords: moxonidine poisoning, child case
Continuous hydrocortisone infusion in severe community-acquired pneumonia (CAP) in a pediatric patient

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Preliminary studies showed that hydrocortisone infusion improves oxygenation, length of hospitalization and mortality in adults with severe CAP. There is lack of data in the paediatric population. We described a case of a 9-year-old girl with severe CAP for which continuous hydrocortisone infusion was used. She presented with one-week history of fever, cough, and shortness of breath. She had severe respiratory distress requiring emergency intubation. Chest radiograph showed bilateral pneumonia. Pressure ventilation was used but she remained severely hypoxic (PaO2:FiO2 = 39 and Oxygenation Index (OI): 0.64). A trial of High Frequency Ventilation (HFOV) did not improve oxygenation. Nitric oxide was also started 15 hours after admission. In view of persistent hypoxemia, a bolus dose of 200 mg hydrocortisone followed by an infusion of 240 mg over 24 hours was started. This infusion was continued for 5 days. At day 6, the PaO2:FiO2 ratio went up to 67 (OI: 0.28) and this further improved to 164 (OI: 0.18) on day 8. Initial empirical antibiotics was changed to high dose intravenous ampicillin and augmentin after blood cultures returned positive for Streptococcus pneumoniae. Initial C-reactive protein (CRP) was 455.1 mg/L and this came down to 152.2 mg/L after 5 days. There were no gastrointestinal tract bleeding and hyperglycemia during the hydrocortisone infusion. She was gradually weaned off ventilation with help of a tracheostomy and was discharged home after 63 days of hospitalization. In this case of severe pneumonia, there was a good improvement in PaO2:FiO2 ratio, OI and marked reduction in CRP after the completion of hydrocortisone infusion. Further studies should be conducted to look closer into the role of steroid infusion in pediatric patients with severe CAP.

Acute aortic occlusion as an unusual embolic complication of cardiac myxoma

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A 17-year-old boy collapsed after jumping during basketball playing. He was asymptomatic before the accident. Paraplegia was emerged. Physical examination found absent bilateral pulse, low systemic blood pressure, tachycardia, hyperventilation. MRI showed a huge mass in the abdominal aorta, which was removed by aortotomy. Histology showed fibromyxoma cells. The cause of the acute renal failure were the low systemic blood pressure, and the sepsis. The aggressive volume therapy was proved insufficient so catecholamines were used. The hemostaseological crisis and the DIC were unavoidable. Nine days after the first operation he was reoperated because of bowel wall necrosis. During surgery the necrotic areas were reinforced by suturas. After the operation the crisis was irreversible and we lost our patient. Acute aortic occlusion is an infrequent but dangerous vascular emergency with a mortality rate of 50% 1, resulting from aortic saddle embolus, thrombosis of an atherosclerotic abdominal aorta, or sudden thrombosis of a small abdominal aortic aneurysm. Cardiac myxoma, a benign primary tumor of the heart, accounts for 75% to 80% of cardiac tumors 2. Most of myxomas (up to 80%) are localized at the left atrium. The tumors are typically pedunculated, lobated, and highly mobile with gelatinous and soft consistency, leading to a high risk of embolization, which occurs in the cerebral arteries mostly, in the coronary or visceral arteries occasionally, and rarely in the infrarenal aorta (aortic saddle embolus).
Discussion: Disease occurs when organisms invade the bloodstream-meningococcemia and disseminate.

Picture 1-Necrosis fingers

Conclusion: Children with meningococcal disease develop severe skin and muscle necrosis, where as others have minimal vascular and skin involvement even with profound septic are unclear. Children with sepsis meningococcica complicated by purpura fulminans have a case fatal rate of 50–60%.

Keywords: children, sepsis meningococcica, purpura fulminans, necrosis complications

PP-83

Pediatric allograft heart valves harvesting from non heart beating donors

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Background and aim: Cardiac surgeons routinely use allograft heart valves (AHV) for 45 years. In the Czech Republic the usual number of heart beating donors is 15–25 pmp. This pool of donors generates 5–8 non-transplantable hearts pmp for processing of AHV. That number covers the need of cardiac surgeons of the country. Recently, the AHV of pediatric size became desirable, but pediatric donors are rare – usually about 3% only. Due to the scarcity of pediatric donors the authors introduced the harvesting from NHBD deceased at pediatric Intensive Care Units (ICU).

Methods: After repeated discussions on national pediatric intensive care conferences & meetings the NHBD criteria were distributed, together with the contact to TC. In agreement with the national legislation, the heart harvesting was always performed after written family consent, at least 2 hours post mortem, preferably at ICU. The respect to the child’s family, as well as to the ICU staff was the priority for the harvesting team (TC & cardiac surgeon). The heart itself was transported on ice, processed, antibiotic treated immediately after return to the Transplant Center (according to the standard protocol), cryopreserved, and finally stored in liquid nitrogen.

Results: 2001–2004 fifteen NHBD were offered. Three of them were contraindicated (1 sepsis, 2 congenital heart disease), and 12 procurements were performed (2 distant). 22 AHV were processed, 3 of them were discarded due to the infection. All other AHV were cryopreserved, 11 AHV were successfully transplanted by January 2005.

Conclusion: NHBD represent the most important source of AHV of pediatric size in the Czech Republic. The aim of paediatric cardiosurgery is to repair congenital complex heart diseases in very young age. From the point of view of ICU staff, the heart procurement gives the unique opportunity to demonstrate the topographical anatomy of thoracic organs, which is important for cardiopulmonary resuscitation.

Keywords: allograft heart valves, pediatric cardiosurgery, NHBD harvesting

PP-84

Localized acute disseminated encephalomyelitis of the brainstem

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3. Microbiology, JHH Anadolu Health Center, Istanbul, Turkey

Acute Disseminated Encephalomyelitis (ADEM) is an inflammatory condition generally seen in the young host. It typically follows a recent infection and presents with rapid onset of neurological symptoms and widespread involvement on magnetic resonance imaging studies. A six year old male patient presented to the emergency department with progressive weakness of five days duration that resulted in a locked-in state. The imaging studies revealed an isolated focal lesion in the brainstem with ring enhancement and mass effect radiologically indistinguishable from an abscess formation. The clinical picture and laboratory workup were more consistent with ADEM. He received treatment with pulse-dose steroids with only moderate response but made an excellent recovery after a course of intravenous immunoglobulin treatment. The atypical imaging studies are presented to underline that ADEM presentation might be focal and must be considered in the differential diagnosis of brain stem mass lesions.

Keywords: Encephalomyelitis, demyelinization, brainstem
PP-85
Pediatric laryngitis – Bosnian aspects

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The laryngitis is with difference the most frequent cause of obstruction of the upper airway in the childhood. It approximately constitutes 20% of the respiratory consultations that are taken care of in the pediatrics services of urgencies, needing hospitalization the 1–5% children. Acute laryngitis are produced almost exclusively by viral agents. One of the classic characteristics of croup is its fluctuating evolution. A child can get worse or improve clinically in 1 h. The distinction of the degree of gravity of the acute laryngitis is important on the basis of establishing a treatment. At this moment, although consensus exists as far as which the fundamental pillars of the farmacologics treatment of croup are budesonide and the adrenalin, is a continuous debate on the indications, dose and dosage of these drugs.

Discussion: The decision to intubar must be based on clinical criteria that include serious and progressive respiratory difficulty, cyanosis, alteration of the conscience, exhaustion and failure of the treatment with adrenaline nebulization. At the moment it exists sample evidence of its benefits in the treatment of croup moderate and burdens, and even in slight cases.

Laryngitis table

<table>
<thead>
<tr>
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<th>B</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<td>Moderate</td>
<td>High</td>
</tr>
<tr>
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<td>Diminished</td>
<td>Very</td>
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<td>Color</td>
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<td>Cyanosis</td>
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<td>Little</td>
<td>Moderate</td>
<td>Intense</td>
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</tbody>
</table>

Conclusions: During these last decades controversy to near the effect of the sistemics corticoids in the treatment of the laryngitis has existed. The Viral Laryngitis acute I (LAV I) appears mainly in children with ages between 3 months and 3 years, with a tip of incidence in the second year of life.

Keywords: Bosnia kids, laryngitis, nebulization, pediatrics

PP-86
Frequency in use of PAS (psychoactive substances) among adolescents of Belgrade, Serbia

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Background and aim: The young grow in conditions of strong social changes and crises, in a so-called society in transition. Normal evolution crises in our conditions cause the existence of insecure and unstable young people that resort to cigarettes, alcohol and drugs, in order to reduce tension and dread of this hampered growth.

Aim of this study is perception of the PAS frequency and prevention possibilities.
Methods: Data analysis received by survey of 503 eighteen year olds – high school students in Belgrade, Serbia.

Results: Smoking: Cigarettes were found at every second pupil (81%); 33% of them smoke and especially from 5 to 10 cigarettes beginning from the age of 14. Almost all of the pupils (96%) think that their professors smoke, although everyone criticizes smoking. Alcohol was being offered to 81% of pupils; every second pupil drinks and mostly beer, then vodka, spirits; starting by the age of 14. Every second pupil got drunk several times. Almost every one of them says that even their teachers drink although half of interviewees don’t approve that professors drink. Parents of the pupils that drink also take alcohol. (78%). Boys and girls drink equally. Drugs were offered to every second adolescent (48%); every fourth adolescent has tried drugs, and about 7.2% continued using it. They use marijuana the most, then ecstasy. Every second interviewee says that there are drugs in school playgrounds. As a very successful way of fighting against the PAS on the first place they put better means of information and knowledge, then conversations with parents, without force or duress, then doing sports, and then better legal regulations.

Conclusion: The young in Belgrade very often use the PAS. As a way of fight against the PAS that is used the most they pointed good information and knowledge. Realizing the gravity of the problem our doctors made a programme for prevention of addiction illnesses- by responsible behaviour- so that we could help them. The results are already visible.

PP-87

Promoting healthy food in preschool children

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3. Colegio de Primaria, Departament d’Educació, Spain

Background and aim: In the academic year 2005/2006 we conducted a workshop aimed at parents of children in preschool age. This was done in a school as a collaborative project of social-work. The centre has 185 students (Ethnics: 48% gypsy and 43% maghreb).

- Knowing and exchanging gastronomic cultures. - Promoting healthy breakfast at home/school. - Obtain that 35% of parents of children comes to the speeches. - Promote the consumption of cereals (daily) and fruit (two days per week).

Methods: The target was the parents. Afterwards we included those of primary school. We used polls, we handed out observation enquires (eating habits) before and after the workshop. We also did a survey of satisfaction to those attending the activity. Before the first workshop we met the culinary habits of the different cultures involved. The contents treated at the workshop were a sample cuisine, including development and distribution of healthy breakfast (home and school). The used materials was: videos, slides and diptychs (Catalan and Arabic languages).

Results: We achieved our goals, although a few people of the gypsy community participated. It was easier to establish healthy habits in the early childhood than to modify them into adulthood. Through the observational enquires we saw the replacement of industrial products (bakery) for natural products like fruit, milk although in a moderate way. As a result of this initiative we begin a programme that leads to community intervention at all centers both public and private in the zone influence of our health center.

PP-88

Investigation into the attention deficit hyperactivity disorder in teenagers from central Greece

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Background and aim: Attention Deficit Hyperactivity Disorder (ADHD) is characterized from inattention, hyperactivity and difficulties in paying attention to the school or obeying to instructions.

This study aimed to: (i) study the ADHD in teenagers living in central Greece, (ii) to determine possible differences between the two sexes, (iii) check whether there was any correlation between handedness and ADHD.

Methods: The current study is based on a sample of 100 pupils [Boys (B): 65. Girls (G):35] the majority of which were between 13–18 years old from four different cities of central Greece (Larissa, Kozani, Lamia, Thiva). To determine clinically the presence of ADHD the internationally known Rutter method was used that contains over 40 questions describing behavioral characteristics. The classification into a group of “possible ADHD” was done based on the answers that were given to the questionnaire. The current study does not take under consideration genetic factors or the effect of a problematic family environment.

Results: The percentage of pupils with possible ADHD (not diagnosis) is 54% (B: 53.8%. G: 54.29%). More particularly regarding the type of ADHD, the percentage of pupils with ADHD-predominant inattention is 13% (B: 12.31%. G: 14.29%), ADHD-predominant Hyper-
activity 13% (B: 13.85%, G: 11.43%), ADHD-mixed type 28% (B: 27.69%, G: 28.57%). Higher percentage of left-handers (LH) expresses ADHD as opposed to right-handers (RH) (LH: 64%, RH: 53%). Specifically regarding the relation of the type of ADHD and the handedness the study showed the following: ADHD-predominant inattention is (LH: 18.18%, G: 12.56%), ADHD-predominant Hyperactivity (LH: 9.09%, G: 13.48%), ADHD-mixed type 28% (LH: 36.36%, G: 26.97%).

Conclusions: Even though the sample size was representative it was also relatively small. The current study presents statistic data regarding detection of “possible ADHD” but not diagnosis of ADHD. The calculated number of possible ADHD pupils was found much higher than the bibliography. This was probably a result of mis-diagnosed ADHD in normal pupils. The sex and the handedness do not affect the detection of possible ADHD but this cannot be confirmed by the current study. More studies are needed in larger sample size to determine non-genetic factors affecting the development of ADHD.

**PP-89**

**Epidemiology of obesity in school age children of Georgia**

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Aim of the study was to assess nutritional status of children aged 5–6 years and to identify possible factors influencing growth pattern. The cross-sectional study covered randomly selected 754 children of 5–6 years old. The percentiles and Z scores of weight for age and for height, height for age, BMI and the percentile and Z score of BMI were calculated using EPI INFO program. To identify factors influencing child growth were used special questionnaire. The results revealed prevalence of children with overweight. The growth depend on the child sex, the high weight for age was more frequent in girls while height for age in boys. Approximately 13% of children’s BMI was under 5 percentile, 18% of children had risk of overweight and 16% obesity. Genetic factors such as low anthropometrical indices of parents, poor feeding practices of the children are suggested reasons for the low BMI. Length and weight of child at birth showed significant correlations with height at 5 years. Socioeconomic factors appeared to be of little importance as determinants of growth. At the same time income and per capita food expenditure was positively correlated with nutritional status.

Conclusion: We can conclude that factors influencing child growth can be considered as risk factors for growth and could be used to identify households at risk of malnutrition, as well as for overweight.

Keywords: obesity, BMI, nutritional status

**PP-90**

**Recognition of medical neglect: two cases**

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The medical neglect includes conditions related to the parents, family, or community that prevent children from obtaining clear medical needs. Medical neglect can also occur in health care system. Four-year-old boy admitted to the emergency room with signs of shock whom was given an oral antibiotic treatment for upper respiratory infection 2 days ago. He was hospitalized for intensive care support. In medical history preexisting diagnose of congenital adrenal hyperplasia was learned after insisting questions of doctors and he was taking some medications since newborn period. Normally the mother was taking care of the boy but since she had a new baby and at hospital. His father forgot to give his son’s pills. The case was considered as a medical neglect. Child abuse and neglect team had evaluated the child and family during hospital stay. Eleven-month-old girl presented to our outpatient clinic with severe malnutrition, developmental delay and phenylketonuria that was diagnosed seven months ago in an other hospital. The baby had a chronic disease, both parents had mental illness, and they were siblings. Although this condition of baby had known by the pediatricians of the baby, she was left in that high risk environment for two times. It was considered a medical neglect. Besides her medical treatment the team and child protective service evaluated and decided to institutionalize the child in a government child center. The recognition of such cases as a neglect, can lead to the resolution of problems despite deficiencies in the health care system and education.
Developmental screening of hospitalized young children during an acute illness

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Background and aim: In low and middle income countries where well-child care may not be optimally available, hospitalization of young children is an important period that may enable the opportunity to detect developmental difficulties and to enhance child development. The purpose of this study was to detect the rates of developmental difficulties in children aged 0–3 years that were hospitalized at Kecioren Research and Training Hospital in Ankara, Turkey.

Methods: All children who were hospitalized during a 6 months period were assessed with the Guide for Monitoring Child Development (GMCD). This instrument has been standardized and validated for Turkish children and is being used internationally. Data on sociodemographic information was also collected.

Results: Of the 64 patients 56% were boys. Most mothers had only primary school education and were younger than 25 years of age. On the GMCD 42% of children had language, 28% had motor and 35% had social-emotional developmental delays. One or more areas of delay was found in 52% of children. None of these delays had been detected prior to the hospitalization.

Conclusion: The results of this study demonstrate that developmental delays are common in hospitalized children and hospitalization offers an opportunity to screen for such delays. Appropriate training of health care professionals is needed to enable the screening of young children during hospitalization to detect and intervene with developmental difficulties.

PP-93

Preventive systematic check-ups of school children in Novi Sad

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State of health of school children is controlled by preventive systematic check-ups.

Aims: The aim was following the growth and development of children aged 7–18, as well as discovering anomalies concerning those children.

Methods: Research was conducted on 19,741 pupils, aged 7–18 years, in 2006/07, during preventive systematic check-ups.

Results and discussion: Considering normal values and deviations the highest percentage was of those who had normal nutritional status 77.28% and were well-developed 84.04%, there were 6.41% of underweighted, 16.31% were obese children. It was analysed anomalies regarding organic systems. There was 3.98% of children with heart disease, 7.69% with sight disorder, 0.48% with hearing disorder, 0.16% with speech disorder, 24.75% with bony-muscle anomalies. Comparing to data obtained 20 years ago when the percentage of obese children was 6%, and to those obtained 10 years ago when it was 11.15% we conclude that rate of obesity is growing.

Conclusions: Systematic check-ups of school children indicate high percentage of obese children (risk of cardiovascular disease). There is frequency of bony-muscle anomalies, but if they are found out early and treated well that enable more qualitative life.

Investigations into the frequency of lefthandness in primary school children (5–12 years old): a population study

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2. General Volos Hospital, National Health System, Greece
3. Public Health, Primary Schools of Thessaly, University of Thessaly, Thessaly, Greece

Background and aim: The global frequency of lefthandness (LH) ranges between 8–10%, while statistical studies place it between 1–30%. Its frequency ranges among different areas and between the two sexes i.e more predominant in boys (B) than in girls (G). Aim of this study is to investigate and determine the frequency of LH based on the hand that the children are writing with, its correlation with the sex, the age and the region, and discuss the results and their use in possible future correlations with other conditions and factors.
Methods: Having obtained written consent from the primary school authorities and in collaboration with the teachers a record of 811 pupils (P) (5–12 years old), was put together among 13 different primary schools (PS) and their corresponding nursery schools (NS) of the municipal areas of Feron (MF), Karlas (MK) and Armeniou (MA) all within a range of 13 km of MF-the central region.

Results: Median frequency (MF) of LH in all schools in both sexes was 8.38% [10.4% (B), 6.5% (G)], with a proportion of B/G = 3/2 = 1.5. The MF among PS pupils was 8.05% [9.07% (B), 6.6% (G)], with a proportion of B/G = 3/2 = 1.5. The MF in NS pupils was 10.6% [14.8% (B), 6% (G)], with a proportion of B/G = 5/2 = 2.5, a statistically significant difference among sexes. The MF of LH in 498 PS pupils in the municipal centers was 7.92% [7.9% (B), 6.5% (G)]. More specifically: MF: 6.5% [5.7% (B), 7.1% (G)], MK: 7.8% [9.1% (B), 7.5% (G)], MA: 6.5% [11.8% (B), 6% (G)]. PS pupils depending on their class (1st–6th C) and sex it was found: 1st C: 7.6% [10.25% (B), 5.6% (G)], 2nd C: 9.9% [14.3% (B), 6.5% (G)], 3rd C: 9% [10.5% (B), 7.6% (G)], 4th C: 7.1% [7.8% (B), 6.1% (G)], 5th C: 7.6% [7.9% (B), 7.2% (G)], 6th C: 7.5% [7.5% (B), 6.6% (G)]. The MF in the first three classes was: 8.9% [11.6% (B), 6.6% (G)] and in the last three 8% [8% (B), 7.2% (G)]. The fluctuated frequency among all the classes of PS is ranging from 9.9% (2nd C) to 7.1% (4th C).

Conclusions: The LH frequency found in this study and its predominance in the males is in agreement with the Greek and international bibliography. Regarding the NS sample collection the frequency is representative, but not exactly real since not all children attend the NS. The bigger frequency in the first classes of PS indicates the relation of the impact the environmental tension and intervention still have with the passage of time. The MF was shown to have negative relation with the distance from the biggest town center.

TPP-95

Thirty-three wild plants as teas in additional treatment of children in Croatia and Bosnia and Herzegovina


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3. Perinatology, General Hospital Sarajevo, Bosnia and Herzegovina
4. Pediatrics Department, First Medical Aid Sarajevo, Bosnia and Herzegovina
5. Institute for Family Medicine, Medical Faculty Sarajevo, Bosnia and Herzegovina

Herbal treatment has had a great tradition using in complementary people's medicine in Croatia and Bosnia and Herzegovina since ancient times of this European countries.

Aims: Authors described thirty three wild plants that could use for medical additional treatment for diseases in children’s age.

Methods: There are two methods of making herbal teas, infusion and decoction. Adequate concentrations and quantity of tea, and the best way of using as drink or cold can’t make adverse reactions and harmfulness effects in this Bosnian plants. There are more then three thousands sorts of plants for medical cure at adults in Croatia and Bosnia and Herzegovina and several hundreds kinds of wild plants for treatment of children /description of 33 the most often in using.

Results: Results of using this plants in medical additional treatment as supplements for conventional pediatrics therapy showed great benefits in sick Croatian and Bosnian kids.

Discussion: Most herbal traditions have accumulated knowledge without modern scientific controls to distinguish between the placebo effect, the body’s natural ability to heal itself, and the actual benefits of the herbs themselves. There is a danger that herbal remedies will be used in place of other medical treatments which have been scientifically proven to be safe and effective.

Table 1: Herbal therapy-33 wild plants at additional in kids 1

<table>
<thead>
<tr>
<th>Latin Name</th>
<th>Croatian Name</th>
<th>Pediatrie treatment</th>
<th>Substitution for conventional pediatrics therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Bajraktarevic</td>
<td>A. Bajraktarevic’</td>
<td>S. Putica</td>
<td>A. Skopljak</td>
</tr>
<tr>
<td>1. Herbal Department, Herbal Center, Bosnia and Herzegovina</td>
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<tr>
<td>2. Pediatrics Department, Public Health Institution Sarajevo, Bosnia and Herzegovina</td>
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<td>3. Perinatology, General Hospital Sarajevo, Bosnia and Herzegovina</td>
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<td>4. Pediatrics Department, First Medical Aid Sarajevo, Bosnia and Herzegovina</td>
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<tr>
<td>5. Institute for Family Medicine, Medical Faculty Sarajevo, Bosnia and Herzegovina</td>
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</table>

Table 2: Herbal therapy Bosnian experience

<table>
<thead>
<tr>
<th>Number of children</th>
<th>Number of children in additional treatment with herbal therapy</th>
<th>Success in additional treatment of children with herbal therapy</th>
<th>Day of hospitalization without and with herbal therapy</th>
<th>Duration of hospitalization without and with herbal therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>83.3%</td>
<td>56.6%</td>
<td>75%</td>
<td>90%</td>
</tr>
<tr>
<td>300</td>
<td>83.3%</td>
<td>56.6%</td>
<td>75%</td>
<td>90%</td>
</tr>
<tr>
<td>300</td>
<td>83.3%</td>
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<tr>
<td>300</td>
<td>83.3%</td>
<td>56.6%</td>
<td>75%</td>
<td>90%</td>
</tr>
</tbody>
</table>

Table 3: Herbal therapy Bosnian experience
Conclusions: The use of herbs to treat disease is almost universal among non-industrialized societies as Bosnia and Herzegovina sometimes in Croatia, but new times and new knowledge can offer changes in rich countries. Herbal and home therapies are commonly used in this pediatrics population.

Keywords: Croatia, Bosnia, Kids, Herbal treatment,

Additional

PP-96

Mothers performing baby massage for their babies perceive their babies more positively than mothers non performers

S Inal

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Background and aim: Touching is particularly of utter importance for the newborn in communicating with the environment.

The purpose of this study is to bring up whether performing baby massage which makes it possible for mothers to touch, to have eye contact and to communicate with their babies after birth perceive their babies more positive.

Methods: This research was performed in Istanbul University Istanbul Medicine Faculty Obstetrics and Gynecology Department with 40 controls and 46 study group participations, totally nullipar 86 mother and their healthy babies. In the first part of the research Neonatal Perception Inventory-I (NPI-I) developed by Broussard and Hartner, was performed to mothers of the both groups. In the second part of the research baby massage was thought to study group mothers and ensured to perform regularly. In the third part of the study, first month after birth, Neonatal Perception Inventory-II (NPI-II) was performed to both control and study group mothers. Mothers' perceiving conditions was evaluated in three groups according to scores gained from the inventory. Neonatal Perception Inventory Score (NPIS) “0” meant that mothers identify their babies as if another babies, in other words they perceive them “moderately”. Mothers whose NPIS were above “0” perceive their babies “positive”. Mothers whose NPIS were under “0” perceived their babies “negative”.

Results: When the results were evaluated and two groups were compared in means of factors that would affect mothers’ baby perception; age, education, working condition, labor condition, taking help for care, willingness of pregnancy, getting a course for baby care before birth, first embracing time after birth, first feeding style, babies’ birth weight and height; statically significant difference was not determined (see Table 1) (P > 0.05). When mothers’ baby perceptions were evaluated, it was determined that baby massage performing mothers, compared with non-performers, perceived their babies statically significantly “positive” (see Table 2) (X^2:18.56; p:0.000).

<table>
<thead>
<tr>
<th>Table 1: Comparison of mother and baby features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mothers features</td>
</tr>
<tr>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Mother’s age</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Getting a course for baby care before birth</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Working conditions</td>
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<tr>
<td></td>
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<tr>
<td>Labor condition</td>
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<tr>
<td></td>
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<tr>
<td>first embrace</td>
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</tbody>
</table>

Table 2: Mothers’ baby perceptions conditions

<table>
<thead>
<tr>
<th>Baby perceptions conditions</th>
<th>study group</th>
<th>control group</th>
<th>X^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>perceiving positive</td>
<td>56</td>
<td>56</td>
<td>18.56</td>
</tr>
<tr>
<td>perceiving moderately</td>
<td>7</td>
<td>7</td>
<td>0.84</td>
</tr>
<tr>
<td>perceiving negatively</td>
<td>3</td>
<td>3</td>
<td>1.33</td>
</tr>
</tbody>
</table>

Conclusion: As mothers performing baby massage are similar with non performing mothers in means of baby perception variables associated with mothers and babies demonstrate that performing baby massage contributes mothers’ baby perceptions “positive”. Those results demonstrate performing baby massage strengthens mother-baby relationship and thereby contribute to prevent prospective child abuse and negligence.

Keywords: baby massage, neonatal perception, nursing, mother-baby relationship

PP-97

Influence of hiding diabetes on adherence to peers, quality of life and metabolic control in adolescence

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Adherence difficulties in adolescent population are well known particularly in patients with type 1 diabetes who make negative attribution of friend reactions.

Aim is to determine whether adolescents speak about diabetes with their friends or not, and how does it influence on peer involvement, quality of life and metabolic control.
Material: A sample of 93 adolescents aged 11–19 years with type 1 diabetes diagnosed for at least 1 year, completed instruments measuring demographics, consistency with school friends and quality of life. Metabolic control was assessed by the average annual HbA1c level.

Results: Patients were assigned in two groups: those who speak openly about diabetes 68 (73.1%) constitute the first group, while those speaking just with few closest friends 20 (21.5%) and not speaking about diabetes with peers at all 5 (5.4%) constitute the second group. We found that adolescents from both groups are in good consistency with peers, but those hiding diabetes are less satisfied with their lives ($P < 0.05$). Although mean HbA1c level among adolescents who hide their diabetes was 10.01 ± 1.98% comparing to 9.57 ± 1.56% in group of children who speak openly, there were no statistical significance among them ($P > 0.05$).

Conclusions: Adolescents mostly speak about their diabetes with peers, while consistency with friends and metabolic control are not under negative influence in those who rather choose not to speak. However, those who do not hide their diabetes believe to have better quality of life.

**PP-98**

**The relationship of obesity and asthma in children**

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Background and aim: It has been suggested that prevalence of obesity rose significantly in asthmatic patients. The aim of this analysis was to investigate the body mass index in children with asthma compared to healthy age matched control group and to determine whether asthma severity is associated with body mass index.

Methods: Two hundred and forty asthmatic children aged 2–14 years were included and compared to 245 healthy controls.

Results: No significant difference was observed between asthmatic children and controls according to weight and body mass indexes. Prevalence of obesity and overweight in asthmatic children was no different than controls.

Conclusion: Although an increase in prevalence of obesity was not observed in asthmatic children, there is a need for longitudinal studies.

**PP-100**

**The state of nutrition and possible factors of ethiopathogenesis of obesity among school children**

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Background and aim: Supervision of nutritional state of the children represents in many ways useful activity because it shows adequacy of growth process and development of the children. It helps realization of the current state and it can serve as a factor of prognosis of their health state in the future.

Aim of our investigation was to establish the status of nutritional of school children in our country, then, to separate the category of fat children and to set possible pathogenic factors of their obesity, specially having in mind obesity in the family. Also very important is to have in mind anthropometric and other characteristics of these children in neonatal and infant period.

Methods: Our examination includes 4131 school children to whom status of well nutritional was checked with anthropometric methods and mod. BMI for children, and status of nutritional of parents was shown by BMI.

Results: The results of examination showed that there is a growth prevalence of the obesity when compared to pre-
arious examination of our authors. This prevalence is higher among girls. The obesity is the most usual among ten-year-old children and the rarest among children who are seven and fifteen. When girls are concerned, the obesity is very often when they are 9, 10,11,14,15 years old, and for boys when they are 7, 8, 12, 13 years old. 74% of the obese children have at least one obese parent (mother in 58.0% of cases while 26.0% of obese children have both parents who are obese). Body mass at birth and length of gestational period continuance don't influence significantly current state of nutrition of the examined children. The smallest proportion of the obese children can be found among children who are born as third or who are born later. Children who, as infants, ate two kinds of food were the least obese.

Conclusion: Our study suggests autochthonous standards of state nutritional for our children.

Keywords: Antropometric, standards state of nutritional obesity, school children

PP-101

New applications in measuring blood glucose: use of alternate sites

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For millions of diabetic patients all over the world, years of blood glucose self-monitoring with readings taken several times a day, is an inevitable aspect of insulin therapy. Self monitoring of blood glucose plays vital role in the design of a treatment plan of children with diabetes mellitus. Regular self monitoring of blood glucose enables appropriate changes to be made in the treatment and management of child's diabetes to meet individual goals and needs. Barriers to frequent self monitoring include the pain and trauma associated with the finger pricks, which inevitably occur as a result of drawing blood for the tests. Noncompliance with blood glucose monitoring is common, especially in adolescents. Alternative site testing (AST) is the process by which people with diabetes take blood samples from their forearms, thighs or other alternative sites instead of fingertips to measure blood glucose levels. Although modern blood gluco semeters require only a small sample of blood, monitoring remains a problem. However, many diabetic patients find self monitoring with blood samples taken from fingertips painful, and regard it as chronic irritation, which leads to loss of motivation and weakening of compliance. Using an alternative site for sampling may be beneficial to the patient and reduce level of pain they experience. The main purpose of this review is to present a comprehensive discussion of the studies on the alternate sites other than capillary in measuring blood glucose in children along with their reliance intervals.

Keywords: blood glucose meter, alternate site, glucose testing child

PP-102

Crisis with a rare etiology in type 1 diabetes child

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Autoimmune polyglandular syndrome (APS) affecting several endocrine organs, was first described by Schmidt in 1926. Endocrine pathologies can be accompanied by autoimmune diseases of the gastrointestinal tract (e.g. celiac disease) and the skin (including vitiligo and alopecia). The syndrome has four types. A case with autoimmune polyglandular syndrome type 2 (APS2) will be presented in which primary adrenocortical insufficiency was associated with type 1 diabetes and autoimmune thyroid disease. This type is most uncommon, particularly in childhood. APS2 is a genetically complex disease, both autosomal-dominant and polygenic inheritance have been reported. Incidence rate is reported to be 1:20,000, the male-female ratio is 4:3. Type 1 diabetes is the first presentation in the majority of the cases, which is usually followed by Addison disease. Thyroid autoimmunity may present at any time during the disease process. An 8-year-old child with type 1 diabetes of 6 years duration presented with fatigue, repeated vomiting and nausea for six month (!). Eventually, after a full day of vomiting he was taken to hospital, where he became unconscious. Routine laboratory and endocrine investigations confirmed Addison disease. In the course of additional investigations autoimmune hypothyreosis was also diagnosed. The Addison crisis was successfully treated with rehydration, electrolyte and hormone replacement. On multiple hormone replacement therapy he remains symptom-free with normal somato-mental development. The aim of our case-presentation is to improve the diagnostic acumen of general practitioners and community paediatricians by emphasising the possibility of autoimmune comorbidity in type 1 diabetes children. Autoimmune thyroid disease is a common association, Addison disease a rare, but important comorbidity because insulin hypoglycaemia aggravated by cortisol deficiency can be a deadly, but preventable combination.

PP-103

Excessive vitamin D intake

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Hypervitaminosis D is due to excessive intake of vitamin D. It may occur with long term high intake or with an acute ingestion. Most cases are secondary to misuse of prescribed or nonprescribed vitamin D supplements. We report on a
case of severe hypercalcemia due to vitamin D intoxication. An 11-month-old male patient was admitted vomiting, weakness and loss weight. Physical examination showed hypotonia and signs of moderate dehydration. In his medical history he had a progressive vomiting during last one month. On further questioning, the mother said that she had been giving to her son 150,000 units of oral vitamin D per day as vial preparation for 16 days by description of a pharmacy employee. In that prescription the physician had ordered 400 units of vitamin D as drops per day. A laboratory investigation revealed the following values: serum calcium level: 17 mg/dL, phosphorus: 6.8 mg/dL, alkaline phosphatase: 189 mg/dL, potassium: 3 mEq/L, Parathyroid hormone: <3 pg/mL, 25 hydroxvitamin D: 300 ng/mL. Renal ultrasonography showed bilateral nephrocalcinosis. Liver and kidney functional tests were normal. Based on these findings, hypervitaminosis D was diagnosed and the therapy was initiated. This case report emphasizes the importance of to detalle the correct usage of especially critical drugs according to physician’s order.

Keywords: Hypervitaminosis, vitamin D, intoxication, infant

PP-104

Hypocalcemia due to maternal vitamin D deficiency

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Vitamin D deficiency results in rickets, a term signifying failure to mineralize growing bone or osteoid tissue. The rickets in early infancy is almost due to maternal vitamin D insufficiency. We present two early infancy rickets cases because rickets resulting from vitamin D deficiency is a preventable disease. CASE 1: A ten week old, full term male infant was applied our emergency department with convulsions which resistant to anticonvulsant therapy. His serum calcium (Ca) level was 5.9 mg/dL. Physical examination was normal. Other laboratory investigations in blood, revealed alkaline phosphatase (ALP): 747 u/L, parathyroid hormone (PTH): 257 pg/mL (12-69 pg/mL), 25 hydroxyvitamin D (25-OH D): 2.7 ng/mL (10-50 ng/mL). Maternal 25-OH D was 3.7 ng/mL. CASE 2: A five month old, full term male infant hospitalised for bronchopneumonia. Initial laboratory tests showed asymptomatic hypocalcemia (Ca: 5.8 mg/dL). Physical findings related rickets was not found. Other laboratory parameters were phosphorus (P): 4.3 mg/dL, ALP: 528 u/L, PTH: 304 pg/mL, 25-OH D: 1.5 ng/mL. Maternal 25-OH D was 3.5 ng/mL. Their mothers were neither taking nutritional, nor vitamin supplements and they exposed inadequate sunlight during pregnancy. Both patients were exclusively breastfed. Based on physical and laboratory findings; both cases were diagnosed early infancy rickets result from maternal vitamin D insufficiency. And oral calcium with vitamin D replacement therapy were initiated. We conclude that it is important to supplement vitamin D and adequate exposure to sunlight in pregnancy and early lactation period. In addition, exclusively breast-feeding infants should take vitamin D supplementation.

Keywords: vitamin D, hypocalcemia, infant

PP-105

Severe autoimmune thyroiditis as a cause of stunted growth in infants

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The most frequent cause for acquired primary hypothyroidism during infancy is autoimmune thyroiditis. Common symptoms of this disease in infants are stunted growth, heat regulation disturbances, increasing physical exhaustion and constipation.

Case: We report on a 4½-year-old girl of short stature, presented with suspected palmar and plantar edemas and with pericardial effusion under the suspicion of an autoimmune disease. The clinical diagnostics could exclude any rheumatic disease. Within the diagnostics, we could detect severe hypothyroidism with TSH of 474 mU/L (0.4–5.8), TT4 < 1.6 µg/dl (7–14), antithyroid peroxidase antibodies of 2491 U/mL (<100), antithyroglobulin antibodies of 139 U/mL (<100), negative TSH-receptor-antibodies. Ultrasound displayed a normal thyroid volume (1.1 mL) with hyperechogenic structure. The past medical history showed a normal development until her second year of age with subsequent progressive growth deceleration (height-SDS 2 years: 0.7 SDS; 4.5 years: -2.0 SDS), increasing physical exhaustion, dry skin and macroglossia, but no vitiligo. L-thyroxine treatment was initiated at 50 µg per day, thyroid function became euthyroid and ?edema? (myxedema) and pericardiac effusion disappeared. After 3 months of therapy catch-up growth was observed.

Conclusion: Acquired primary hypothyroidism is a rare disease during infancy. Missed diagnosis can lead to neurological injury and mental retardation. Our patient suffered from autoimmune thyroiditis with cardinal symptoms of growth deceleration and myxedema. The diagnostic work-up of infants presenting with growth deceleration should therefore always include hypothyroidism.

PP-106

Insulin therapy and metabolic control in children with diabetes mellitus type 1

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3. Pediatric Endocrinology, MedCenter Cacak, Serbia

Background and aim: Individual intensive substitution of insulin is vital for achieving optimum metabolic control in children and adolescents suffering from type 1 diabetes.
The aim is to examine the basic factors which determine daily insulin needs and metabolic control; to establish average insulin doses of different ages and sexes and to present them in the form of figures – percentile tables.

Methods: 100 examinees (55 f and 45 m), ages 2–18 analysed at the Children’s University Hospital in Belgrade, from 1994 to 2002. All achieved a satisfactory metabolic control of diabetes after the period of the remission of the disease; 80% conventional insulin therapy (CT), and 20% intensive therapy (IIT), using humane insulins.

Results: Data analysis – insulin dose at ages 3–9 is 0.8 IJ/kg/24 h in both sexes, and that from the age of 10 the need for insulin considerably increases with metabolic control deteriorating at the same time (HbA1c 8.56 versus 9.23%). Insulin needs are the greatest during adolescence, f(1.20 IJ/kg/24 h). The examinees IIT achieved a better metabolic control in comparison to their peers on CT (8.84 versus 9.40%).

Conclusion: The ranges of insulin doses show that every child needs an individual approach and estimate of insulin needs. Daily insulin needs grow with chronological age (0.8 before adolescence and 1.16 IJ/kg/24 h in adolescence) and f get greater insulin doses than m, especially during adolescence. Insulin needs in percentiles (P5–P95) and presented in the form of figures enable simple visualization of the range of insulin doses at different ages (Figs 2 and 3). There is a considerable deterioration of metabolic control during adolescence. (HbA1c 9.23%), especially in girls (9.45%). The IIT is combined with greater insulin needs and lower values of HbA1c.

Keywords: insulin dosage, adolescents, type 1 DM

PP-107

Clinical and molecular genetic findings in a 6-year-old Bosnian boy with triple A syndrome

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The triple A syndrome is a rare autosomal recessive disease that is characterised by the triad of ACTH-resistant adrenal insufficiency, achalasia and alacrima. In most patients, neurological and dermatological abnormalities are associated features. We report on the first Bosnian patient with triple A syndrome. Endocrine investigation confirmed primary adrenal insufficiency at the age of 5.8 years. Two months later achalasia was diagnosed, and in the presence of alacrira, the patient satisfies the diagnostic criteria of triple A syndrome. In addition, a large number of associated neurological and dermatological features was present in this patient. Moreover, he has dysmorphic facial features, which have not been previously described in triple A syndrome. Triple A syndrome was confirmed by molecular analysis, revealing a nonsense mutation p.W84X. The parents are both heterozygous carriers of the mutation. The affected twin brother unfortunately died from a hypoglycemic shock after a normal cortisol rise in an ACTH stimulation test. We conclude that the triple A syndrome is associated with the risk of sudden death from adrenal crisis. Therefore specific attention should be given to the search for other associated features when a child presents with at least one of the three initial cardinal features. Further triple A syndrome patients carrying the identical homozygous p.W84X mutation have to be studied to assess a genotype-phenotype relationship for this mutation.

Keywords: insulin dosage, adolescents, type 1 DM

PP-108

Neonatal hypothyroidism screening program: the Madina region experience – Kingdom of Saudi Arabia

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Screening for metabolic disorders has been established as an essential services for children in developed countries. The last effectiveness studies were encouraging to maintain and even to expand those services. To established the screening for congenital hypothyroidism (SCH) in Saudi
Arabia almost 10 years after developed countries, many hurdles faced the programme, first the policy maker in the MOH required local scientific experience to convince them. In 1987 a Pilot study showed that the incidence was among the world’s highest. 1989 MOH started the National S.C.H. To establish an effective efficient programme, many problems had to be solved like the funding, man power, the technical, the supply of kits, the transport and the logistics for the management of the cases in the earliest possible time. It took three years to establish a full service with 90% coverage, but to maintain the service after it proved its effectiveness, was rather challenging because many problems started to appear in maintaining the provision of kits, laboratory technician and the chain for transportation. The reasons were primarily due to administration in addition to changes in the strategies and policy makers in the MOH, as well as, budgeting and priorities for preventive and curative medicine. In 1990 Madina Region as part of the national program in the Kingdom of Saudi Arabia, started for congenital hypothyroidism in Madina Maternity & Children’s Hospital during the last 15 years from Sep. 1990 till Sept. 2006. 346,000 newborn were screen by TSH enzymatic assay utilizing cord blood. 81 were diagnosed as primary congenital hypothyroidism. This gives the incidence rate in Madina region is 1:4300 which is in agreement with internationally accepted incidence of one between three to five thousands live birth. Active participant of medical staff in addition to general public awareness are essential for successful screening program and effected early treatment.

PP-109
Bosnian aspect using tobacco in children in Sarajevo- passive and active smoking
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Background and aim: Nicotine is frequently the first substance of abuse used by children and youth in Bosnia and Herzegovina. Bosnian statistics show that about sixty percent of tobacco users start before they are 16 years old. Smoking’s a hard habit to break because tobacco contains nicotine, which is highly addictive.

Methods: The first effect of passive smoking to be documented in Bosnian children was an increased rate of illnesses affecting the lower respiratory tract. We compare many studies articles passive smoking to lung cancer in nonsmoking adolescents, children and adults living with spouses who smoke. Exposure during childhood to environmental tobacco smoke may also be associated with development of cancer during adulthood.

Results: Results of epidemiologic studies at children in Sarajevo, Bosnia and Herzegovina, provide strong evidence that exposure of children to environmental tobacco

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<tr>
<th>AGE OF CHILDREN</th>
<th>NON SMOKER</th>
<th>SMOKER</th>
<th>BOTH PARENTS SMOKERS</th>
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<td>0-12 (1000)</td>
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<td>13-15 (1000)</td>
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<td>16-18 (1000)</td>
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<td>729</td>
<td>539</td>
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<td>TOTAL (3000)</td>
<td>2556</td>
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Chart 1

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Table 2

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Chart 2

* 357 CHILDREN SMOKERS AGE 13-15 (16.87%) FROM 2000 CHILDREN
smoke is associated with increased rates of lower respiratory illness and increased rates of asthma and sudden infant death syndrome.

Discussion: Some Bosnian teens who smoke say they start because they think it helps them look older, others smoke because they think it helps them relax. The pediatrician should be prepared to discuss the issue of tobacco cessation at every opportunity.

Conclusions: A tobacco-free environment is imperative, because tobacco is a major health hazard to infants, children, adolescents, and their families. Bosnia and Herzegovina is poor European country after the war that it needs urgent supporting programme for tobacco cessation in children and adolescents. Tobacco advertising and promotion are appealing to young people and make a powerful impression influencing them to experiment with cigarettes, cigars, and smokeless tobacco.

Keywords: children, tobacco, active-passive smoking, illness, Sarajevo

PP-110

Breast feeding attitude of mothers in the first half hour of life

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Aim of this study is to investigate the factors affecting mothers breast feeding attitude in the first half hour of life.

Material/Method: In this study, we questioned 1011 mothers that gave birth between 18/4–30/5/2007 in Zeynep Kamil Hospital. For this purpose; age, education status of the mothers', working status, type of pregnancies (whether they were planned or not), number of antenatal follow up, total weight gain in the pregnancy, route of delivery, gestational age, gender, birth weight, education status of the fathers', the income of the family, and feeding status of infants in the first half hour of life were questioned. For statistical analysis, Pearson correlation and chi-square test were used.

Results: The mean maternal age was 26.5 years. Educational status of the mothers were: 60% primary school, 15.5% high school, 13.9% middle-grade school, 4% university and 6.9% were illiterate. 9.9% of the mothers were working, 14.2% were smoking and 80.3% had routine antenatal care. 2.2% had no antenatal follow-up. Educational status of the fathers were: 53.1% primary school, 23.2% high school, 16.3% middle-school, 5.8% university, 1.5% were not literated. 60% of the families had monthly income between 500–1000 YTL, 20.4% had income higher than 1000 YTL, 7.7% had income lower than 500 YTL. The rate of breastfeeding in the first half hour of life was 65.8%.

Conclusion: Age, educational and working status of the mother, educational status of the father, monthly income do not affect breast-feeding attitude in the first half hour of life, antenatal follow-up and planned pregnancies had a positive, whereas sectio deliveries had a negative effect on breast feeding in the first half an hour of life.

Keywords: breast feeding, newborn, first half hour of life, attitude of mothers

PP-111

The effect of mothers’ socioeconomic status to birth weight

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Aim of this study is to investigate the effect of mothers’ socioeconomic status on the neonates’ birth weight.

Method: 1011 mother and their neonates who were born between 18/4–30/5/2007 in Zeynep Kamil Hospital were
Included in this study. Age, height, weight, education status of the mothers', smoking habit, parity, number of antenatal follow-up, total weight gain in the pregnancy, route of delivery, gestational age, gender, birth weight of the newborn, fathers' education status, the income of the family and whether the pregnancies were planned or not were noted. For statistical analysis, Pearson correlation and chi-square were used.

Results: All of the mothers were living in Istanbul. The mean age was 26.5 years. Educational status of the mothers were: 60% primary school, 15.5% high school, 13.9% middle-gradeschool, 4% university and 6.9% were illiterate. 9.9% of the mothers were working. 14.2% were smoking. 80.5% had routine antenatal care. 2.2% had no antenatal follow-up. Mean gestational age was 37.5 weeks and the mean birth weight was 2994 g. Fathers' educational status were: 53.1% primary school, 23.2% high school, 16.3% middle school, 5.8% university and 1.5% were not literate. 60% of the families had income between 500–1000 YTL, 20.4% had income higher than 1000 YTL, 7.7% had income lower than 500 YTL.

Conclusions: The age of a mother, working status of her, antenatal follow-up, monthly income, educational status of the mothers' and fathers' did not have an effect on the birth weight. Planned pregnancies had a positive effect whereas smoking had a negative effect on the birth weight.

Keywords: Newborn, birth weight, mother socioeconomic status

PP-112

Epidemiological trends of pediatrics emergency in a tertiary hospital in Ankara

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Background and aim: We conducted the study to determine demographic data of the children that were hospitalized in the same pediatric emergency because of poisoning during 1 March 2005-31 December 2006, and describe the trends of poisoning in children by comparing to the period 1 January 1974-31 November 1981.

Methods: Retrospective data were used to analyze the pediatric emergency admissions among all childhood cases of Ankara Training and Research Hospital, in Ankara, Turkey between two separate time periods. The distribution of age, gender, causes of poisoning, seasonal variations and outcome of the poisoned children were compared to determine points where the trends changed significantly.

Results: The total number of children hospitalized because of poisoning was 1139 during years 1974–1981, and 1589 during 2005–2006, which shows that there was an annual increase of 5.5 times. The highest rates of poisoning were observed among children between ages 1–4 years, in all years. However, the rates were lower during 2005–2006 (48.4%) than in 1974–1981 (63.3%), instead the rates in ages 5–14 increased in 2005–2006 ($P < 0.001$). When two time period were compared there was not a difference according to gender ($P > 0.005$). The rates of poisoning was highest in summer ($n = 411, 56\%$) during years 1974–1981, whereas in autumn during autumn ($n = 460, 29\%$), during 2005–2006 ($P < 0.001$). The most common cause of poisoning in childhood was due to drugs. In years 1974–1981 the rate of carbon monoxide poisoning was $6\%$ ($n = 69$). However, the rate was significantly higher in 2005–2006 years ($n = 545, 34\%$). Food poisoning rates had inversely decreased from $11\%$ ($n = 126$) to $2.8\%$ ($n = 45$) ($P < 0.001$). In 2005–2006 death did not occur. Complete recovery rates increased from $77\%$ ($n = 871$) to $91\%$ ($n = 1443$) ($P < 0.001$).

Conclusions: Poisoning rates increased significantly among children admitting in Ankara men throughout the period 1981-2006. Among demographic data analysis of children statistically significant trend was observed in ages, suicide rates, seasonal variations, causes of the poisons and outcome. To describe the trends and changes may have significant contribution to realize potential hazards early. In our country, they do give the trend in Turkey, the incidence of suicide cases and carbon monoxide poisonings are increasing, indicating that a strong emphasis should be placed on a prevention campaign which can at least reduce the occurrence of accidental pediatric poisoning.

PP-113

Effects of air pollution on respiratory health of children

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Background and aim: Children living in the big communities are more vulnerable to air pollution than adults for several reasons. Their body and lungs are still developing, they breathe more rapidly and spend more time outside. Air pollution by respirable particles <2.5 and 10 µm, called particulate matter (PM) is considered to cause obstruction of the airways and increased respiratory infections, especially in children. The aim of this study was to investigate possible influence of air pollution with PM2.5 and PM10 on children's respiratory diseases.

Methods: We included children from birth to 18 years who attended to primary care pediatrics for respiratory
illnesses (bronchiolitis, bronchitis, pneumonia and asthma) during the winter season 2007–2008. Air pollution, particularly PM2.5 and PM10, were routinely measured in the several stations in Belgrade, Serbia.

Results: We found a strong correlation between the levels of pollutants and number of pediatricians consultations for respiratory diseases, mostly in infants. Our study showed increased number of respiratory infections and asthma exacerbations during the period of high concentrations of PM2.5 and PM10.

Conclusions: Air pollution may act as a trigger for the occurance of children’s respiratory illnesses. Pediatricians play an essential role in educating local representatives, school officials and children about harmful health effects of air pollution.

Keywords: air pollution, respiratory diseases, children

PP-114
Disasters - Bosnian pediatrics experience
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2. Pediatrics Department, First Medical Aid, Sarajevo, Bosnia and Herzegovina
3. Pediatrics Cardiology, Pediatrics Clinic, Sarajevo, Bosnia and Herzegovina
4. Institute for Family Medicine, Medical Faculty of Sarajevo, Bosnia and Herzegovina
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Background and aim: Kids are very sensitive as most vulnerable part of every population. Every naturals disasters and wars have calamity, losing of lifes, hardly injuring, morbidity and appearing infections and others diseases, starvation, increasing number orphans children and poverty for consequence.

Methods: Authors used retrospectives methods of pediatrics examination and statistics results for comparing structure of disease at the children in bad conditions and normal conditions, and recent disasters and catastrophes in the world.

Results: Almost there is a risk of fifty percent increase in the incidence of enterocolitis, pneumonia and meningitis. Occurance of complicated infections as complications of injured children, severe common colds, skin infections, urinary infections, exarcebations of chronic diseases and endemities presence of, tuberculosis, hepatitis A and C, nephrotic syndrome and others continentals or tropics diseases were twice and more times then in normal situations.

Discussion: Similiar situations and children’s diseases can happen in other catastrophes and natural disasters as wars, but there are some specific characteristics of children’s morbidity in those situations and transitory characteristics of every bad single catastrophe.

Conclusions: Authors compared influences natural disaster as Bosnian war (1992–1995) and others disasters and catastrophes in world (as earthquake in Pakistan 2005, hurricane Katrina USA 2005, Tsunami 2005, war in Lebanon 2006) that we find many similarity situations in structures in diseases in that bad conditions

Keywords: pediatricians, kids, disasters, mortality, morbidity

First five diseases on pediatrics clinic Sarajevo 1993–94

Bosnia WAR second year 1993
PP-115

Beta thalassemia major in Qazvin province, Iran

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Background and aim: Thalassemia is the most prevalent hereditary anemia in the world. The disease results in serious problems in the human health. Beta thalassemia major is the severe and homozygote form of beta thalassemia accompanying with high therapeutic expenses, complications and high rate of mortality.

The epidemiologic pattern of beta thalassemia major in Qazvin province

Methods: All of total of 102 patients suffering from beta thalassemia major supervised by Ghazvin thalassemic center were investigated in this study from August to November 2006. The data were derived through medical examinations, laboratory tests and their medical records. All of laboratory tests were carried out in blood banks of Ghazvin province. The weight, height and BMI were measured through standard methods and were compared with international standard (NCHS). Data were analyzed with statistical methods.

Results: Of 102 patients, 41 patients (40.2%) were male and 61 (59.8%) female. The age of patients were between 1 to 29 years with average 14.79 ± 7.66 years. The 40 patients were below 12 years old. The parents of 59 cases (57.8%) were relatives. The most prevalent complications were heart diseases and Hepatitis C with 45 (44.1%) and 20 (19.6%) respectively. The hemoglobin average of the patients was 8.6 ± 1.13 g/dL and the average of serum ferritin was 2343.92 ± 1885.10 ng/mL. The average of weight, height and BMI of thalassemic patients were less than international standard (NCHS) and the difference was significant in some groups.

Conclusion: This study revealed that the prevalence of beta thalassemia major in Ghazvin province is 10 cases per 100,000. The average of weight, height, and BMI were less than international standard (NCHS). Heart diseases and hepatitis C were the most common complications in these patients. The average of hemoglobin and serum ferritin were not in a desired levels.

Keywords: beta thalassemia, major heart disease, Hepatitis C, Hepatitis B, NCHS

PP-116

Assessment of cardiovascular disease risk in school children

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Background and aim: Interaction of the cardiovascular risk factors with children causes progress of atherosclerosis on blood vessels that leads to premature clinical sequel of atherosclerosis in later adult age. To establish frequency of cardiovascular risk factors with school children.

Methods: Two hundred and forty children (54.1% boys and 45.9% girls) in age from 7 to 15 have been included in this study. Patients body mass index, blood pressure, lipid status, nutritional habits and physical activity have been observed.

Results: Obesity has been established with 9.58% patients, overweight has been established with 10.83% of children. Hypertension has been established with 6.66 of the children. 12.91% of children had higher cholesterol total, 14.58% of the children had higher LDL cholesterol, higher triglycerides had 7.5%, and lower HDL cholesterol had 3.75% of the children. Hypertension and dyslipidemia were strongly associated with overweight/obesity. Positive family history for cardiovascular disease has shown in 15.83% cases and low physical activity has been observed in 25.41% of the cases. Unhealthy nutritional habits had 30.83% of the cases. In total 41.25% of the children results in carrying one or more risk factors for cardiovascular disease development. One risk factor has been observed in 22% of the children, two risk factors have had 11.5% of the children, three and more 7.75%.

Conclusions: Study shows that significant number of the study group has one or more cardiovascular risk factors that can lead to premature artherosclerosis. Using massive screening cardiovascular risk factors, by practicing Mediterranean diet and higher physical activity, can reduce premature clinical sequel in atherosclerotic processes.

Keywords: assessment, cardiovascular, risk factors, child

PP-117

Evaluation of the laboratory personnel immunity against hepatitis B virus working in the medical diagnostic laboratories in Shiraz, Iran

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Background and aim: Hepatitis B virus (HBV) is a worldwide infection which is transmitted by blood, sexual route and vertically. It is of major importance in medical and laboratory personnel whom might be infected with the samples of hepatitis B patients incidentally. So they should be ascertained about their immunity to HBV, although it is not a lifelong immunity. The aim of this study was to evaluate the immunity status of laboratory personnel against Hepatitis B virus working in the medical diagnostic laboratories in Shiraz, a major southwestern Iranian city.

Methods: In this cross sectional study, random serum samples of the 178 laboratory staff from 10 governmental and 11 private medical diagnostic laboratories in Shiraz, Iran were collected and examined for the Anti HBs antibody using ELISA method.

Results: Among 178 laboratory personnel (116 female and 62 male) with the mean age of 36.3 years 153
individuals (85.9%) were immune against HBV and 14.1% showed no immunity to HBV. No significant relationship was observed between the gender and immunity.

Conclusion: With regard to the results of this study, in order to minimize the risk of occupational HBV infection, all laboratory personnel should be more frequently followed up for the evaluation of their immunity status against HBV.

Keywords: immunity, hepatitis B virus, laboratory personnel, Shiraz, Iran

PP-118
Rubella seroprevalence in Turkish population in Cyprus
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Background and aim: The European Advisory Group on the Expanded Program on Immunization of WHO has recommended that by 2010 congenital rubella should be well-controlled or eliminated in all countries in Europe. However, rubella seroprevalence in Turkish population in Cyprus has not been studied before. Therefore, we planned a study to determine age-specific rubella seroprevalence in the 1- to 30-year-old Turkish population in Cyprus.

Methods: A total of 600 persons 1 to 30 years old were selected for the study with cluster sampling in Northern Cyprus. The information on sociodemographic characteristics and vaccination history was gathered for each participant, and in 578 of them rubella-specific IgG antibodies were assayed quantitatively by the micro-enzyme immunoassay.

Results: Of the 578 participants tested for rubella antibodies, 95 (16.4%) were seronegative. The proportions of susceptible individuals were 24.3%, 28.8%, 10.4%, 15.2% and 7.6% in the age groups of 1-4, 5-9, 10-14, 15-19 and 20-30 years, respectively. Only 5.4% of the women between 15 and 30 years were susceptible to rubella infection.

Conclusions: The study showed that very few proportion of women in their childbearing years are susceptible to rubella in Turkish population in Cyprus. However, successful immunization program should be continued for the elimination of congenital rubella.

PP-120
Strategy and results on 3.5 million births after five years experience of the French nationwide cystic fibrosis (CF) newborn screening (NBS)
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CF NBS started in France on a routine basis from 2002. Methods: At D3 on dry blood spot samples were performed an immunoreactive trypsinogen assay (IRT) and a CFTR genotyping analysis (Kit Elucigene CF 30) for IRT
Varicella seroprevalence in Izmir, Turkey

Z Kurugoğl, E Türkoglu, T Özacar, G Koturoglu

Background and aim: The European Working Group on Varicella (EuroVar) recommended routine varicella vaccination for all healthy children between 12 and 18 months and to all susceptible children before their 15th birthday. Methods: The present study was conducted to determine the epidemiology of varicella-zoster virus (VZV) infections in Izmir, Turkey as a basis for evaluation of varicella immunization strategies. A total of 660 unvaccinated persons 1–70 years old were selected for the study with cluster sampling. The information on socio-demographic characteristics was gathered for each participant and, anti-VZV antibodies were assayed by using enzyme immune assay.

Results: Of the 620 samples assayed, 451 (72.7%) were positive for anti-VZV antibodies. By the age of 5–6 years 53.4% of the pre-school children had already been infected with VZV and at the age of 7–9 years 77% of school children were seropositive. About 90% of individuals older than 10 years of age are positive for anti-VZV antibodies. There was no difference in seroprevalence rate between rural and urban areas. No differences in prevalence were observed with respect to gender and socio-economical class.

Conclusion: The results of the present study suggest that the majority of VZV infections occur during pre-school period and the first years of schooling. These results are similar to those of studies conducted in other regions of Turkey. Therefore, routine varicella vaccination of children seems to be logical in Turkey, as is currently recommended by the European Working Group on Varicella.

Keywords: varicella, seroprevalence, Turkey, immunization
High prevalence of hypertension among Greek young individuals

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Background and aim: Recent studies suggest that pediatric hypertension has become more prevalent than previously reported, due possibly to increasing prevalence of childhood obesity. The aim of our study was to record the prevalence of hypertension in adolescents in a rural Greek region, and to investigate potential determinants of high blood pressure (BP).

Methods: The study included 563 students [14.5 ± 0.07 years old, Body Mass Index (BMI): 22.27 ± 0.2 kg/m²] attending schools in western Samos island. The students were subjected to BP assessment according to the guidelines of the 4th Report on the Diagnosis, Evaluation and Treatment of High Blood pressure in children and adolescents.

Results: Overall prevalence of prehypertension and hypertension was 38.9% and 24.9% respectively. In multiple regression analysis, systolic BP (SBP) was associated with BMI (B = 0.25 ± 0.1, P = 0.01), age (B = 1.08 ± 0.31, P = 0.001), male gender (B = 8.06 ± 0.92, P < 0.001) and family history of obesity (B = 5.12 ± 0.98, P = 0.002), while diastolic BP (DBP) correlated with age (β = 0.07 ± 0.21, P = 0.001) and male gender (B = 2.64 ± 0.62, P < 0.001). The prevalence of high BP (either pre- or hypertension) in overweight/obese adolescents was as high as 71%.

Conclusions: An especially high prevalence of hypertension was recorded in the study population. BMI, age and male gender were the main determinants of high BP distribution in adolescents. Taking into account the upward trend in the rates of childhood obesity, accompanying BP elevations should be anticipated, especially in boys.

Keywords: hypertension, adolescents, Greece

Time to target birth weight deficit in South Asian babies in the UK

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Background and aim: Historically South Asian babies are of low birthweight and lighter than their European counterparts. Low birthweight in babies predisposes to type 2 diabetes, essential hypertension, coronary artery and renal disease in later life.

Aims are (i) to determine the secular trend over a 20 year period for the mean birthweight of South Asian babies born in Walsall versus their European counterparts. (ii) To determine if ethnicity or any maternal factor had a significant effect on birthweight.

Methods: This was a prospective research study of the birthweight of five subgroups of South Asian babies and European babies over a 1 year period. We recorded maternal and baby details from maternal antenatal and postnatal notes.

Results: 402 babies were studied. 268 were European and 134 babies were South Asian origin. Our findings showed the mean birthweight of babies born to all subgroups of South Asian mothers has not increased in the last 2 decades. The mean birthweight was highest in the European babies (3.32 kg) and lowest in 2 subgroups, namely Hindus and Muslim Gujarati babies [3.04kg]. Analysis showed that when maternal factors were taken into account, ethnic group was no longer a significant predictor of birthweight. The significant predictors were BMI (P < 0.001), cigarette smoking and parity.

Conclusion: Persistence of low birthweight in South Asian population means the risk of the associated morbidities will also remain constant. Strategic health measures need to be implemented to target this population subgroup especially since there is an associated rise in the birth rate in this ethnic group.

Four years of pediatric admission rates from a state hospital in Istanbul

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Aim: This study was conducted to determine the pattern and the outcome of acute medical admissions at 1st Pediatric Clinic of our hospital.

Methods: The medical records of all hospitalized cases were retrospectively evaluated for a period of 4 years.

Results: There were 3785 admissions over the study period of which 46.6% were females and 53.4% were males. Regarding annual patient admission rates, a statistically significant increase was found in first three years (P = 0.0001). The ages of the patients ranged between 15 days and 14 years with a median age of 18 months. The number of patients ≤5 years was 2807 (74.2%). The age distribution of patients was; 44.5% patients were ≤1 years, 29.7% were between 1–5 years and 25.8% were >5 years old. There was a statistically significant predominance for male patients ≤1 years and for females >5 years of age. Indications for admissions
were; respiratory disorders (34%), infectious diseases (22.4%), intoxications (11.4%), neurological disorders (8.7%), haematological disorders (5.4%), rheumatoid disorders (4.1%), and etc. The leading indications for admissions for children ≤1 years were respiratory (49.4%) and infectious (26.9%) diseases, >1–5 years were intoxications (25.1%) and respiratory disorders (24.2%) and >5 years infections (19.2%) and respiratory disorders (16%). Mortality rate was 2.6% of total cases. The exitus rate ≤1 years was 65.3%. It was found to be statistically significant (p<0.0001). Mortality was highest for infectious diseases (42.9%), followed by respiratory disorders (24.5%) and metabolic disorders (9.2%).

Conclusion: Our study stresses the importance of improvement of preventive strategies toward the leading diseases in our community and encourages better preventive health care for infants especially under 1 year of age.

PP-126
The type of primary care the parents seek for their children
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Background and aim: For common pediatric problems the parents seek care to Private Pediatricians, Hospital Emergency Rooms (ER) and Rural Health Centers (HC). We evaluate the type of care that the parents seek.

Patients/Methods: 85 questionnaires were answered in a University Hospital ER. The type of care that the parents seek was recorded according to their nationality, residency and education.

Results: Elementary school education (EL) had 44% of mothers and University graduates (UN) were 21%. Native Greeks (NGr) were 63.5%; Romas were 19% and 17.5% were immigrants. In rural area were living 19% of children, 26% in a town and 45% in a city. Permanent Pediatrician (PP) had 61%. No visits to ER had done 21.1%, less than 3 visits to ER 63.2%. No visits to a HC had done 62%. The care by PP was significantly associated with maternal age (P = 0.01) nationality (P < 0.0001, NGr 79.6%) and maternal education (P = 0.0006, UN 94%). The visits to HC were significantly related with residency (P < 0.0001, no visit in 90% of city residents), nationality (P = 0.0001, no visits had 83% of the NGr, 12.5% of Romas) and maternal education (P = 0.001). The same factors were also significantly associated with ER visits. No visits to ER had 29.6% of NGr, 41% of UN, 10% of EL, 6% of residents in rural areas and 34% of city residents.

Conclusions: The decision of the parents to visit their primary pediatrician, the ER or a Health Care Center is close related to their education, residency and nationality.

Keywords: pediatric care, pediatrician, emergency room, health centers

PP-127
Screening of developmental dysplasia of the hip in Croatia from 1995 to 2006
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Screening of developmental dysplasia of the hip (DDH) is necessary because it is applicable in diagnostic and therapeutic treatment in an early asymptomatic period. A suitable screening diagnostic test is acceptable for the population, while the benefits of the screening programme exceed the costs of its introduction. DDH screening, although traditionally performed, still provokes numerous controversies regarding the selection of the most optimal approach. There are numerous dilemmas in choosing between clinical screening, ultrasound screening, a combination thereof, selective or unselective DDH screening (with/without risk factors). An early DDH detection is of great importance for a successful treatment and provides a complete normalization of the hip joint. We are hereby presenting the results of DDH screening in Croatia from 1995 to 2006. According to the Croatian National Institute of Public Health, the incidence of DDH in Croatia was approximately 2.5%, but using the existing, predominantly clinical, diagnostic procedure at the age of 0–2 months, DDH was discovered in only 31–39% cases. The disadvantages of the neonatal hip clinical screening have produced a need of introducing ultrasound diagnostics, a method of choice for an early detection of all types of DDH which can be applied immediately after birth.

The results of our cost-benefits study have confirmed the economic justification for introducing the nonselective ultrasound screening for DDH in Croatia, having shown that the late-case treatment costs are 1.6 times higher than the costs of screening and early treatment.

Keywords: screening, developmental dysplasia of the hip, neonate, ultrasound

PP-128
Intestinal microflora in breast fed and formula fed infants
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Background and aim: Intestinal colonization in infancy helps to establish normal immune function, oral tolerance
and provide better adaptation to environment. The goal of this investigation was to compare fecal microflora in breast-fed and formula-fed infants.

Methods: There were 37 healthy infants (2–4 months old) under our observation. Infants of the main (1st) group were fed with infant formula containing prebiotics (Nestogen 1). Control group consist of breast fed infants. The assessment of fecal flora has been done with culture methodology. Bifidobacteria (BF) strain typing has been done with PCR method (DNA amplification).

Results: The results of the investigation has shown that mean fecal BF count was 10(9.5) and 10(9.9) respectively and did not differ significantly between 2 groups. There was no significant difference between BF strains in 2 groups of infants (Table 1). We have evaluated also Bifidobacteria strains in infants with or without the symptoms of gastrointestinal functional disorders (spitting, obstipation, colics) (FD). The prevalence of infantile BF strains has been significantly higher in healthy infants in comparison with FD infants. FD groups had less diversified BF strains.

Table 1:

<table>
<thead>
<tr>
<th>Strain BF</th>
<th>Breastmilk</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. bifidum</td>
<td>62.5%</td>
<td>84.6%</td>
</tr>
<tr>
<td>B. infantis</td>
<td>54.1%</td>
<td>61.5%</td>
</tr>
<tr>
<td>B. longum</td>
<td>45.8%</td>
<td>69.2%</td>
</tr>
<tr>
<td>B. adolec</td>
<td>29.1%</td>
<td>61.5%</td>
</tr>
<tr>
<td>B. dentum</td>
<td>29.1%</td>
<td>38.5%</td>
</tr>
</tbody>
</table>

Conclusion: FD in infancy is highly associated with undeveloped intestinal microflora. Prebiotic feeding provide close to breast milk BF fecal strains in infants.

Keywords: infant, intestinal microflora, feeding, functional digestion disorders. The prevalence of different Bifidobacteria strains in infant

PP-129

Chronic abdominal pain in children and adolescents

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Background and aim: Chronic abdominal pain (CAP), defined as at least three pain episodes over at least 3 months interfering with daily activity, is common in children and adolescents and concern for pediatric health care professionals.

Methods: To investigate the reason and long-term outcome of CAP in a large cohort of children and adolescents. We observed 726 patients by initial screening (CBS, ESR, comprehensive metabolic panel, urinalysis, stool examination) and additional investigation (ultrasound and radio logic study, endoscopies). 541 patients were observed prospectively for six subsequent years.

Results: Functional disorders of gastrointestinal tract is common reason of CAP (68%). Peptic disease is common organic cause of CAP in children. Pain frequency, severity, location or effects on lifestyles are not predictable signs to distinguish functional and organic disorders. CAP under 2 years age and in adolescents is mostly organic in origin. Functional abdominal pain is more often among preschool and early-school age (74.3%), predominantly females (2:1). Biliary tract dysfunction is most frequent reason of functional disorders.

Conclusions: Children with CAP mostly do not have serious underlying gastrointestinal disease. Successful management is dependent on an accurate diagnosis. Clinical assessment is most effective approach. The presence of alarm symptoms and signs strongly suggests the prevalence of organic disease and justify the performance of diagnostic tests. Functional abdominal pain usually is benign problem, but without treatment may cause organic disease, that’s why individualized approach, time-limited use of medications, patient and parenteral reassurance is very important.

Keywords: abdominal pain, biliary tract, functional disorders, organic abdominal pain, chronic abdominal pain

PP-130

Assessment of nutritional status in pediatric oncology patients

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Background and aim: It is estimated that the prevalence of malnutrition at diagnosis ranges from 10% to 50% in children with cancer and has a major impact on the course of the disease and survival.

We aimed to investigate the nutritional status of our pediatric oncology patients at diagnosis and during chemotherapy and also determine the risk factors associated with development of malnutrition.

Methods: Thirty-two boys and twenty-two girls aged 2 months to 15.5 years with solid tumors were included in the study. Nutritional assessment with anthropometric and biochemical measurements were done at diagnosis, and during follow up.

Results: Malnutrition was observed in 38.9% of patients at diagnosis, 46.3% at 3 months, 24.1% at 6 months and 3.7% at 9 months. Diagnoses, stage of the disease, surgery, days with neutropenia, infection were not associated with malnutrition. Intraabdominal tumors were found to be significantly associated with malnutrition.
Conclusion: It can be concluded that a high percentage of patients with malnutrition were observed at diagnosis and peaks at first 3 months, then gradually declines with effective dietary support.

PP-131
Lactase activity in children with inflammatory bowel disease
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Background and aim: Lactose intolerance involves a complex of symptoms occurring after the intake of food containing lactose. Lactase is mainly present on the top of the small intestine villi. The inflammatory process in the course of Inflammatory Bowel Disease (IBD) may also involve the upper alimentary tract and small intestine. It seems that IBD might promote co-existence of decreased lactase activity. The aim of the study was the evaluation of lactase activity and its decreased activity incidence in patient with various forms of IBD (Crohn’s disease, ulcerative colitis, lymphocytic colitis and non-specific undetermined colitis).

Methods: The study comprised 54 children, aged 3–18 years (mean age 14 years), in whom we diagnosed (following the Porto criteria) various forms of IBD: in 10 children- Crohn’s disease, in 15-ulcerative colitis, in 7-lymphocytis colitis, and in 22-undetermined colitis. During a routine endoscopy of the upper part of the alimentary tract we took biopsy specimens from the descending part of the duodenum. In these bioptates we determined lactase activity using the Dahlquist’s method in Dyduch’s modification. In addition, in all patients we performed the hydrogen breath test using the Bedfont gastrolyser.

Results: Decreased lactase activity in the bioptates taken from the small intestine mucosa was most frequently observed in patients with Crohn’s disease (in 3/10–30%), whereas, the least frequently in children with lymphocytic colitis (in 1/7–14%). In the patients with ulcerative colitis and non-specific undetermined colitis the frequency of decreased lactase activity in the small intestine mucosa corresponded to the incidence of lactose intolerance in the population of Polish children (about 20%). Whereas, the lowest mean values of lactase activity were found in the children with Crohn’s disease and ulcerative colitis (1.7–2.5 U/1g).

Conclusions: In patients with Crohn’s disease we observed higher than population incidence of decreased lactase activity in the biopsy specimens taken from the small intestine mucosa. Therefore, it seems reasonable to perform diagnostics examinations aimed at lactose intolerance and to initiate the diet treatment in children with Inflammatory Bowel Disease.

Keywords: lactase activity, inflammatory bowel disease

PP-132
Celiac disease in childhood: evaluation of 140 patients
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Background and aim: Celiac disease (CD) is a lifelong gluten sensitive intestinal enteropathy with multifactorial etiology. In the present study, we evaluated basic anthropometric, clinical, laboratory and histological features of 140 Turkish children with CD. We particularly underscored the association of CD with other autoimmune diseases.

Methods: During the period 1999 to 2005, CD was diagnosed in 140 children according to ESPGAN criteria. The age, gender, clinical findings, hematological, and biochemical parameters at diagnosis were noted. Symptoms and signs were recorded. Endoscopic intestinal biopsies were taken from all children.

Results: Of 140 children with CD, 75 (53.6%) were female and 65 (46.4%) were male. Mean age was 8.56 most frequent symptom was failure to thrive (81.4%), followed by chronic diarrhea (60%). Of all children with CD, nine (6.4%) had type 1 diabetes mellitus (DM), six (4.3%) had familial Mediterranean fever, three (2.1%) had alopecia areata, three (2.1%) had vitiligo, three (2.1%) had Down syndrome, two (1.4%) had lung tuberculosis, two (1.4%) had autoimmune hepatitis, two (1.4%) had growth hormone deficiency, one (0.7%) had osteogenesis imperfecta, and finally one (0.7%) had Floating Harbor Syndrome. Elevated serum levels of ALT, CK and AST were detected in 48 (34.8%), 50 (38.2%), and 67 (48.6%), respectively.

Conclusions: The spectrum of clinical findings is very wide and tends to manifest as extra intestinal forms. For that reason, in order not to overlook CD in patients with extra intestinal symptoms and signs, physicians, especially pediatricians, should be informed periodically about new atypical manifestations of CD.

PP-133
Role of cytokines in pathogenesis of pediatric gastroduodenitis associated with Helicobacter pylori
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Background and aim: Chronic gastroduodenitis (CGD) is an acute problem because of its wide spreading among children and adolescents and results of treatment are not always satisfactory.
Methods: Thirty children with CGD and 16 healthy ones aged 9–16 as a control group were examined (mean age 13.6 ± 0.3). Serum cytokines were studied by immunologic enzyme analysis (test system by ‘Cytokine’, St. Petersburg, Russia). To confirm the diagnosis fibrogastroduodenoscopy was made to all patients and antibodies). Erosive gastroduodenitis (21 children) prevailed endoscopically, superficial GD was determined in 9 children. Antibodies to H. pylori were found in all patients, mean level is 187.9 ± 40.4 AE/mL.

Results: Children with CGD compared with control group had increased levels of IL1β by 4.6 (P < 0001), IL2 by 4.5 (P < 0001), TNFα by 5.9 (P < 0001), IFNγ by 6.1 (P < 0001). The data obtained show increase of pro-inflammatory cytokines in normal level of IL4. When analyzing interconnections of the investigated parameters direct correlation was established between the level of antibodies to H.pylori and the concentration of TNFα (r = +0.41; P < 0.05) and reverse – between the level of antibodies to H. pylori and IL4 (r = -0.35; P < 0.05).

Conclusion: 1) Pro-inflammatory cytokines IL1β, IL2, TNFα and IFNγ are increased in pediatric CGD. 2) Anti-inflammatory IL4 level preserves its normal state and it may be estimated as an unfavorable reaction.

PP-134
Is determination of antibodies against tissue transglutaminase sufficient to diagnose celiac disease?
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Background and aim: Currently, the diagnosis of celiac disease is established on the basis of positive results of serologic tests and typical histopathological changes in biopsy specimens taken from the small bowel. The Canadian researchers have found that high titers of anti-TTG antibodies are diagnostic values and the biopsy is not necessary to establish the final diagnosis.

Aim of the study is a confirmation of the hypothesis that serum levels of anti-TTG antibodies over 100U/L are sufficient to diagnose celiac disease.

Methods: The study involved 31 children aged 5–18 years (mean age 10.1), with positive values of anti-TTG antibodies. The biopsy specimens taken from the duodenum were analyzed following the Marsh classification. In addition, in 16 (50%) patients genetic examinations were performed (HLA DQ 2 and DQ 8).

Results: In 13 children with the levels of anti-TTG antibodies >100U/L, the result of biopsy confirmed celiac disease (Marsh 3A-C). Sensitivity and specificity of the TTG test were 100%. In 8 patients genetic examinations were performed, which revealed the presence of haplotype typical for celiac disease: in 6 children- HLA DQ 2, in 2 children- HLA DQ 2 and DQ 8. Among 18 examined children with values of anti- TTG antibodies 7–100 U/L, changes of type Marsh 3A-C were found in 12 patients, and Marsh 1 - in 2 patients. Four children had normal results of biopsy specimen examinations. The genetic examinations performed in 8 children confirmed a typical for celiac disease haplotype, including 2 patients with normal results of biopsy specimen examinations.

Conclusions: The levels of anti- TTG antibodies over 100U/L were diagnostic values for celiac disease. Positive values of anti- TTG antibodies below 100U/L required the small bowel biopsy to establish the diagnosis.

PP-135
Serologic investigations in children with inflammatory bowel disease and food allergy
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Aim: The aim of the study was the evaluation of frequency and titre of IgA ASCA and IgG ASCA and p-ANCA, c-ANCA in children with IBD and occurrence of ASCA antibodies in relation to coexistence of FA.

Methods: The study comprised 95 children at the ages of 2–18 years. The diagnosis of IBD was established on the basis of Porto criteria. Tests of blood serum were performed in all children: IgA and IgG ASCA, p-ANCA, c-ANCA using ELISA method.

Results: IgE-dependent FA was found in 32.5% children with UC and in 21% with CD. We did not observe any relation between the occurrence of FA and the frequency and ASCA titre. p-ANCA were significantly more frequent in the group of children with UC (25%) in comparison with the control group. The occurrence of ASCA antibodies was observed in 73.7% of children with CD, 17.5% with UC and almost 50% with allergic colitis. Patients with CD and the presence of ASCA revealed a significantly more frequent localization of lesions within the small bowel and a tendency towards older age. We observed a connection between the occurrence of antibodies and the examined mutations of gene NOD2/CARD15.

Conclusion: i) High specificity of ASCA antibodies for Crohn’s disease and ANCA antibodies for ulcerative colitis has been confirmed. The study has also revealed a relation between ASCA antibodies occurrence and disease localization in the small bowel as well as ANCA antibodies correlation with the disease situated in the large bowel in children with Crohn’s disease. It has also been proven that the mutation of NOD2/CARD15 gene is related to the presence of ASCA antibodies and their high levels in children with Crohn’s disease.

ii) Genetic and serological analyses in children with colitis due to food allergy allows us to identify a group of...
patients who need a strict gastrological monitoring and control examinations in order to finally diagnose Crohn’s disease or ulcerative colitis.

PP-136

Rickets vitamin D deficiency- sometimes and today in Kosova

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Rickets is a systemic illness caused by a metabolism disorder of calcium and phosphorus lacking the vitamin D. The purpose of Work was to present the frequencies, prevention and the treatment of Rickets among our patients 20 years ago and in 2006. The examined individuals were the children that were hospitalized at Clinic of Pediatrics in Prishtina (during the year 2006) Studies are retrospective and prospective. Diagnosis was made on the basis of information’s, clinical examination as well as the laboratory and radiology analysis. The results archived are: In 1987, 37.3% of children were hospitalized with symptoms of rickets, preventive measures were done only on 39.48% of them. Doses of vitamin D3 varied from 600–800 U/units. The medicine prescribed to the majority of the hospitalized individuals was in combination with vitamins A and D, starting from different time periods, from 10 days up to 2 month after the birth. Concerning the treatment of rickets oral therapy was not used, while that of “attack seizure” was used only in 4.6% of the cases. In 2002 there was only 2% of the case with rickets, while in 2006 only 0.88%, anthracic prevention was done at 90% of patient and seizures prevention at 0.2% of them. The preventive dose of the vitamin D3 was 400-800Ui. Vitamin 3 remedy was prescribed to 30% of our patients starting from the day of fifteenth. Concerning the treatment of rickets, oral therapy was determined on 95% of the cases, while that of intramuscular on 5%.

Conclusion: In the past rickets was medical as well as social problem, however today the problem belongs to the past. A time has come for as to deal with revealing the different forms of resistant Vitamin D rickets.

Keywords: rickets, vitamin D deficiency

PP-138

Nephrocalcinosis in glucose-galactose malabsorption: nephrocalcinosis and proximal tubular dysfunction in an infant with a novel mutation of SGLT1

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Aim of this study is Glucose-galactose malabsorption (GGM) is a rare autosomal recessive disorder which leads to osmotic diarrhea and dehydration from early days of life. We report an association of proximal renal tubular dysfunction in a patient with glucose–galactose malabsorption, who was found to have nephrocalcinosis, but no sign of nephrolithiasis.

Case report: 50-day-old girl presented with failure to thrive, vomiting, abdominal distention and watery diarrhea. On admission, her weight was <3rd percentile and height 3–10 percentile. She was severely dehydrated. Her general status improved when enteral feeding was stopped and intravenous fluids were administered. Abdominal ultrasonography disclosed bilateral medullary nephrocalcinosis. Laboratory investigations revealed hypernatremia, hypercalcemia, metabolic acidosis, glucosuria, proteinuria, hypercalciuria, low tubular reabsorption.

Keywords: Wilson disease, Kayser–Fleischer ring
of phosphorus and uric acid. Fecal sugar chromatography showed the presence of both glucose and galactose. Mutation analysis revealed a novel homozygous nonsense mutation at 267Arg stop (CGATGA) in the Na+-dependent glucose transporter (SGLT1) was found in the loop 5 connecting transmembrane segments 6 and 7, indicating the complete loss of glucose transport activity. After her diet was regulated including fructose-based formula, she began to gain weight. When she presented at 12th month of age, renal tubular tests showed normal TRP and calcium/creatinine ratio. However, protein/creatinine ratio and uric acid excretion were still higher than normal. Renal ultrasonography showed the persistence of nephrocalcinosis.

Conclusion: This case indicates that hypercalcaemia, nephrocalcinosis and proximal tubular dysfunction may be seen in association with glucose-galactose malabsorption and most of these abnormalities improve with glucose/galactose free diet.

PP-139

Bone mineral density of children with celiac disease: efficacy of gluten free diet

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Background and aim: Celiac disease (CD) is a lifelong gluten sensitive intestinal enteropathy with multifactorial etiology. Osteoporosis is common in patients with CD but less is known about fracture risk. In this study we evaluated bone mineral density in children with celiac disease at diagnosis and patients treated for one year, and two years later.

Methods: Bone mineral content (BMC) and BMD were measured in 106 children with admission and in 64 cases they were re-assessed after one year of treatment with gluten free diet. After 2 years of treatment with gluten free diet, twenty three patients were re-assessed.

Results: The prevalence of osteopenia and osteoporosis in children with CD was found as 22.6% and 38.7%, respectively. Mean BMD, BMC and Z scores of the patients were significantly lower than those of healthy children: 0.5 ± 0.154 versus 0.72 ± 0.094 (p: 0.001), 17.65 ± 10.16 versus 29.67 ± 14.23 (p: 0.001), and -2.5 ± 1.51 versus -0.12 ± 0.51 (p: 0.001), respectively. Mean BMD, BMC and Z scores were not different in respect with sex (p: 0.66). After gluten free diet for one year, BMD, BMC and Z scores values in patients with recent diagnosis were significantly increases. Mean BMD, BMC and Z scores values, which was determined two year after GFD was 0.93 ± 0.16, 21.78 ± 10.09, -1.88 ± 0.91 respectively. There was a statistical significant difference between mean BMD, BMC and Z scores determined before, 1 year after and 2 year after GFD (P < 0.001, p: 0.003, p: 0.050, respectively) and but not between mean BMD, BMC and Z scores of patients under 1 year after and 2 year after GFD (p: 0.846, p: 0.688, p: 0.654, respectively) Two expressive groups (clusters) of patients were obtained by using k-means cluster analysis of multivariate statistics. The first and the second group contained 32 and 74 patients respectively. The patients in first group have high morbidity risk, two of them have fractures. The ratio of fractures in this group was 6.25%.

Conclusion: In conclusion children with celiac diseases are at risk of reduced bone mineral density and increase of fracture risk. According to our results, strict gluten free diet was promoted significant increase BMD, BMC and Z score in the first year but not second year.

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Abstract withdrawn.

PP-141

Epidemiological aspects of rotavirus gastroenteritis in children in Kosova

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Authors have studied the incidence of rotavirus gastrointestinal tract infection in Kosova.
Method: The study is prospective and was carried for 1 year period. Overall 780 children, were included, age 0-5, hospitalized due to their acute gastroenteritis at the Department of Pediatric Gastroenterology of the University Clinical Center of Kosovo in Prishtina. Testing of the stool for the presence of rotavirus has been performed using Latex aglutination test LTA s.r.l. – via Milano with recognized sensitivity and specificity of 96%.

Results and their significance were brought using statistical methods.

Results: 50% of the children involved in study were rotavirus positive -42% were female and 58% were male. The majority of children were from cities (62%). The greater part of the children were age 0-12 months (48%). The mean age for rotavirus positive children was 12.5 months. The seasonality of the disease was distinctive and had two peaks – first in January, February, March and April and second in July, August and September. The dominant symptoms were diarrhea (94%) and vomiting (92%). The average duration of diarrhea was 3.74 days, while duration interval was 1-10 days. The majority of the patients in study (80%) had the moderate dehydration. Only 6% in the study had minor degree of the dehydration while 14% were severely dehydrated. All patients in the study were intravenously rehydrated. All patients healed with no sequels.

Conclusion: Rotavirus has been found the cause of gastroenteritis in half of all cases. The gender and social representation was not found significant. The disease demonstrated seasonal pattern with peaks in winter and early summer.

Keywords: rotavirus, gastroenteritis, seasonal variation

PP-142

Epidemiological factors affecting hepatitis A seroprevalence in childhood in a developing country

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Aim: The aim of this study was to determine the prevalence rate of detectable antibodies against hepatitis A and socio-epidemiological factors affecting hepatitis A among children aged 0-18 years in a central hospital in the east of Turkey.

Methods: The study sample consisted of 226 children aged 0-18 years, who were registered to Pediatrics Department of Atatürk University Medical Faculty for any reason except jaundice and were investigated for the presence of anti-HAV immunoglobulin G (Ig G). Written informed consent was given by parents of subjects before their enrollment into the study. IgG antibodies against HAV were measured by ELISA.

Results: The percentage of HAV IgG seropositivity of 226 children was 59.7%. HAV prevalence increased by age with subjects above 9 years showing a very high HAV prevalence between 75-76.5%. The prevalence of HAV did not significantly differ in relation to gender. HAV prevalence was higher in children of rural areas than children of urban and suburban areas (P < 0.001). HAV prevalence was higher in families with more than 5 people in the house (77.3%) than in families with less than or equal to 5 people in the house (41.5%). It was also shown that HAV seroprevalence was significantly high who were living in houses without tap water and toilet (P < 0.001). HAV IgG seropositivity in children of parents with no literacy was markedly higher than others (P < 0.001). Only two of the children had received hepatitis A vaccine. The HAV IgG positivity percentage of unvaccinated children was 59.3%. HAV seroprevalence was higher in subjects who had jaundice history (84.6%) than in those who did not (58.2%). An increase in HAV prevalence was observed with the decrease in socio-economic status (P < 0.001).

Conclusion: HAV prevalence was markedly high but hepatitis A vaccination of children is very low in Erzurum. The socio-demographic factors age, settlement area, family size, whether the toilet and tap water are in the house, education levels of parents and socio-economic status of family were significantly related to HAV prevalence. It was concluded that, in addition to improving the environmental and hygienic conditions it is necessary to develop an immunization policy against hepatitis A in developing countries.

PP-143

Autoimmune hepatitis associated with brucella infection and Echinococcus granulosus: coincidence or causal relationships

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Aim: The aim of this study was to determine the prevalence rate of detectable antibodies against hepatitis A and socio-epidemiological factors affecting hepatitis A among children aged 0-18 years in a central hospital in the east of Turkey.

Methods: The study sample consisted of 226 children aged 0-18 years, who were registered to Pediatrics Department of Atatürk University Medical Faculty for any reason except jaundice and were investigated for the presence of anti-HAV immunoglobulin G (Ig G). Written informed consent was given by parents of subjects before their enrollment into the study. IgG antibodies against HAV were measured by ELISA.

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Conclusion: HAV prevalence was markedly high but hepatitis A vaccination of children is very low in Erzurum. The socio-demographic factors age, settlement area, family size, whether the toilet and tap water are in the house, education levels of parents and socio-economic status of family were significantly related to HAV prevalence. It was concluded that, in addition to improving the environmental and hygienic conditions it is necessary to develop an immunization policy against hepatitis A in developing countries.
affected by hydatid disease is the liver followed by the lungs. Brucellosis is endemic in Turkey too. Doxycycline used for treatment of brucella infection may usually lead to hepatotoxicity. An 11 years old female patient with hydatid cyst in the liver and treated with eight weeks of doxycycline and three weeks of streptomycine for brucella infection was presented. She had ascites, jaundice, hepatosplenomegaly and malaise. Laboratory tests revealed severe liver dysfunction, a positive ANA and LKM1 tests. Liver biopsy showed chronic hepatitis with severe inflammatory activity responded to corticosteroid and azathioprine treatment. Since Echinococcus granulosus as causal factor for AH have not been described so far, only two case of autoimmune hepatitis (AIH) probably caused by doxycycline and brucellosis were reported. These etiological roles are discussed and the literature reviewed.

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Interleukin-10 gene polymorphism in chronic hepatitis B virus infection

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Background and aim: There is a genetic polymorphism in point mutation of gene of interleukin-10 which an important immunoregulatory cytokine at chromosome 1 (-592 C/A, -819 C/T, -1082 G/A) at population. We aimed to search the interleukin-10 gene polymorphism in patients at stages of chronic hepatitis B virus (HBV) infection, and healthy controls.

Methods: A 158 patients with HBV infection (56 of carriers, 61 of chronic active hepatitis, and 41 of immunotolerant), and 108 healthy controls who seronegative for HBV was included the study. The polymorphism at base pairs of the three promoters mentioned above of Interleukin-10 gene with PCR-RFLP technique on DNA specimens.

Results: Genotype GG concerned high interleukin-10 in controls, and genotype AG concerned moderate interleukin-10 in patients were found significantly frequent in healthy controls who have not been infected with HBV, and TT genotype in -1082 promoter of interleukin-10 gene. Genotype TC in -819 position of interleukin-10 gene in non-infected healthy controls, and genotype TT in patients with hepatitis B were detected significantly frequent. None of the genetic polymorphism of interleukin-10 gene was found in immunotolerant patients who have not been investigated before in the literature. Haplotype GCC related with high interleukin-10 production was frequent in non-infected healthy individuals. Haplotype GTA which have not been described for functional characteristics was frequent in population of study. In conclusion, the gene polymorphism of interleukin-10 is different in individuals infected with HBV than non-infected.

Conclusion: The interleukin-10 gene polymorphism is not characteristic for clinical phases of chronic HBV infection.

Keywords: interleukin-10, gene polymorphism, hepatitis B virus, immunotolerance, Turkey

PP-145

Klippel–Feil syndrome associated with gastroesophageal reflux disease

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Klippel–Feil syndrome (KFS) is congenital fusion of cervical vertebrae, involving at least two segments, the entire cervical spine or a congenital block vertebra. The syndrome may also involve the cardiovascular, auditory, genitourinary or other systems. Here we report a case presenting with bronchiolitis caused by gastroesophageal reflux (GER) and then diagnosed with KFS.

Case Report: A 7-month-girl was hospitalised because of bronchiolitis. During hospital stay respiratory symptoms did not resolve with medical treatment. Gastroesophageal scintigraphy was performed and GER was diagnosed. After GER treatment respiratory symptoms regressed rapidly and GERD was defined. On control PA and lateral chest X-ray, fusion of cervical vertebrae was noticed and short neck defined. The patient was discharged with anti-reflux medical treatment. She was consultated with the genetic department and KFS was diagnosed.

Discussion: Gastroesophageal reflux disease (GERD) is a pathological process in infants manifesting as poor weight gain, signs of esophagitis, persistent respiratory symptoms and changes in neurobehaviour. In the literature no correlation with GERD and short neck or KFS was found. Only Cornelia De Lange Syndrome patients have “short neck” and GERD.

Conclusion: There are several risk factors for GERD but is “short neck” one of them? It is suggested that KFS or patients with short neck may also have GERD.

Keywords: Klippel–Feil syndrome, gastroesophageal reflux disease, short neck
Bilateral venous stasis retinopathy and optic atrophy in a patient with celiac disease: case report

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Celiac disease (CD) is a multifactorial disease characterized by a dysregulated immune response to ingested wheat gluten and related cereal proteins. There are many clinical presentations of CD; besides intestinal findings, extraintestinal manifestations are also common.

Case Report: A 14-year-old boy was referred by a pediatrician because of short stature, delayed puberty, abdominal pain and diarrhea. AGA, EMA levels were elevated and his small bowel mucosal biopsy specimen was diagnostic for CD, according to ESPGHAN criteria. After strict gluten free diet intestinal symptoms regressed, pubertal changes started and his percentiles improved. Three years later, the patient consulted to an ophthalmologist because of impaired vision. Ophthalmological examination revealed bilateral venous stasis retinopathy and subsequently optic atrophy.

Discussion: CD is a systemic disorder that can be associated with various hematologic manifestations, such as hypercoagulopathy and venous thromboembolism. Retinal venous circulation represents a relatively high-resistance, low-flow system, which is particularly sensitive to several hematological factors leading to increased blood viscosity. As a result, retinal venous stasis may occur, and the same mechanisms that cause venous stasis, may also cause posterior ischemic optic neuropathy and optic atrophy. In CD, multiple cases of intra-abdominal and cranial venous thrombosis have been reported, but retinal involvement is rarely described.

Conclusion: Venous Stasis Retinopathy presented in this case may be an extraintestinal manifestation of CD, caused by underlying prothrombotic predispositions, related to disease specific or other hematological factors.

Keywords: celiac disease, venous stasis retinopathy, optic atrophy, extraintestinal manifestation Bilateral Venous Stasis Retinopathy

Hartnup disease presenting as kwashiorkor and acrodermatitis enteropathica like lesion

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Hartnup disease is an autosomal recessive hereditary disorder characterized by a defect in renal tubular reabsorption and intestinal transport of a group of monoamine-monocarboxylic amino acids. This report described a 11 month old girl with Hartnup disease presenting with kwashiorkor and acrodermatitis enteropathica-like skin lesions, but free of other clinical findings. This case shows that children with kwashiorkor and acrodermatitis enteropathica-like lesion who do not have any other disease to account for these findings should be investigated for metabolic disorders in particular, for Hartnup disease.

Introduction of complementary foods to infants’ diet in the first year of life. Evaluation of recommendations using achievable benchmarks of care

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Objective: The purpose of this study was to determine the adherence of Spanish paediatricians to recommendations on introduction of complementary foods to infants’ diet and to calculate the Achievable Benchmarks of Care® ratios in order to determine the standards of excellence attained by the 10% of top performers and identify areas for improving adherence to guidelines on the introduction of complementary foods.

Methods: Enrollment to this multicenter, prospective, open-label, 12-months observational study was conducted from 2002 to 2003 and included 1392 infants followed by 357 Spanish paediatricians. Eligible participants were healthy, term, formula fed infants. At each routine visit anthropometric measurements and age of introduction of certain foodstuffs were recorded.

Results: Results are shown in the Table.
### PP-149

#### Evaluation of the quality of life in children with chronic constipation

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**Aim:** Aim is to study the quality of life in children with chronic constipation.

**Methods:** The quality of life was studied in 20 children with chronic constipation, aged 8-18. The evaluation was carried out with the help of PedsQL TM4.0, made of 23 questions, which are composed in four scales, namely, physical functioning, emotional functioning, social functioning, and school life. Questionnaire is divided into blocks according to the age and has 2 forms - for parents and their children.

**Results:** After data processing, the quality of life index was evaluated. By means of 100 points scale this index in children is 66 points and 58 in parents. The greatest difference could be seen in social functioning. The highest characteristics are in physical (67) and social (83) functioning and the lowest are emotional (58) and school life functioning (55). It should be mentioned that this index in disabled children is 61 comparing to 81 in healthy children. School life functioning of children with chronic constipation is much lower (45) that of disabled children (53).

**Summary:** The parents usually evaluate the quality of their children life lower than children themselves. The older the child with chronic constipation the lower are emotional life and school life functioning.

**Conclusion:** The longer the anamnesis, the lower the quality of children life. The quality of life of children with constipation is worse than quality of life of disabled children.

**Keywords:** constipation, children, quality of life

### PP-150

#### Atypical celiac disease in childhood

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Celiac disease is an autoimmune gluten-dependent enteropathy characterized by atrophy of intestinal villi that improves after gluten-free diet. Classically, infants with celiac disease present impaired growth, diarrhea and abdominal distention between the ages of 4 and 24 months. Recent studies have shown that celiac disease is being at a progressively later age. Here we report two cases who had atypical symptoms and diagnosed later age. First case: A 9-year-old boy was admitted to our clinic with vomiting, persistent diarrhea and failure to thrive. Black–Brown plaques were observed on his axillary and inguinal regions. Significant anemia was present in and the mean hemoglobin was 6.65 g/dL. Anemia was suggestive of iron deficiency. Iron deficiency coexisted with folic acid and vitamin B(12) deficiency. Second case: A 12-year-old girl was admitted to our clinic with hypocalcemic tetany and failure to thrive. She had marked hypocalemia. Levels of serum calcium, alkaline phosphatase, vitamin D, parathyroid hormone and vitamin B(12) were 5.9 g/dL, 346 IU/mL, 4.1 ng/mL, 358 pg/mL and <150 pg/mL, respectively. Laboratory tests revealed positive antigliadin antibodies in both of the patients. Anti-gliadin and anti-endomysium antibody tests were both positive. Endoscopic duodenal biopsies showed intense chronic inflammation with villous atrophy or crypt hyperplasia. They showed an improvement in histological evidence of celiac disease after treatment with a gluten-free diet.

**Keywords:** celiac disease, child, hypocalcemic tetany

### PP-151

#### Persistent vomiting due to aberrant subclavian artery

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Aberrant right subclavian artery is a rare vascular anomaly. It is usually asymptomatic. Dysphagia may cause in older patients because of compression to the...
oesophagus. A 4-year-old male who had suffered from intermittent vomiting was admitted to our hospital. His vomits begun 1 year ago and been more often during last 2 weeks. His physical examination showed a healthy-appearing child who was at 97% on the height chart and 90% on the weight growth chart. No abnormalities were found on lungs, heart, abdominal, musculoskeletal, and neurologic examinations. His complete blood cell count, electrolytes, renal and hepatic functions and urine analysis were normal. Stool antigen test for Helicobacter pylori was negative. Abdominal sonography and cranial CT scan were normal. We observed that his vomits contented a small amount of indigested foods. A barium esophagogram revealed posterior pressing to esophagus concerning aberrant right subclavian artery. The diagnosis was supported by multidetected torax CT. We suggest that pediatricians should include esophageal compressure due to right aberrant subclavian artery in differential diagnosis particularly in children that have been growing normally and with persistent vomiting, even in absence respiratory symptoms.

Keywords: subclavian artery, vomiting child

PP-152
Neonatal cholestasis: descriptive study
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This is a descriptive study conducted to determine the course of patients with a history of neonatal cholestasis (NC) with regard various conditions, and to compare it with children’s course at other centres. The children enrolled had been diagnosed at the Servicio de Pediatría del HU Reina Sofia. Data were drawn from pre-coded cards completed when patients were seen for the first time and from their clinical records. The children were summoned for an appointment where their clinical case, physical examination and lab testing were recorded in coded cards. Data were analyzed with SSPS. NC was diagnosed in 91 children from 2002 to 2007. The etiologies, clinical and laboratory testing are discussed and described. Patients’ course was similar to that described in other series, except for transplanted children, who had a worse course, and the cases of neonatal hepatitis, all of which had a good course, probably because several had transient neonatal hepatitis. Referral to tertiary care was typically late and should be especially addressed at continuing medical education activities.

Keywords: cholestasis, neonatal, biliary atresia, newborn infant hepatitis

PP-153
Chron pancolitis – review of a patient
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Background and aim: Chron disease is rather rare among children. It usually occurs at the age of puberty or adolescence, hardly ever at younger age. The aim of the project - The project gives a review of a patient (Chron) with a rare form of clinic presentation.

Methods and Results: We are reviewing the case of a girl aged 8 years 10 months, being hospitalized because of an acute six-week watery and mucous diarrhea, without any admixture of blood, with a temperature of up to 38.5°C, with pains in the abdomen, anorexia, losing weight (1.5 kg) and with a swelling on the proximal joint of the fourth finger on her right hand. When brought to a hospital, the girl was febrile (38.6°C), slightly dehydrated, adynamic, apathic, thinner that she should be (-15%) according to her height, age and sex, without any puberty characteristics. The haematological status was mol/L. SE 57/78, C-reactive protein (CRP) in serum 47 μnormal. The serum iron 5 mg/L, fibrinogen 7.4 μg/L. Microbiological excrement findings were negative. Tuberculin findings – negative. RF – negative. C3 and C4 within normal limits. ANSA and anti smooth muscle anti-bodies positive. After a colonoscopy and a pathohystology checkup of the colon mucous membrane had been done, it was concluded that there were some changes typical for Chron-colitis. Esophageostroduodenoscopia and passage of the small intestine resulted within normal findings. Being treated with prednisolone (initially) and with 5-ASA, the hardships disappeared and the girl’s health condition became normal. After a five-week treatment – SE 18, CRP in serum 3 mL/l.

Conclusion: Chron disease is a disease with a polymorph and a very variable clinic, presentation, sometimes rather atypical, as it is in our patient’s case.

Keywords: chron disease, gastroenterology, pediatrics

PP-154
Marden–Walker syndrome presenting as upper gastrointestinal hemorrhagy and additional anomaly
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Marden–Walker syndrome (MWS) is a rare syndrome characterized by failure to thrive, marked motor and mental retardation, joint contractures, mask like face, micrognathia, high arched palate, arachnodyctyly, pectus
excavatum, kyphoscoliosis cardiac and renal anomalies. The etiology and pathogenetic mechanisms in this syndrome are not clear. We present 8-year-old a girl with MWS and upper gastrointestinal hemorrhagy. Additionally the patient had congenital diaphragmatic hernia which has not been reported in this syndrome before.

Keywords: Marden–Walker syndrome, child, congenital diaphragmatic hernia

PP-155

Depression and anxiety levels among children with coeliac disease: a preliminary report

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Background and aim: Celiac disease (CD) is an inflammatory disease of the upper small intestine resulting from gluten ingestion in genetically susceptible individuals. Neurological dysfunction as well as psychiatric symptoms are common in CD. Only few studies have focused on psychiatric symptoms in children and adolescents with celiac disease. This trial was performed to investigate the psychiatric symptoms, depression and anxiety in celiac disease.

Methods and Results: Sixteen children with CD and 16 healthy children were assessed with Children Depression Inventory (CDI) and State-Trait Inventory for children (STAI) two groups compared according to their findings. The diagnosis of CD was made according to the criteria recommended by ESPGAN. In children with CD group, there were 11 female, 5 male, mean age was 11.6 ± 4.2 years of being diagnosed CD and being on a diet mean was 5.2 ± 2.5 respectively. The mean scores of State-Trait Inventory for children and CDI, in celiac group 36 ± 5.7, 37 ± 5.7, 9.9 ± 4.8 and in control group 32 ± 4.36 ± 5.2, 11 ± 5.6 respectively.

<table>
<thead>
<tr>
<th>STAI and CDI mean scores between coeliac and control group</th>
<th>Coeliac</th>
<th>Control</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>37 ± 5.7</td>
<td>36 ± 5.2</td>
<td>0.82</td>
</tr>
<tr>
<td>Trait</td>
<td>36 ± 6.7</td>
<td>32 ± 8.41</td>
<td>0.16</td>
</tr>
<tr>
<td>CDI</td>
<td>9.9 ± 4.8</td>
<td>11.6 ± 5.6</td>
<td>0.38</td>
</tr>
</tbody>
</table>

Conclusions: In our study there were no significant difference in mean scores of STAI and CDI between two groups. Particularly in the phase before diet treatment, celiac disease is associated with increased prevalence of depressive and disruptive behavior disorders in adolescents. In some cases psychiatric symptoms appear to improve after the patient starts a gluten-free diet. In our patient group all patients were being on a diet at least 1 year and this condition might have been a protective effect on psychiatric symptoms.

Keywords: depression, anxiety, coeliac disease, child

PP-156

Autoimmune hepatitis triggered by hepatitis A viral infection: a study of two cases

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Pathogenesis of autoimmune hepatitis (AIH) remains unclear. Genetic predisposition is admitted but others exogenous factors are incriminated. Autoimmune hepatitis in association with preceding hepatitis A is rarely described.

Aim: Authors discuss the imputability of hepatitis A in the development of AIH.

Cases report: We describe the cases of a 6-year-old- girl and a 13-year-old boy who presented acute hepatitis A with positive IgM serology. Ten weeks after the diagnosis, they consistently presented jaundice, cytolysis remained important and they developed hyper gamma globulinemia. Anti smooth muscle antibodies were detected in the two patients, and liver biopsy showed lobular inflammation and periportal necrosis. The patients were diagnosed with AIH type 1 and responded well to corticosteroids and immunosuppressive therapy.

Conclusion: These cases, as well as other published reports, suggest that in certain individuals with genetic predisposition, acute hepatitis A may be the decisive factor leading to auto immune hepatitis.

PP-157

Opsoclonus-myoclonus-ataxia syndrome associated with hepatitis C infection: case report

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Opsoclonus-myoclonus-ataxia is a rare syndrome frequently associated with neuroblastoma in pediatric patients that characterized by multidirectional chaotic eye movements, myoclonus and ataxia. Opsoclonus can occur in many clinical settings, including paraneoplastic syndromes, parainfectious brainstem encephalitis, and toxic–metabolic states. Although the pathophysiology of
Oral findings in children with celiac disease

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Background and aim: Celiac disease (CD) is a chronic enteropathy, related with permanent intolerance to wheat gliadins and prolamines contained in barley, rye and oats. The clinical manifestations of celiac disease vary with the age of the patient, the duration and extent of disease and the presence of extra intestinal complications. CD is characterized by oral manifestations, such as dental enamel defects and recurrent aphthous stomatitis (RAS). The aim of this study was to investigate whether Turkish children with CD show dental enamel defects RAS, teeth missing and kserostomi and compare with age- and sex-matched healthy children.

Methods: The oral cavity was explored in 81 patients with CD (mean age 8.7 ± 3.7 years; age range 2.5 to 17 years) and in 20 healthy controls. Enamel defects, missing, RAS and kserostomi were established.

Results: Forty three (53.1%) celiac patients had enamel defects against 5 (25%) control subjects. The enamel defects occurred more frequently in patients (p:0.025). Regarding RAS, 39 (48.1%) patients and 1 (5%) controls had aphthous ulcers (p:0.0001). Teeth missing and kserostomi were detected in 11 (13.6%), 58 (47%), respectively. Patients with kserostomi were significantly higher than those of healthy children (p:0.008). In the present study, the prevalence of enamel defects, recurrent aphthous stomatitis and kserostomi were found to be greater in celiac patients than healthy controls. Conclusion: Early recognition of children with specific dental enamel defects, RAS and kserostomi referral to the pediatriscians might help in early diagnosing CD.

Keywords: celiac disease, child, enamel defects, recurrent aphthous stomatitis

Iron overload in children with Wilson disease

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Background and aim: Iron and copper toxic concentrations lead to liver cirrhosis. Frequency of iron overload (IO) syndrome in Wilson disease (WD) patients is cours ed by primary hyperabsorption in hereditary haemochromatosis or secondary cirrhotic injury of liver parenchyma. Methods: 26 pts (aged 8–18, m:f = 15:11) with WD were investigated for iron metabolism. Hyperferritinemia is a common symptom of both inherited or acquired IO. Phenotypic diagnostic plan included parameters of iron metabolism (serum iron, transferring, total iron binding capacity (TIBC) and ferritin concentration, transferring saturation (TS)), hemoglobin and erythrocytes. Genealogic anamnesis was defined for IO-associated diseases to detect probability of hereditary haemochromatosis.

Results: I groups - 11 pts with IO (42%), had increased levels of ferritin (P < 0.01), TS in diapason 40-116%, Iron, TIBS (P < 0.05) and transferring decreased (P < 0.01) in comparison with II group of 15 WD pts (58%) without IO, TS - 5-34%. Family history found out a twice frequency of cancer, diabetes mellitus, cardiac failure in I group, and the similarly frequency of liver cirrhosis in both groups. Conclusion: Iron overload was found in a nearly half of Wilson disease patients, hyperferritinemia >100 ng/mL is an indication for genotyping of hereditary haemochromatosis. Even a heterozygous mutation leads to chronic sideremia, ferritinemia and complicate liver injury. Conservative treatment of IO in WD patients consists in diet, antioxidant and hepatoprotective medications.

Keywords: Wilson’s disease, iron overload, iron status
satisfaction. Family history for iron associated diseases - the most important - diabetes mellitus, circulatory disorders and cancer.

Results: The complete complex of iron overload was found in 43 pts (10%) – increased iron, FRN storage more then 2 norms, TRN-S > 45%, TRN decreased and TIBC low or normal. In 35 patients (7.7%) we saw unexpected isolated low TRN, probably as a feed-back regulation mechanism. TRN-S seemed to be specific, but it closely depend from nonstable iron level, TRN-S > 50% - 36 pts (8.4%), >40% - 83 pts (19.4%).

Conclusion: Diagnostic algorithm of haemochromatosis the same as in adults, need genealogic anamnesis, iron status – the main are transferrin decrease less 200 mg/dL and ferritin level more then 120 ng/mL. This results became the indications for genotyping (major mutations of HFE, and HH types II-IV).

Keywords: heamochromatosis, phenotipical diagnosis, iron status

PP-161
Recurrent upper gastrointestinal tract bleeding secondary to Glanzmann’s thrombasthenia

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The gastrointestinal tract is the site of bleeding in only about 10% of cases in Glanzmann’s Thrombasthenia but the related mortality is high (12.8%). We report a case of recurrent upper gastrointestinal tract bleeding in a child with Glanzmann’s thrombasthenia.

The patient, 2.5-year-old-girl, was referred to our gastroenterology clinic 1 month ago with symptoms of epistaxis and melena. In the past medical history, patient was hospitalized with severe and recurrent upper gastrointestinal bleeding at the age of 9 months and 1.5 years old.

At the first hospitalization endoscopy was performed and this pointed out diffuse and severe bleeding involving all the gastric mucosa and H2 receptor blocker treatment was started and patient was recovered. At this hospitalization, her physical examination was normal and her whole blood count, biochemistry, coagulation factors was normal. Patient’s upper gastrointestinal endoscopy was showed mild gastric hyperemia. 8 hours after endoscopy was performed, patient had massive melena and vomiting of excessive blood. Patient developed anemia and laboratory examination of initial hematocrit 32% was decreased to 22% at follow-up. The patient was therefore submitted to repeated infusions of red blood cell concentrates. Peripheral blood smear showed the absence of platelet aggregation in despite of normal morphology and patients’ bleeding time was prolonged. Platelet function disorder was suspected therefore platelet surface antigens were checked. Laboratory examination was showed gp2b/3a (CD41) 0.3% (normal: >90%) and gp2b (CD61) 47.4% (normal: >%90). Patient was diagnosed with GT. Patient’s RBC marked scintigraphy was showed no focus. Patient is currently being followed up at our hematology clinic for 3 month without any bleeding episode. Glanzmann’s thrombasthenia (GT) can induce hemorrhages due to a defect of platelet aggregation, resulting from the absence or reduced concentration of the membrane glycoproteic receptor binding the fibrinogen (integrin alpha(IIb)beta3). Rarely, these hemorrhages can be fatal. Among the deaths due to hemorrhage, digestive bleeding causes 57.1%. Only in about 10.6% of cases with gastrointestinal bleeding has the site of hemorrhage been described. Most gastrointestinal bleeds reported in the literature referred to children, in whom endoscopy is rarely performed.

Keywords: gastrointestinal, Hemorrhagy, Glanzmann’ thrombasthenia

PP-162
Acute cholecystitis in children with HAV infection: report of six cases

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Acute hepatitis A virus (HAV) infection is an infectious disease commonly observed in childhood in developing countries like Turkey. It is generally asymptomatic, results in complete remission. Although abnormalities like gall blad-
der wall thickening and sludge formation can be seen in some cases, acute cholecystitis is a rare complication of HAV infection. Six cases with complaints of fatigue, vomiting, jaundice and abdominal tenderness were admitted to various medical centers where they were diagnosed with acute acalculous cholecystitis (AAC) which later led to diagnosis of acute HAV infection. As AAC is a rare complication after HAV infection, the underlying HAV infection was unnoticed. Surgical operation for AAC was planned. HAV infection should be considered in patients with the clinical features of AAC. Thus, the need for routine vaccination of hepatitis A vaccination will also be of great consideration.

Keywords: Hepatitis A infection, acute acalculous cholecystitis

PP-163

Morphologic and immunohistochemical peculiarities of liver fibrosis in children with chronic viral hepatitis B and C

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Background and aim: The evaluation both of liver fibrosis degree and the temps of its progress is very important for the choice of efficient antiviral therapy and strategy of patient therapy. Target. To determine the character and stage of liver fibrosis in children with chronic viral hepatitis B and C (CHB) and (CHC).

Methods: Under observation were 40 children with CHB and CHC (15 and 25 correspondingly). All patients were in viral replication stage. In all the patients the liver biopsy was performed with following histological, immunohistochemical, electronic microscopy investigations.

Results: The minimal or mild activity by histological studies was diagnosed in all patients with normal transaminases. In 40% children with CHC the stage of fibrosis by METAVIR was F2-F3 ($\chi^2 = 5.2; P < 0.05$ between groups CHB and CHC). In 52.0% of these patients in Dice space the low soluble collagen of I type was revealed ($\chi^2 = 11.3; P < 0.01$ between groups CHB and CHC). Only in children with CHC the sclerosis changes in v.centrum and v.portum were found. High incidence and degree of activation of sinusoidal cells and “capillarization” of the sinusoids in CHC testified about active synthesis of collagen in comparison with CHB ($\chi^2 = 6.1; P < 0.05$). The cells ±death by apoptosis and aponecrosis was revealed (index apoptosis in CHC - 62.8 2.6%; in CHB ± 2.3%; index of aponecrosis in CHC - 15.0 ± 4.8%, in CHB - 12.7 0.56%, $P = 2.0 < 0.05$).

PP-164

Prevalence of orthorexia among medical students

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Background and aim: Orthorexia is a new term about eating behaviour disorder in recent years and consists of pathological obsession for biologically pure foods, free of herbicides, pesticides, and other artificial substances. Excessive worry about the techniques and materials used in the food elaboration leads to obsession, loss of social relationships affective dissatisfactions and obsessive thoughts about foods. The aim of this paper was to determined orthorexia among students of Ataturk University Faculty of Medicine.

Methods: This study was conducted on 895 students and participation ratio is % 98.1 (n: 878). To determine the orthorexia the ORTO-11 test was used. The weight and height were measured. ORTO-11 test, there is no cut off point.

Results: The less score shows high tendency to orthorexia. Of 878 students, 489 (55.7%) were boys, 389 (44.3%) were girls. The frequency of the score between 0–20, 20–40, 40 and more were 27.7%, 71.6%, 0.7% respectively. There are six students having 40 and more score. There is a statistically significant difference between non-smoking and tendency to orthorexia ($P = 0.019$). There is not statistically significant difference between sex and age groups ($P > 0.05$). Eating attitudes change according to region and culture.

Conclusion: In conclusion, the frequency of orthorexia among medical students of in Erzurum Eastern of Turkey is still unknown; this study is the first frequency study of orthorexia.

Keywords: orthorexia, eating attitudes, adolescents

PP-165

Congenital cytomegalovirus hepatitis in an infant treated with ganciclovir

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Jaundice and hepatitis also have been established due to neonatal cytomegalovirus (CMV) infection. CMV
infection is unlikely to be a cause of massive hepatocellular necrosis in a normal host. Ganciclovir treatment reported to be effective in hepatitis in adults, there is insufficient research in children. We describe an unusual case of congenital CMV hepatitis in an infant treated with ganciclovir.

Case report: 3-month-old girl was referred to our department for hepatitis with cholestasis. CMV infection was finally diagnosed serologically, by direct CMV DNA detection in the blood by PCR and by the exclusion of other causes of neonatal hepatitis. Remarkable findings on clinical examination included fever hepatomegaly, splenomegaly, and microcephaly. The liver enzymes had worsened, with elevated direct bilirubin, aspartate aminotransferase, alanine aminotransferase and gammaglutamyl transferase levels. A liver biopsy showed an enlarged cell containing basophilic granules in the cytoplasm and swollen nucleus, intranuclear and cytoplasmic inclusions. She was treated with ganciclovir (10 mg/kg/day, in two doses) for 15 days, subsequently, 5 mg/kg/day, in single dose, twice a week for 12 weeks. At 3-months follow-up, direct bilirubin, aspartate aminotransferase, alanine aminotransferase, and GGT levels were normalized, and CMV DNA were negative.

Results and discussion: Ganciclovir was well tolerated and progressive, improvement of liver function was observed after antiviral therapy. We suggest that ganciclovir therapy significantly improves the clinical course of neonatal cholestatic CMV hepatitis. This observation suggests that antiviral therapy might be considered in select cases of congenital CMV hepatitis in infants.

Keywords: neonatal hepatitis, cytomegalovirus, ganciclovir

Results: Their weight and height were measured. Of 878 students, 489 (55.7%) were boys, 389 (44.3%) were girls. The prevalence of potential eating disorders among students is 10.5%. This prevalence was 7.6% in boy students and 14.1% in girls. There is statistically significant difference between sex groups (p:0.002). There is not statistically significant association between potential eating disorder and age (P > 0.05). Eating attitudes change according to region and culture.

Conclusion: In conclusion our results show that, the risk of potential eating disorder is high among medical school students in Eastern of Turkey. Eating disorders are important health problem for university students.

PP-167
A rare cause of abdominal pain: Crohn like intestinal tuberculosis

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Although the pathophysiology of Crohn’s disease (CD) has been understood better recently, there is no exact laboratory test for differentiating gastrointestinal tuberculosis (GITB) from CD.

Our objective was to present our GITB case, previously diagnosed as CD. 13-year-old girl was operated with the findings of acute abdomen. Histopathology showed ulceration, fissuration and transmural chronic active inflammation. She was diagnosed as inflammatory bowel disease and referred to our clinic. She complained of a 6-year history of abdominal pain increased in last 2 months. She was pale and malnourished. Axillary temperature was 38.5°C. The abdominal examination was normal. Laboratory findings revealed white blood cell count 11,900/mm³, CRP 60 mg/L and ESR 75 mm/hour. ASCA Ig G was positive. She was diagnosed as moderate CD and 5-ASA was prescribed to the patient. In her follow-up, she had fever, abdominal pain, distension, defense and rebound. In direct abdominal radiogram air fluid levels were seen. Abdominal ultrasound and computed tomography revealed thickness in proximal ileal segments, mesentric inflammatory changes, multiple lymph nodes and focal dilatation in proximal ileal segments. Clinically, dyspnea and crepitating rales were found the following day. Chest radiogram and thorax CT showed multiple lymphadenopathy and millimetric nodules. The patient had BCG scar and her Tuberculin skin test was negative. In colonoscopy, multiple ulcers were seen. Endoscopic biopsy from terminal ileum and rectosigmoidal segment revealed granulomatous and necrotic inflammation on an ulcerative background. Quantiferon-TB Gold test was positive. Gastric aspirate was strongly positive for AFB and mycobacterium tuberculosis culture was positive. 4-drug therapy and steroid were prescribed to the patient.
She had complete resolution of abdominal pain and weight gain was seen within 7 days.

Conclusion: There is a close resemblance in clinical, radiological, endoscopic and histopathological features of CD and GITB. Differential diagnosis of these two diseases is a difficulty for a clinician. But these conditions should be differentiated for planning the treatment. In developing countries, even if the cases have BCG scar and negative Tuberculin skin test, GITB should be remembered if abdominal pain is persistent.

PP-168

Use of electrolyte-containing polyethylene glycol in childhood constipation

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Background and aim: Constipation is one of the most common problems affecting infants and children. Osmotic laxatives are usually used as a primary pharmacologic therapy. In this study we investigated the effectiveness and safety of polyethylene glycol (PEG 3350) as a therapy in the children after one- year old who were admitted with constipation complaint to our gastroenterology polyclinic between the dates of January 2005–February 2007.

Methods: The study included 50 cases, ages between 1–12 years. All of the cases were prescribed PEG 3350. We aimed one or two painless soft bowel actions per day as the effectiveness of therapy. We filled a form including every patient’s history and physical examination. Complete blood counts with differential (CBC), liver and renal function tests, electrolytes of each patient are recorded to the form at first visit and at first, 2nd, 4 th, 8th and 12 th weeks. Each case was evaluated every month when they prescribed PEG 3350 Wilcoxon test is used for comparing values before and after the therapy. The study protocol was approved by medical ethical committee of Cerrahpaşa Faculty of Medicine.

Results: All children were prescribed PEG 3350 with electrolyte. The starting dose of the therapy was found at a mean 0.65 g/kg/day. The effective dose which means one or two painless, soft defecation was found at a mean dose of 0.75 g/kg/day. When we compared bowel movements per day before and after the therapy we found a significant difference (P < 0.001). The only reported adverse effect was diarrhea (10% n:5 cases) and it was resolved with reducing the dose of the drug. The average for the duration of the theapy was 5.5 months (4–7 months). All patients are responded to the PEG 3350 therapy The cases are followed in our clinic after the therapy. 12 cases therapy were finished. For 4 months follow up, the patients have no constipation complaint.

Conclusion: Low dose of polyethylene glycole with electrolyte is safe and effective in childhood functional constipation.

Keywords: child, polyethylene glycol with electrolyte functional, constipation

PP-169

Steroid-induced bone necrosis of the femur and ocular hypertension in children with autoimmune hepatitis: a case report

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Autoimmune hepatitis is a rare autoimmune disease that reflects a loss of tolerance to normal hepatic proteins. Autoimmune hepatitis is characterized by hypergamma-globulinemia, extrahepatic syndromes and a good response to immunosuppressive treatment. Nontraumatic bone necrosis results from impairment of circulation to the affected bone. The underlying cause for the circulatory defect in osteonecrosis varies and may involve both local and systemic changes. Steroid use, appear to lead to bone death either by development of fat emboli in the microcirculation surrounding the affected bone or by fatty infiltration of the marrow. After topical corticosteroid therapy We present seven-year-old girl with autoimmune hepatitis treated with corticosteroids, developed bone necrosis of the femur and ocular hypertension.

Keywords: autoimmune hepatitis, corticosteroids, bone necrosis, ocular hypertension

PP-170

Seroprevalence of hepatitis B infection in orphanage children in Erzurum

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Background and aim: Hepatitis B is a disease seen throughout the world and plays an important role in the etiology of a number of diseases, especially chronic insuf-
Celiac crisis in two children: an unusual presentation of a common disease

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Background and aim: A rare and life-threatening complication, affecting mainly children younger than 2 years of age, is the so-called celiac crisis, a term that applies to diffuse diarrhea leading to dehydration, hypokalemia, and metabolic acidosis. Two children presenting with celiac crisis are the subject in this report.

Methods: Two children (20-month-old boy and 36-month-old girl) were admitted to the emergency department for severe diarrhea and dehydration. Laboratory studies revealed severe metabolic acidosis, hypokalemia, hypoalbuminemia, and microcytic anemia. Serum iron and ferritin levels were low. There were not leukocytes, erythrocytes, and parasites in their stool specimens. The patients were transferred to the department of pediatric gastroenterology. A working diagnosis of CD was made. Anti-endomysium and tissue transglutaminase antibodies were positive. The upper gastrointestinal endoscopy was performed in both patients. Duodenal biopsies showed subtotal an total villous atrophy with increase in the intraepitelial lymphocytes and crypt hyperplasia. Despite gluten-free diet and parenteral nutritional support, the patients continued to have diarrhea, hypokalemia, and acidosis. Methylprednisolone (2 mg/kg/day) was started. Within 3 days, diarrhea and abnormal metabolic conditions returned to normal.

Result and discussion: Celiac crisis is an unusual cause of acute diarrhea and shock in children. In developing countries such as ours, where infective diarrhea and malnutrition act in vicious cycle. By performing screening tests for CD, a more accurate and specific diagnosis of celiac crisis may be made, allowing for prompt treatment. Corticosteroids should be considered in those cases of celiac crisis when a rapid response to gluten-free diet does not occur.

Keywords: celiac crisis, children

Etiology in infants with cholestasis

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Background and aim: Cholestasis in young infants has a varied etiology including congenital infections, malformations, metabolic disorders as well as inherited functional disorders of unknown etiology. Cholestatic jaundice in early infancy is a difficult diagnostic problem. Early diagnosis is important for proper management. The objective of this study was to determine etiologies of neonatal cholestasis.

Methods: Cause of cholestatic illness were studied in 107 infants with cholestatic jaundice developing before three months of age and persisting for more than two weeks. Cholestasis was defined by the presence of jaundice associated with increased serum conjugated bilirubin levels, and elevations in biliary enzymes (gamma glutamyl transpeptidase, alkaline phosphatase, and transaminases). All patients were analyzed for antibodies to TORCH and metabolic diseases. Ultrasonography, hepatobiliary scintigraphy, and liver biopsy were performed in all patients.

Results: Idiopathic neonatal hepatitis (28; 26.1%), followed by CMV hepatitis (17; 15.8%) and extrahepatic biliary atresia (12; 11.2%) were the commonest causes of cholestasis (Table 1).

Discussion: The neonatal hepatitis syndrome has many causes. The most important condition in the differential diagnosis is biliary atresia and affected infants require a
Kasai portoenterostomy performed by an experienced surgeon, ideally before the infant is 60 days old. Genetic causes of the neonatal hepatitis syndrome are increasingly recognized and early diagnosis facilitates genetic counseling and, in some situations, specific treatment. Outcome is dependent on aetiology. In idiopathic neonatal hepatitis more than 90% make a complete biochemical and clinical recovery.

Keywords: cholestasis, infant, etiology

PP-173

EBV associated lymphoproliferative disorder in a teenager with Crohn’s disease treated with azathioprine

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Azathioprine is an effective treatment for steroid dependent Inflammatory Bowel Disease (IBD). There is a potential long term risk of neoplasia in IBD patients treated with Azathioprine. We report an unusual case of EBV driven lymphoproliferative disorder (LPD) in a fifteen year old boy with Crohn’s disease. Initially he had mild disease involving oral mucosa but it subsequently progressed to involve small and large bowel. He was steroid dependent and this prompted treatment with Azathioprine, with a maximum dose of 3mg/kg/day. Eighteen months later, he presented with bilateral painless cervical lymphadenopathy with hepatosplenomegaly. Initial investigations showed pancytopenia so azathioprine was stopped. EBV VCA IgM was positive and EBV PCR >100,000 copies/mL. CT scan of abdomen showed hepatosplenomegaly, lymphadenopathy, and infiltrative lesions in the spleen. Lymph node biopsy was CD20 positive and consistent with EBV associated B-cell lymphoproliferation. Bone marrow examination did not show evidence of malignancy. He deteriorated with persistent per-rectal bleeding, acute liver and renal failure. Response to treatment was poor (Ganciclovir, Cyclophosphamide, Vincristine, Prednisolone, and Rituximab). He developed bowel perforation prompting urgent sub-total colectomy. Histology of the resected bowel was consistent with LPD. He completed four cycles of chemotherapy and Rituximab. He deteriorated and died due to sepsis. EBV driven LPD can occur in paediatric IBD patients treated with Azathioprine. Clinicians should counsel their patients about this rare but life threatening disorder.

Keywords: azathioprine, EBV, lymphoproliferative disease, inflammatory bowel disease, paediatric

PP-174

The pattern of antibiotic consumption in Qods Children Hospital

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Aim: Antibiotics are widely used by pediatricians in the world. Information about the types of antibiotics consumption in pediatrics fields is necessary in every society.

Methods: In this study 350 patients that were selected randomly through admitted patients in Qods Children Hospital, Qazvin, Iran during 1 year were evaluated. The data were derived through medical records. Data were analyzed with statistical methods.

Findings: Of total 350 children that were admitted in hospital 257 (73.4%) had used antibiotics. The most common antibiotics consumption were ampicillin (70.8%), gentamycin (26.5%), ceftizoxim (24.5%), cephalotin (18.3%), nalidixic acid, respectively. Single, double and triple therapy were seen in 50.2%, 39.3% and 10.5%, respectively. The most common age antibiotics consumption was 2-12months. 81% of gastroenteritis patients took antibiotics. The most common form of antibiotics combination therapy was ampicillin and gentamycin. The minimum and maximum duration of antibiotic therapy were 1 and 17 days, respectively.

Conclusion: Study revealed that the most of children that admitted in Qods Children Hospital, Qazvin, Iran recevie antibiotics. Ampicillin is the most common form.

Keywords: antibiotic, hospital, children

PP-175

Imerslund-Grasbeck syndrome : a case report

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Background and aim: Purpose of this study is to present a case thought to be Imerslund-Grasbeck syndrome because...
of vitamin B12 deficiency, proteinuria and glossitis. Introduction: Familial selective malabsorption of vitamin B12 associated with proteinuria was first described by Imerslund and Grasbeck et al. (Imerslund-Grasbeck syndrome). Inherited as an autosomal recessive trait, Imerslund-Grasbeck syndrome is characterized by the onset of megaloblastic anaemia and asymptomatic proteinurie during the first 2 years of life. It is the most common cause of cobalamin deficiency in children, and varying manifestations include an insidious debut with infections and failure to thrive, hematological and neurological symptoms, and slight general malabsorption. Mild proteinuria is frequently, but not always present, and its incidence seems to be diminishing. Genealogical studies show consanguinity and clustering of the origins of grandparents.

Case: A 5-year-old girl presented at our clinic with fever, poor weight gain, pallor and findings of frequent infection. On examination, megaloblastic anaemia, glossitis and proteinuria were determined in the girl and the mother also had vitamin B12 deficiency anaemia. With these findings, the patient was diagnosed with Imerslund-Grasbeck syndrome. Vitamin B12 treatment was started and the clinical findings were corrected. The patient was followed up by the clinic for 1 year.

Conclusion: Imerslund-Grasbeck syndrome should be considered for patients presenting with retarded growth development, anaemia and proteinuria. Early detection of this disorder would enable screening and genetic counselling for asymptomatic family members.

Keywords: anemia, Imerslund-Grasbeck syndrome, proteinuria, vitamin B12

PP-176
A mistaken belief resulting in vitamin B12 deficiency in mother and baby

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Purpose of this study is to examine vitamin B12 deficiency arising particularly from local mistaken beliefs.

Introduction: Vitamin B12 plays a role in DNA synthesis and cell development and division. As there is a particular effect on myelination, when there is a deficiency, the development of the brain and nervous system is affected to a significant degree. Vitamin B12 is found in abundance in meat products so therefore its deficiency is more commonly seen in vegetarians.

Case: An 18-month-old girl presented with retarded development and swellings around the eyes and the tops of the feet, which had first been noticed one week earlier. The child had been born as a natural vaginal birth as the 4th pregnancy of the 36-year-old mother. At birth the infant had cried immediately with no need for resuscitation, had since been breast-fed with no supplementary nutrition and on examination her general condition was seen to be average; conscious, hypoactive, fine sparse hair, hyperpigmentation on the hands and feet and +3 oedema on the tops of the feet and pretibial area. Hypersegmentation was determined with polymorphic nucleus leukocytes, peripheral spread and vitamin B12 at 57 pg/mL. The rate of hypersegment leukocytes to normal leukocytes was 8%. Other laboratory parameters were determined as normal.

Discussion: Vitamin B12 deficiency is widespread in children and old people in underdeveloped and developing countries and the reason for this is known to be nutrition. In south-east Turkey it is thought by some that meat and meat products are harmful to the baby if eaten when pregnant or just before pregnancy. Therefore when meat is not eaten, cases result of both mother and baby with severe B12 deficiency.

Conclusion: When pregnant women do not eat meat and meat products due to the belief that it is harmful to the baby, this is the cause of severe B12 deficiency in both mother and baby and the authors would like to stress the importance of correcting this mistaken belief.

Keywords: baby, B12 deficiency, mother, vitamin

PP-177
Acute abdominal pain in children-problems of differential diagnosis

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Background and aim: Acute abdominal pain is one of the common symptoms in children. In most of the cases it limits children physical activity, but also it can be indicator for serious medical intervention.

The aim of this study was to determine frequency of acute abdominal pain with observed children. It also serves to judge on significance of anamnesis data, physical examination and level of leukocyte in differenting on children’s acute abdominal pain.

Methods: Study includes 3845 children (53% boys and 47% girls) aged 3-14 years old. All children have been observed in period December 15, 2005. until December 15, 2007. All patients gave anamnesis data, received physical examination and leukocyte value has been established.

Results: Acute abdominal pain has been observed with 263 children (6.84%). It is most common as a part of symptoms connected with upper respiratory infections (28.6%), gastroenteritis (22.4%) and urinary infections (9.7%). In 84 out of 230 cases with acute abdominal pain
child surgeon has been advised. In 10 (11.90%) out of 84 those cases had received surgical intervention on acute appendicitis. In 56.25% of the patients leukocyte values has been above reference values and in 50.0% of the patients with acute appendicitis leukocyte showed above reference value.

Conclusion: Acute abdominal pain in children is a diagnostic dilemma. Frequent physical examinations and accurate anamnesis data do differentiate children’s acute abdominal pain. Level of the leukocytes can not be a measuring factor in determining the seriousness of acute abdominal pain.

Keywords: pain, abdomen, child, diagnosis, problem

PP-178
What makes the diagnosis of metabolic disorders easier?
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Background and aim: Early diagnosis of metabolic disorders is sometimes very difficult. Clinical signs and laboratory parameters are rarely obvious. Sometimes we have to wait for the results a lot, even in those cases when early diagnosis opens the door to therapeutic possibilities and we have to take into consideration its expenses, as well. X-ray diffraction is widely used in industrial engineering, chemistry and pharmacology and for analyzing kidney stones and retained crystals in tissue sections.

Methods: With the help of the Department of Mineralogy and Petrology of Miskolc University, after sedimentation and dehydration, authors investigated 120 urine samples of children suffering from different metabolic disorders, using X-ray diffractometry.

Results: In the urine samples of six children, different urinary amino acids due to aminoacidopathy were detected. In 16 cases glucose was detected in each samples of glucosuric patients due to diabetes mellitus. Calcium oxalate hydrate, referring to renal tubular injury due to medical drugs or metabolic disorders, appeared in 35 patient’s urine. Investigating the urine samples of 11 patients -kidney problems in history- in one case struvit, in the other cases Ca oxalate crystals were identified. N-acetyl-d-glucosamine, which occurs in mucopolysaccharidosis, was detected in five cases and in two cases the measurement proved the lack of it. In one case it has given the possible cause of sudden death detecting hormone metabolite in a 12-year-old boy. In 45 cases healthy children’s urine was investigated, as control ones.

Conclusion: X-ray diffractometry is a highly sensitive method, simple, quick and cheap, which can be used efficiently in clinical measurements. In order to determine its place in clinical trials, further investigations are needed.

Keywords: X-ray diffraction, urine examination, metabolic disorders

PP-179
The influence of maternal smoking on maternal and newborn oxidant and antioxidant status
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Background and aim: Maternal smoking has been suggested as a source of oxidant stress in pregnant women and in newborns exposed in utero. The aims of this study were to determine the influence of maternal smoking on oxidant status and antioxidant vitamins of mother-infant pairs.

Methods: Socioeconomic and diet characteristics were recorded from 20 smoker and 20 non-smoker pregnant women of 36–37 weeks gestation. On the day of delivery, venous blood samples of the women and cord bloods were taken. On postpartum day 7–10, milk and infant urine sample was collected. Plasma and milk β-carotene, retinol, α-tocopherol, malonyl dialdehyde and cotinine levels, and urine cotinine were measured.

Results: The mean (range) self reported number of cigarettes smoked daily by smoking mothers was 9.6 (5–20). There were no differences in dietary characteristics between smokers and nonsmokers. There were no differences in biochemical analysis in plasma and cord plasma of smoking and non-smoking mothers. Milk α-tocopherol levels of smoking mothers were lower than those of non-smoking mothers (P = 0.045). The concentrations of α-tocopherol, β-carotene and retinol were significantly higher in mothers than in cords.

Conclusion: We suggest that plasma levels of antioxidant vitamins, except vitamin C, are not found consistently lower in pregnant smokers than nonsmokers. The lack of differences in the vitamin levels of our study does not rule out fetal antioxidant depletion in the infants of smoking mothers. Milk has higher lipid content; and therefore, lower milk levels of vitamin E in pregnant smokers may suggest utilization of this antioxidant to limit oxidative stress and lipid peroxidation.

Keywords: maternal, smoking mother, newborn, antioxidant, vitamins, oxidant status
Paediatric complementary therapies - effectiveness and specialist paediatric registrars' belief systems

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Background and aim: Paediatric Complementary Therapies (PCTs) are gaining popularity in Ireland. There are limited data available on the belief systems of Specialist Paediatric Registrars (SPRs) in the use of these therapies.

This study assessed SPRs' views on the utility of complementary therapies for common paediatric conditions and the quality of evidence for their effectiveness.

Methods: A list of 14 complementary therapeutic interventions offered for 16 conditions were assessed based on clinical entities encountered in the paediatric service. A PubMed search was conducted utilising Mesh Terms 'complementary therapy' and 'children' with restriction to the English language and randomized controlled trials (RCT). The Jadad scale (range 0-5, <3 for poor quality) was used to assess the quality of RCTs. The effectiveness of each complementary intervention was analysed on the basis of number needed to treat/harm (NNT/NNH). SPRs' opinions on the use of each complementary therapy were documented utilising a 6-point Likert Scale questionnaire, cuing at 1 (strongly disagree) and cuing at 6 (strongly agree), with an additional 'don't know' option for each question.

Results: The questionnaire was distributed to 39 SPRs' with a 100% response rate, M: F, 1:3. Fifteen RCTs were assessed. There were 8 high quality RCTs (Jadad scale >3), 5 of which had effective PCTs and another 3 studies had ineffective PCTs. In the high quality studies, 3 to 35.1% of SPRs would utilise the effective PCTs and 2.7–4.2% of SPRs would utilise the ineffective PCTs. There were 7 poor quality studies, 5 of which had effective PCTs and 2 studies with ineffective PCTs. In the poor quality studies, 0–53.8% of SPRs agreed with the utilisation of effective PCTs whilst 5.7–36.7% agreed with the utilisation of ineffective PCTs. One remaining complementary therapy had not been previously determined with a RCT, but its utilisation was deemed appropriate by 25% of the SPRs. The 'don't know' option selection ranged from 0–59%. Twenty one (54%) SPRs encountered patient enquiries on complementary therapies in the previous year and 26 (66%) participants felt education in this area was warranted.

Conclusion: This study highlights that SPRs have sub-optimal knowledge on complementary therapies which needs to be remedied. The quality of RCTs needs to be evaluated prior to the recommendation of the therapy assessed for patients as poor quality studies may overestimate the treatment effect.

A case of PLEVA

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A 9-year-old boy referred to our center with generalized rash of 2 days’ duration and the diagnosis of Varicella (chickenpox) zoster infection. There was no associated fever, malaise, headache, arthralgia or pruritus. The past history did not include varicella infection. His past health was otherwise unremarkable. On examination, there were numerous discrete, erythematous maculopapules evenly distributed over the trunk. Some of the lesions had vesicles and/or a crusted surface. The face, scalp, mucous membranes, palms, and soles were spared. There was no lymphadenopathy, hepatosplenomegaly. The physical examination results were otherwise normal. Clinical appearance resembled Pityriasis lichenoides et varioliformis acuta (PLEVA). His skin biopsy confirmed the PLEVA
diagnosis. His varicella Immunoglobulin’s consistent with past infection (Ig G positive Ig M negative). PLEVA is a common disorder. It occurs most often during the second and third decades of life. PLEVA is characterized by the rapid onset of numerous reddish-brown macules and papules that usually evolve into vesicles, pustules, and crusted ulcers. The lesions have a polymorphous appearance, erupt in crops, and are distributed mainly on the trunk and extremities. The face, scalp, mucous membranes, palms, and soles are usually spared. Lesions are usually asymptomatic and resolve in a few weeks to a few months. The diagnosis of PLEVA is based on the distinctive clinical appearance. No treatment is necessary for mild and asymptomatic cases. Our patient lesions completely resolved within 2 weeks without any treatment. PLEVA should be in mind patients with rash.

Keywords: Pityriasis lichenoides et varioliformis acuta, PLEVA, children

PP-182
Immunoglobulin use in pediatric practice
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Background and aim: Actually many immune disorders are treated by Intravenous Immunoglobulin products (IVIG), because of their immunoregulatory properties. Objectives of this study is to evaluate the use of IVIG at the treatment of pediatric cases during our practice.

Methods: 36 children aged 0–14 years old hospitalized during the period 1997–2007 with different immune disorders and severe bacterial infections, were included at the study. IVIG of type IgG was used in immune disorders, while IgM type was applied in septic children. The evaluation of therapy was based on improving of clinical and laboratory data of each pathology. 20 children with the same pathologies, where IVIG treatment was not available, were referred as a control group.

Results: The distribution of cases according to the different diseases was as follows. 11 children with idiopathic Thrombocytopenic Purpura, 8 cases suffered from polyaradiculoineuritis, six children were diagnosed as Kawasaki syndrome, 3 patients had primary immunodeficiency and 11 patients of neonatal age and older was diagnosed with severe bacterial infections. The treatment was effective at nine cases with ITP, where the therapy with corticosteroids and Imuran failed. All the treated children with poliaradiculoineuritis had an improved score by 1 or 2 points compared with the control group. Children with KS had a very rapid improvement of clinical and laboratory data. IgM were effective at the treatment of bacterial sepsis with 100% of survivals. No treatment side effects were noticed.

Conclusion: IVIG treatment is effective in various immune disorders of pediatric age. It improves clinical course and helps in reducing of disability, hospitalization and complications.

PP-183
Epidermodysplasia verruciformis associated with NK/T cell lymphoma
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Epidermodysplasia verruciformis (EV) is an uncommon dermatosis associated with human papillomavirus (HPV) infection in association with defects in cell-mediated immunity. Clinically, the disease is characterized by the early onset of extensive, persistent verruca plana that may undergo malignant transformation. Extranodal natural killer/T (NK/T)-cell lymphoma is a rare disease, but usually shows a highly aggressive clinical course. We report a twelve year old boy who had 2–3 mm hypopigmented smooth macules and blisters covering the entire body including his hands for 10 years. He was referred for tumour of the right nasal cavity. Biopsies taken from the nasal cavity revealed that the immunophenotype of the tumor cells was CD56 + , CD3 + , CD20−, consistent with the diagnosis of NK/T-cell lymphoma. Flow cytometry of his peripheral blood showed reversal of the ratio of CD4 + to CD8 + lymphocyte subsets. This is the first report of a patient with epidermodysplasia verruciformis who developed extra nodal NK/T cell lymphoma.

PP-184
PFAPA syndrome: a case report
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PFAPA syndrome is one of the causes of periodic fever in pediatrics and it is characterised by recurrent attacks of high fever, pharyngitis, cervical adenitis and aphthous stomatitis. Etiopathogenic mechanisms are unknown. Its diagnosis is reached by excluding other causes of periodic fever since the laboratory findings are unspecified. Resolution of clinical findings after one or two doses of prednisone helps to confirm the diagnosis. It is considered to be a benign syndrome and usually resolves in four years with no sequelas. We present the case of a 3-year-old patient with PFAPA syndrome. A 3-years-old girl applied
with high fever. She had the history of fever attacks for 2 years. Physical examination revealed pharyngitis and cervical lymphadenopathies. Treatment by antibiotics failed to resolve the symptoms. She applied with the same findings 11. more times in 11 months. Laboratory examination revealed high acute phase reactants. Investigations for immune deficiencies, familial mediterenian fever, Hyper IgD syndrome, viral and bacterial infections were negative. At the 11 month of follow up she presented with aphthous stomatitis in addition to the previous findings. The diagnosis of PFAPA syndrome was confirmed by dramatic resolution of fever after administration of steroids. Periodic episodes of high fever, pharyngitis and cervical adenitis with a poor response to the conventional treatment should alert us for the diagnosis of PFAPA syndrome. The recognition of this entity will help to improve the diagnostic and therapeutical approach and decrease the anxiety produced by recurrent fever attacks.

Keywords: PFAPA syndrome, periodic fever, aphthous stomatitis, cervical adenopathies

PP-185

The evaluation of reticulocyte response to iron deficiency anemia during infancy

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Background and aim: Iron deficiency is a well-known entity of infancy. In this trial, the response of bone marrow to this has been studied using reticulocyte count.

Methods: Twenty healthy infants were enrolled in this study who were born as full term, at normal weight, and were followed up from birth until 12 months of life. All babies fed up with breast milk during first 4–6 months and no iron supplementation was given for the first year of life. Reticulocyte number, haematocrit and haemoglobin levels, serum iron and total iron binding capacity (TIBC) at cord blood; at first week; at third, sixth, ninth and twelfth months were analysed.

Results: It was found that haematocrit and haemoglobin values decreased at 3rd months significantly (P < 0.05), which was compatible with physiological anemia of infancy. All these variables increased at 6th month and continued to decrease up to 12 months. Serum iron level was found to be within normal range but lower at third month than cord blood, also lower at ninth month than sixth month significantly. TIBC was higher meaningfully only at 9th month. Total reticulocyte count was found significantly lower than cord blood at 1st week and significantly higher than 6th months at 9th and 12th months (P < 0.01).

Conclusion: It was concluded that total amount of body iron was decreased at 6th and 9th months. As a result of increasing body mass and accelerated growth at this period anemia develops, thus bone marrow reacts with increased activity, which is derived from dynamics in reticulocyte count.

PP-186

Rehospitalization of the newborns after early discharge from delivery hospital

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Background and aim: Early discharge of the newborns from delivery hospital has been accepted during last decade in most countries. As many processes of early adaptation have not been completed by this time, early discharge may carry high risk for rehospitalization.

Objective is studying the rate and reasons of rehospitalization of the newborns during early neonatal period after early discharge from delivery hospital.

Methods: Case reports of all newborns admitted to two children's hospitals in 2005–2006 after discharge from delivery hospital within first four days of life as healthy newborns were studied retrospectively.

Results: 50 newborns were admitted, with median age 5 (3–7) days. Most of the babies were born at term, 10% were premature, born at 36th week of gestation. Median birth weight of the newborns was 3500 g (2650–4750g). The rehospitalization rate was 0.7% in a district and 1.5% in a regional hospital. Nonhaemolytic hyperbilirubinemia was the main cause of rehospitalization in 82% of children, in combination with mild infections in 13% and feeding problems in 11% of cases.

Conclusions: The main reasons of rehospitalization of newborns after early discharge was hyperbilirubinaemia in combination with feeding problems and mild infections which might be avoided with proper counselling during early neonatal period.

PP-187

Acute guttate psoriasis associated with streptococcal perianal dermatitis

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Guttate psoriasis is a distinctive form of psoriasis that characteristically occurs in children and young
adults. Guttate psoriasis has a well-known association with streptococcal throat infections. But there are only few papers reporting the association of guttate psoriasis with perianal streptococcal dermatitis. Perianal streptococcal dermatitis, superficial bacterial infection usually with group A beta-hemolytic streptococci, is often misdiagnosed for long periods and patients are subjected to treatments for a variety of differential diagnosis without success. We report a 3-year-old boy with gammate psoriasis triggered by perianal streptococcal dermatitis.

**PP-188**

**One of the rare causes of cyclic vomiting: ethylmalonic-adipic aciduria dependent to riboflavin**

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11 year old girl is inspected due to attacks of vomiting and ketoacidosis occurring 2 times in every month. The patient were researched as abdominal epilepsy, malrotation and gastroesophageal reflux in the other clinics. Previously tested the blood aminoacid analysis, organic acid analysis, carnitine profile in tandem MS were in normal ranges. By the way of fructose loading test, fructose intolerance was discarded. “Fasting Test” is done to the patient for further investigation. In the 22nd hour of the test, increased anion gap metabolic acidosis and (++) ketone in the urine were detected. Confusion, ventricular extrasystoles and bradycardia has occurred. Before ending the test, blood and urine samples were collected. C10, C14, C14:1, C14:2 carnitine esters were high. Urine organic acid analysis showed high amount of ethyl-malic acid, sebastic acid and adipic acid. By the results, “Ethylmalonic-adipic aciduries: electron transfer flavoprotein dehydrogenase deficiency” was diagnosed. Riboflavin (200 mg), L-Carnitine (100 mg/kg) has started as treatment. By now, the patient is disease free for 8 months. Ethylmalonic-adipic aciduria is an autosomal recessively transmitted fattyacid oxidation defect. Three forms of the diseases are: neonatal form with congenital malformations, neonatal form without congenital malformations and late onset form. The late onset form is frequently nonsymptomatic until adulthood. Treatment of the severe neonatal presentations is not effective. Mainstay therapies include avoidance of fasting, a diet low in fat and protein and high in carbohydrates. Riboflavin supplementation in the milder cases has been curative in some cases. Additional supplements of glycine and L-carnitine have been used.

Keywords: ethyl-malic acid, cyclic vomiting

**PP-189**

**Late haemorrhagic disease of the newborn: evaluation of 15 cases**

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Late hemorrhagic disease of the newborn (HDN) can occur owing to a lack of vitamin K prophylaxis, as a manifestation of an underlying disorder or idiosyncratically from the 8th day to 12 weeks after birth. Severe hemorrhagic symptoms frequently occur, especially hemorrhage in the central nervous system and gastrointestinal system. In this study, clinical, laboratory findings, treatment, and outcome of fifteen patients with late HDN seen in a 12 months period (2007–2008) in our hospital are presented. None of the infants had bleeding due to inherited coagulopathy or disseminated intravascular coagulation. Of 15 infants, 6 (40%) were girls, 9 (60%) were boys. All children were breast-fed infants and were born at term from healthy mothers. 53.3% of the infants were delivered at home. There was no history of vitamin K administration at birth. The most frequent clinical manifestations of HDN were pallor, tense fontanel, convulsions, feeding intolerance, irritability and poor sucking. Neurologic, gastrointestinal and skin hemorrhagic findings were found in 60%, 26.7% and 20%, respectively. There were both gastrointestinal and neurologic bleeding symptoms in three patients. The mortality rate was 20%. In conclusion, late HDN is not uncommon in our region, and the importance of vitamin K prophylaxis is emphasized.

Keywords: late hemorrhagic disease, vitamin K, newborn

**PP-190**

**Diagnosis of Duane syndrome in emergency room**

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A nine year old boy was brought to emergency room due to car accident. On physical examination bilateral lateral gaze palsies were detected. There was no parent to ask the past history of the patient. There was no pathology on computed tomography of cranium. After the initial work up, we learned that patient and his mother had strabismus. After the detailed investigation his mother and the patients were diagnosed type 1 and type 5 Duane syndrome (DS), respectively. DS is a rare, congenital disorder of eye movement. In most patients, DS is diagnosed by the age of 10 years. People with DS have a limited and sometimes
absent ability to move their eye outward toward the ear (i.e., abduction), and in most cases, they have a limited ability to move the eye inward toward the nose (i.e., adduction). Often, when the eye moves toward the nose, the eyeball also pulls into the socket (i.e., retraction), the eye opening narrows. The frequency of DS in the general population of individuals with eye movement disorders (strabismus) is approximately 1–5%. DS classified into the 3 types. The most common clinical presentation is type 1 DS (70–80%) followed by type 2 (7%) and type 3 (15%). Approximately 80% of cases are unilateral. Findings from neuropathologic, neuroradiologic, and neuropsychologic studies support the hypothesis that DS results from an absence of cranial nerve VI (abducens nerve) and is associated with other anomalies in some cases. Both genetic and environmental factors are likely to play a role in the development of DS. Most cases of DS cases are sporadic, with only approximately 2–5% of patients having a familial pattern; families with large involvement are rarely reported. Most familial cases are not associated with other anomalies. Patients present to emergency room with neurological deficit should be asked in detail for past history.

PP-191
Pumpkin seed bezoar presenting as child abuse in a child
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Fecal impaction by rectal seed bezoars in children has been considered a rare disease entity. Because of a lack of diagnostic features, it is often associated with a delay in treatment, with increased morbidity. In this article, we report a child with bezoar-induced pumpkin seed. The patient required removal of the impaction under sedation. Furthermore, to our knowledge, this is also the first reported case suspected as child abuse because of rectal injury. This case report expands the literature on causes and presentation of intestinal bezoars in children.

Keywords: pumpkin seed, bezoar, child abuse

PP-192
Growing pains in children: myth or reality?
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Growing pains are a frequent problem in paediatric practice. Over the last years their diagnostic approach has changed. Effectively, the physiologic phenomenon of growing is not supposed to be painful. The pains described are non-inflammatory musculoskeletal pains. Differential diagnosis should nowadays include syndromes like fibromyalgia or restless legs syndrome. The psycho-socio-familial back ground in which the child lives should be closely evaluated and the clinician should encourage the child as soon as he/she has reached the appropriate age to express him-/herself and describe his/ her pains. The therapeutic approach is also different: It is important to re-assure the child and the family that this syndrome is a benign disorder and to encourage the child to have a regular physical if not even sporty activity according to what he/she likes. Furthermore, complementary therapies, such as relaxation techniques or hypnosis should be privileged.

Keywords: child growing pains, non-inflammatory, musculoskeletal pains

PP-193
Quick differentiation of bacterial from viral infection in Bosnian pediatrics practice using procalcitonin
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Background and aim: Procalcitonin may be useful in an emergency room for differentiation of bacterial from viral infections in children and for making decisions about antibiotic treatments. PCT is prohormone of calcitonin and it contains of 116 aminoacids. It is also a useful indicator of severity of bacterial infections.

Methods: We compare our Bosnian and other studies and articles about procalcitonin (PCT) and its effects and important for quickly distinguishing between bacterial and virus infections in children and infants.

Results: We found that the procalcitonin (PCT) concentrations increases in bacterial infections but remains low in viral infections and inflammatory diseases. The change is rapid and molecule is stable, making it as potentially useful marker for distinguishing between bacterial and viral infections.

Discussion: Its advantages over CRP, IL-6 and INF alpha are clear but it doesn't mean that those methods, despite some disadvantages earlier explained, should be rejected.
Conclusions: The change is rapid and molecule is stable, making it a potentially useful marker for distinguishing between bacterial and viral infections. Comparation procalcitonin with CRP C reactive protein, interleukin 6 and interferon alpha is increased values. Procalcitonin is better then others for differentiation bacterial and viral infections.

Keywords: infections, children, procalcitonin (PCT), diagnostics, Bosnia

PP-194

Morbus Rendu-Osler-Weber and its complications

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Background and aim: Morbus Rendu-Osler-Weber or hereditary hemorrhagic telangiectasia (HHT) is a rare genetically determined, autosomal dominant disorder characterized by vascular dysplasia and hemorrhage, in many systems and organs. Histopathologic studies reveal large, irregular, thin walled blood vessels, but the pathogenesis has not been fully established. HHT may occur in children, but is more far common during puberty or adulthood. Complications, like pulmonary and CNS arteriovenous aneurysms (AVMs) may appear later in life.

To present few cases with Morbus Rendu-Osler-Weber and to focus the role of early diagnosis in the prognosis of this disease.

Methods: Among hospitalized children at University Children’s Hospital, Pristina, in a eight year period (2000–2007), there have been diagnosed four children with HHT. All of them were female, aged 9, 15, 12 and 6 years, respectively. First patient was diagnosed at 2000, with pulmonary arteriovenous fistula, characterized by typical sistolo-diastolic murmur on the back and positive chest X-ray. The most serious was the second patient, who manifested signs of cerebrovascular arteriovenous fistula. Third patient is recently diagnosed and judging by clinical picture – there is developing complications, like pulmonary arteriovenous fistula. The latest, the youngest one, patient is seen for the first time few months ago, showing for the moment only mild symptoms and signs. Due to dyspnea, cyanosis, hypoxemia, secondary polycythemia and clubbing of the fingers, especially manifested in the second patient - the first differential diagnosis was cyanotic congenital heart disease, which was eliminated after echocardiography and other techniques. Nose bleeding was the most often hemorrhage, occurring in half of patients, while the most dramatic complication occurred in the second patient, as a cerebrovascular hemorrhage, followed by stroke. The prognosis of our patients was as follows: the first patient has been successfully operated from pulmonary AVM at her 13, with no other serious problems. As expected, the second case had the poorest prognosis - there was no chance for CNS fistula surgery, and ten months after cerebral hemorrhage, she died. Judging by the symptoms, third
patient is developing pulmonary AVMs, while the youngest patient is for the moment symptom free.

Conclusion: HHT show a wide spectrum of symptoms, depending on site of hemorrhage and presence of AVMs.

**PP-195**

Severe haemorrhagic retinopathy and traumatic retinoschisis in a 2 year old infant, after an 11 metre fall onto concrete

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Retinal abnormalities are a common finding in abusive head trauma. A severe form of retinal injury, traumatic retinoschisis, which is characterised by a dome-shaped cavity near the macula with elevated perimacular folds at the periphery of the cavity, had until recently only been reported in Shaken Baby Syndrome (Levin, 2000) and was thought to be a diagnostic sign. Lantz et al (2004) and Leuder et al (2006) reported this finding in 2 children with severe crush injuries to the head. Gnanaraj (2007), in a retrospective review, did not find any association between crush injury and retinal folds and macular retinoschisis.

We report a case of traumatic retinoschisis in a 2 year old infant who fell approximately 11 m onto concrete. The child had multiple skull fractures, a subdural haematoma, intraparenchymal injury, and on examination of her eyes on day 9 of her hospital admission, had bilateral preretinal, intraretinal and subretinal haemorrhages, with bilateral macular retinoschisis. Severe haemorrhagic retinopathy and retinoschisis is not specific to any one type of trauma and does not require repeated acceleration-deceleration forces.

References:

**PP-196**

Paediatric weight ‘guesstimation’ - can we, should we, and how do we compare to standard formulae?

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Background and aim: Paediatric weight estimation is most critical when the situation is critical. Previous studies suggest that healthcare professionals are not accurate in attempting to ‘guesstimate’ children’s weights. It is now also recognised that underdosing may be just as dangerous as overdosing. The most commonly used weight estimation formula is that used in APLS teaching: (Age in years + 4) ² (age <10 years) (Age in years) ³ (age >10 years) A further modification is suggested by Luscombe: (Age in years ³) + 7. Our aim was to compare each of these equations and Paediatric Staff ‘guesstimates’ of weight.

Methods: A convenience sample of 109 children was recruited (total ‘guesstimates’ 129). Staff attending the child were asked to guess the child’s weight before the child was routinely weighed, having their experience level recorded. The child’s age, weight estimate, and true weight were recorded. It was felt that males would be more accurate than females and that level of experience would correlate with increased accuracy.

Results: Staff weight ‘guesstimations’ were three times more accurate than the APLS formula (6.2% underestimate versus 18.9%). Overall the Luscombe formula was the most accurate (5.1% underestimate) but this was not sensitive to deviations from the line of best fit, where staff ‘guesstimations’ were more accurate. Conclusion: The Luscombe formula was marginally the most accurate, but staff ‘guesstimations’ followed the average line more closely. Luscombe formula is a best fit line. Males were not more accurate than females and increased experience did not correlate with better accuracy. We are introducing the Luscombe formula as our emergency formula but are also happy to allow staff to ‘guesstimate’ children’s weights.

Keywords: weight estimation, APLS, Luscombe

**PP-197**

Importance of implementation of CRP imunoturbidometry assay from capillary blood sample in pediatrics primary healthcare

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Background and aim: In Primary Care Units pediatrician is mostly alone with the child and his disease. Sometimes there are only few diagnostic variables to give him parameters for diagnosis and therapy. Life-threatening infections are frequently presented with very few clinical symptoms in small children at initial course of the disease. Improving the method of CRP diagnostic the conclusion about diagnosis and therapy are easier to make. Knowledge of how severe the disease is gives more power to decide about next procedures.

Methods: Practical CRP imunoturbidometry assay from capillary blood sample (Orion, Finland) has been evaluated
as assistance in detecting severe bacterial infections at initial stages of disease in 200 pediatric patients. Assay, performed in about 4 minutes within pediatric facility, revealed high sensitivity and reliability.

Results: About 10% children at initial phase of disease presenting only with high fever had CRP levels indicating presence of severe bacterial infection. Further diagnostics most frequently revealed bacteremia, pneumonia or urinary tract infection. Least clinical symptoms of severe infection were present in young infants. We tried to show in certain cases how important it was to use CRP method. High CRP levels we found more frequent in older infants and young children. It might be because of their permanent exposure to respiratory infections acquired from children attending day-care facility.

Conclusion: The CRP imunoturbidometry assay of the capillary blood samples (Orion, Finland) has been a practical and reliable help in early detection of severe bacterial infections.

PP-198

A case of jaundice associated with hypertrophic pyloric stenosis carrying UGT1A1 polymorphism

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A 45 day-old boy was admitted because of recurrent vomiting after feeding and loss of weight. He was born after an uneventful pregnancy at term. Birth weight was 3700 g, he had no history of neonatal jaundice, his parents were healthy and unrelated. Their previous child was diagnosed to have Down syndrome. Additionally he had endocardial cushion defect, tetralogy of Fallot, pulmonary stenosis and hypothyroidism. This child died because of surgical complications after cardiac surgery at the age of 4 months. On admission, the physical examination revealed that his weight was 4000 g (50 percentile), height 54 cm (50 percentile). He was icteric and had projectile vomiting especially in a short period after feeding. There was no evidence of infection and hemolysis. Thyroid function tests and all biochemical tests were normal except serum total bilirubin level which was measured as 9.82 mg/dL, unconjugated fraction was 9.05 mg/dL. Within the first 15 days of hospitalization period projectile vomitings continued and he lost 900 g, became dehydrated and his icterus increased. On sonographic image of the patient; long axis of pylor measured 5 mm along 21 mm length and was diagnosed as hypertrophic pyloric stenosis. He was consulted by pediatric surgery and Ramsted pyloromyotomy was performed. The jaundice was cleared within two days and the infant was discharged. Jaundice is a condition which is sometimes observed in infants with hypertrophic pyloric stenosis. Previous reports favoured the hypothesis that such cases could represent as early manifestation of Gilbert syndrome. This benign condition has shown to be due to a polymorphism in a promoter of the bilirubin UDP-glucuronosyltransferase gene (UGT1A1), with seven instead of six TA repeats in this region. Increase of the promoter TATA box binding site results in decreasing of the enzyme activation causing decreasing of bilirubin conjugation. This findings indicate an association between the promoter polymorphism of the UGT1A1 gene and jaundice associated with hypertrophic pyloric stenosis. It appears that this condition may be due to either homozygous or heterozygous (TA)7TAA polymorphism. In our patient direct sequencing analysis of the promotor region of UGT1A1 gene revealed a genotype of (TA)6/7TAA in the patient. The parents were also sequenced for the same region and the mother was found to be heterozygous for the same polymorphism [(TA)6/7TAA] whereas the father was (TA)6/6TAA.

PP-199

Pattern of hospital admissions of children with intoxication: 3 years overview

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Background and aim: To determine the incidence of hospitalization due to intoxication among children who were admitted to our clinic and to analyze the demographic data, hospital data and the agents used.

Methods: For this retrospective study, a database of all admissions to our clinic were used. Data were extracted from the medical records of 330 patients admitted for intoxication between 01.01.2005–31.12.2007.

Results: Out of 2989 children admitted to our department during three year period, 330(11%) cases were intoxications. The mean age was 4.57 ± 3.52 years (6 months–14 years), and female to male ratio was 1.26. There were 238(72.1%) patients ≤5 years of age, between >5 to 10 years 55(16.7%) and <10 years 37(11.2%) cases respectively. There were statistically significant difference for the ≤5 years group (p:0.0001). Mean duration of observation in the emergency room was (1.2 ± 0.6 hours).
Median length of hospital stay was 2 days. Pharmaceutical agents were identified in 76% of the intoxications. Psychotropic agents (33.9%) were the most commonly used (tricyclic antidepressants were the most common, 27.1%), followed by multidrug admission (14.3%), analgesic agents (9.6%), anticonvulsivants, sedative-hypnotic, antiparkinson agents (7.5%). Nonpharmaceutical agents were identified in 24% patients with intoxication. The most common were pesticides (15%), followed by mushrooms (6.7%) and alcohol (1.8%). The majority of all cases were due to accidental poisoning (90% of all), mostly in children ≤5 years of age (71.5%), mainly by pharmaceutical agents. Followed by self-inflicted intoxications (8.2%) which have the highest ratio >10 years (6.7%). Intoxications due to therapeutic errors (1.8%) were seen ≤10 years. The most common route of intoxications was (96.1%) oral, and (96%) were ingested inside the house, 34.5% patients had various symptoms at the time of admission, and the mortality rate was 0.3% of our patients.

Conclusion: Pharmaceutical agents were the most common ingested medication. Prevention efforts should be continued to decrease intoxication-related hospitalizations and deaths. There is need for development of more effective poison centers and “Childhood Intoxication Prevention Packaging Act” to increase the safety of medications and home products. Also prevention should include parenteral education about transferring medications or household products from their original container and use of child-resistant containers.

Keywords: intoxications, poisoning, childhood

PP-200

Neural tube defects - the incidence and MTHFR polymorphisms in Slovak population

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Background and aim: Neural tube defects (NTD) belong to the most debilitating birth anomalies. The geographical & historical differences in NTD incidence varies tremendously - from 8/1000 till 0.21/1000. Discovery of folate preventive effect influenced the research of NTD genetic background focusing to the genes whose products take part in the FA metabolism. One of the most important enzymes involved in folate metabolism is methylenetetrahydrofolate reductase (MTHFR) whose common termolabile polymorphism C677T in homozygote state reduces MTHFR activity to 30-40% of norm. The lowered activity might play a crucial role in embryonic development. That is why this polymorphism has been investigated in various NTD populations and in some of them it has been proven as a risk factor for this birth defect. In Slovakia with average natality 50,000 liveborn/year, there are about 10-20 babies annually born with NTD (0.28/1000), mostly meningocele. When including stillborn and selective abortions, the number of NTD pregnancies is somewhat higher (0.35-0.52/1000).

Methods: To evaluate genetic risk of folate metabolism variations in our population, we investigated MTHFR gene polymorphisms C677T and A1298C in 91 Slovak children with NTD.

Results: Distribution of C677T and A1298C polymorphism genotypes in our NTD population did not differ significantly from expected rates of Hardy-Weinberg equilibrium (\(P = 0.95\); \(P = 0.50\) respectively), although in A1298C polymorphism there was a non-significant shift in the sense of more numerous heterozygote genotypes. The patients’ results are currently being compared with those from 300 healthy newborns from unselected Slovak population. We got the outcome of C677T polymorphism assessment, which, however, did not show any significant difference in the prevalence of TT genotype or T allele between the NTD patients and controls (OR = 1.22 [95%CI 0.5–2.9]; OR = 1.16 [CI 0.8–1.7] respectively). We also analyzed the incidence of MTHFR C677T polymorphism in 31 patients mothers, comparing them with unselected population. These results again did not express any significant difference in TT genotype or T allele (OR = 0.87 [95% CI 0.09–3.86]; OR = 1.17 [95%CI 0.80–1.69] respectively).

Conclusion: This is the first study focused on the role of MTHFR polymorphisms in NTD in Slovakia. Regardless of genetic background, food fortification with FA should be considered also in Slovakia.

Acknowledgement: Support: Grant of the Ministry of Health of Slovak Republic No 2005/1-DFNKE-01 Grant VEGA No 1/3562/06

Keywords: neural tube defects, incidence, MTHFR polymorphisms, C677T, A1298C, folic acid

PP-201

Schimke immunoosseous dysplasia complicated by transient ischemic attacks and cerebral ischemia

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Schimke immunoosseous dysplasia is an autosomal recessive spondyloepiphysial dysplasia which is characterized by disproportionate short stature, lymphopenia with defective cellular immunity and progressive renal disease.
In all tested individuals there is an associated (a related) risk of opportunistic (possible) infection.

Case report: We describe a two-year-old girl who suffers from imunoosseous dysplasia. The first symptom was growth retardation. Skeletal roentgenograms showed spondyloepiphyseal dysplasia. Nephrotic syndrome wasn’t diagnosed. There was lymphopenia with decreased CD4 and CD8 subpopulations. She had normal renal function and electrolytes and proteinuria (1 g/L). Vesicoureteral reflux grades III was found by voiding cistouretherography. The homozygous mutation c.2542G>T was detected by direct sequencing of both sense and antisense strands of the SMARCAL1 coding exons. Both the father and the mother were heterozygous for this mutation. After 6 months of preventive acetil salicil acid taking, she had a partial convulsive seizure with left arm spasm. EEG finding was normal. She had a repeated convulsive seizure with the same characteristics after a month. Afterwards she had a pareza of her left arm and leg and her eyes were fixed right. Magnetic resonance angiography showed cerebral ischemic and cerebral atrophy. Arm and leg pareza stopped after 5 days and eyes movements normalized after 7 days.

Keywords: schimke, cerebral ischemic, atrophy, convulsive

**PP-202**

**Association of polymorphisms P450 genes (CYP1A1 and CYP1A2) with respiratory distress syndrome in neonates from Bashkortostan, Russia**

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We have investigated association between polymorphisms of cytochrome P450 genes (CYP1A1 (A2455G, T3801C) and CYP1A2 (A-163C, T-2467delT)) and risk of developing respiratory distress syndrome (RDS) in neonates from Bashkortostan.

Methods: Whole peripheral blood of 144 patients with RDS and umbilical cord blood of 217 healthy term neonates was used for the isolation of genomic DNA. It was used PCR amplification. We used chi-square tests to detect the association between genes polymorphisms and RDS babies.

Results: It was shown that the CYP1A1 (T3801C) gene genotypes frequency distribution patterns not significantly differ between patients with RDS and healthy neonates ($\chi^2 = 1.92$, df = 2, $p = 0.382$). In male infants the CYP1A1 TC genotype was associated with higher risk of RDS (38.1% in patients versus 20.5% in healthy babies; $\chi^2 = 6.8$, $p = 0.009$; OR = 2.39, 95%CI 1.23–4.68). While, the CYP1A1 TT genotype had a protective effect (60.7% versus 38.1% in patients versus 20.5% in healthy babies; $\chi^2 = 7.0$, $p = 0.009$; OR = 0.41, 95%CI 0.22–0.81). But at the same time we found no differences in the genotypes frequency distributions of the CYP1A1 (A2455G) gene within the patients and healthy groups. We also didn’t find any association of CYP1A2 gene with RDS.

Conclusion: Our results showed that the polymorphisms in CYP1A1 may play a significant role in the development of RDS in male neonates.

Keywords: Respiratory distress syndrome, neonate, cytochrome, P450 polymorphism

**PP-203**

**Alkaptonuria - case report**

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Alkaptonuria is a rare inherited genetic disorder of tyrosine metabolism characterized by homogentisic-aciduria, ochronosis and arthritis, affecting one in 250,000 to one million people worldwide and unusually common in Slovakia (where incidence is 1 in 19,000). The clinical manifestations are that urine turns dark on standing and on alkalization due to elimination of excessive amounts of homogentisic acid.

Case Report: We observed a 2 years 6 month old girl with only symptom noted by the parents was darkening of the clothes, diapers and napkins moistened with urine and collected urine when left for many hours. She was born from the nonconsanguineous couple, belonging to Turkish ancestry in Bulgaria. The father has the same darkening of the urine since early childhood. There was no other medical problem in the family. Childhood growth and development was normal. Physical examination revealed no abnormality. There was no pigmentation of the sclera and ear lobe cartilage. Joint examinations were normal. The urine appeared normal on collection but it turned dark brown to black on prolonged exposure to the atmosphere. Routine laboratory investigations were normal. The urine analysis by paper and thin layer chromatography and photometry revealed the presence of heavy amounts of homogentisic acid in the urine. Ascorbic acid 500 mg BD and low protein diet were prescribed. Currently both of the father and girl are asymptomatic.

Conclusion: Further clinical follow-up is indicated for cardiac, skeletal and eye complications. DNA analysis is indicated.

**PP-204**

**Polymorphism in promoter regions of matrix metalloproteinases (MMP1, MMP9, and MMP12) in children with chronic lung disease**

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The matrix metalloproteinases (MMPs) proteolytic enzymes that play an essential role in tissue remodeling.
MMP1 (interstitial collagenase), MMP9 (gelatinase B) and MMP12 (macrophage elastase) may be important in the development of chronic lung disease.

Methods: In our study, we investigated the role of common polymorphisms within several MMP gene promoters in genetic predisposition to chronic lung disease in children.

Results: We have shown that the genotype and allele frequencies of polymorphisms G(−1607)GG of MMP1 gene and C(−1562)T of MMP9 gene not significantly differ in patients with chronic lung disease (n = 235) and healthy children (n = 523), living in the Republic of Bashkortostan, Russia. However, the alleles and genotypes distribution MMP12 gene A (−82)G polymorphism was significantly differed between patients with chronic lung disease and controls (χ² = 5.45, df = 1, P = 0.02 and χ² = 5.85, df = 1, P = 0.016). The AA genotype was identified as a risk factor for chronic lung disease in children (χ² = 5.85, df = 1, P = 0.02, Pcor = 0.04; OR = 0.50, 95%CI 0.28–0.89). Genotype AG was more frequent in the healthy children, and identified as a protective genotype (χ² = 5.85, df = 1, P = 0.02, Pcor = 0.04; OR = 0.50, 95%CI 0.28–0.89).

Conclusion: Our results showed that the polymorphisms in several MMP genes may play a significant role in the development of chronic lung disease in children.

Keywords: polymorphisms, matrix metalloproteinases, chronic lung disease

PP-205

Urinary tract disorders in children with Down syndrome

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Down Syndrome is chromosomal disorder which is characterized by trisomy of the 21st chromosome. The average birth weight of these children was 2.9 kg. Four children (14%) have had a urinary tract problem. One child had agenesio renis, one uretral duplex, one hydronephrosis and one child has had vesicoureteral reflux.

Conclusion: Down syndrome is the most common chromosomal disorder compatible with life. The majority of children were male. Dominated a regularly type. Study has shown the high frequency of urinary tract problems in children with Down Syndrome so every doctor should think in this pathology.

PP-206

Osteopetrosis (Albers Schonberg Syndrome)

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Osteopetrosis (synonyms: Albers-Schonberg Syndrome, generalized osteosclerosis). Until now are know there clinical forms of this disease: in adults as autosomal dominant, in infants as autosomal recessive and intermediate form as autosomal recessive heritage. Until now have been described eight different types of this syndrome. Incidence: 1:100 000 to 1:500 000. Specific data’s incidence are not published yet because of it’s very rare appearance. Some forms of this syndrome may be accompanied with others malformations and disease and sometimes may appear as oligosymptomatic form which make it harder to diagnose. Skeletal defects with hyperplasia and growth in density of cortical and spongious parts of osseous system in general. Sever anaemia, trombocytopenia, leucopaenia (time to time), pancypotaenia, haemolysis, hepato-splenomegaly, neuropathy, cranial nerves palsy, bleeding, haematomas, delayed dentition, somatic retardation, nyctagmus, genu valgum, hydrocephalus, deafness, proptosis, hyperplasia of paranasalis sinuses, hyperspleenism, cranio-facial dysmorphism, recurrent infections. Aim is a case report of a child, male gender, 2 years old, first born child, parents are 29 years old each, and have no positive pedigree pf hereditary diseases. Because of it’s very rare appearance we find interesting to present this clinical and genetic entity.

Materials and Methods: Including wide anamnesis, heredogram, laboratory biochemical and serological analyses, echography of brain, heart and abdomen, X-ray of head, thorax, column and extremities. Specialistic consultations such as ophthalmologist, neurologist, haematologist, psychologist and geneticist which includes citogenetic examination of prepositus and parents (kariogram 46 XY without pathological numeric and structural changes).

Conclusion: Based on facts, this clinical rare disease of infantile form may be caused by “de novo” mutation on level of gene or caused by infective factors such as CMV.
and Rubeolla virus and also others examinations, shows relevant and valid detections on diagnosing this syndrome. The interest this publication is that our case is a first decedent in family that is attacked by this disease with negative heredited pedigree with different and wide symptomatology for it’s possibility of knowing, detection, examination, prevention and therapeutic treatment.

Keywords: osteopetrosis, heterogeneity

PP-207
Alkalosis as a first sign for a genetic disease – a case report
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A 5 month old girl, the second child in a family of Turkish origin, was admitted in The Infants Department of the Pediatric Clinic with elevated body temperature, vomiting and clinical signs for acute dehydration. The pregnancy and delivery were normal - the girl weighed 3300 g at birth, the height was 50 cm. The baby was on breast feeding and her development and weight gain were as expected for her age - weight 5900 g, height 66 cm. The clinical and common laboratory data reviewed a lower respiratory tract infection with hypoxemia and alkalosis - pH 7.57, BE +9.6, HCO₃ 31.8, SaO₂ 90.2%. After 1 week of adequate treatment no clinical signs of respiratory infection were found, but persistent alkalosis, as well as, decreased serum Na⁺ and Cl⁻ levels were present. The sweat test was performed twice – the results were positive for the suspected disease Cystic Fibrosis (124 mmol/L, 111 mmol/L). The family genotyping is still not completed, but the baby's first known mutation is F 508.

PP-208
Microcephaly and mental retardation as a result of unrecognized maternal hyperphenylalaninemia
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Phenylketonuria (PKU) is the most common disease of amino acid metabolism with the incidence in Poland about 1:7000 live births. Mass neonatal screening for PKU, early diagnosis and treatment are conditions for normal mental development of PKU children. There is an unknown population of women born before screening introduction. Some of them have almost normal mental development, may be married and pregnant. Their children suffer from maternal PKU syndrome: facial dysmorphism, microcephaly, psychomotor retardation, congenital heart defects. We present eight patients aged 6–22 years from fours families. All of them were observed because of microcephalhy and mental retardation with average IQ-56. Patients were examined for a long time by many specialists without the final diagnosis. Precise familial history of mothers, their poor mental development suggested phenylketonuria. This was verificated by high blood phenylalanine levels (average result 23.5 mg/dL). All offspring is under our multidisciplinary care - neurologist, psychologist, cardiologist but the therapy is not successfull because of irreversable defects.

Conclusion: In the case of the child with microcephaly and mental retardation especially with familial coexistence maternal phenylketonuria should be considered. If not recognised in first offspring next severe retarded children can be born.

PP-209
Additional benefit of cystic fibrosis (CF) neonatal screening for diagnosing CF among older siblings
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Cystic fibrosis neonatal screening (CF NBS) was implemented in France in 2002. Diagnosing CF among older siblings (OS) may represent an additional benefit for NBS. Aim is to report CF care centre’s instruction for sweat testing (ST) and to identify new CF cases, among OS.

Methods: Centralized data at AFDPHE enabled to have the complete list of CF affected newborns referred at CF care centres. A questionnaire sent to all of them, excluding those which started NBS before 2002, focused on the attitude for ST in OS issued from the CF infant’s parents: i) systematically, ii) if clinically symptomatic, iii) if not previously screened and iv)never. Data were collected in families with OS: number of OS, CF already diagnosed, newly CF diagnosis (median age, ST values and symptoms).

Results: Twenty-six CF care centres answered (93%). 48% performed ST systematically, 32% only if clinically relevant and 32% only if not previously screened. Data were completed for 541/580 families of the 580 CF NBS infants; a ST was performed in 84% of the 289 OS (209 families). A CF diagnosis was already known in 18 OS but 17 newly CF cases were detected in 16 families at a median age of 60 months, 65% presented more than one symptom, median chloride value was 100 meq/L. 33 alleles were identified.

Conclusion: Among the 242 investigated OS of CF diagnosed by NBS, we identified 8% of new CF patients. It emphasizes the importance of ST in OS even if they are clinically asymptomatic (35%).

Keywords: Cystic fibrosis, newborn screening
Incontinentia pigmenti: a case with delayed detachment of umbilical cord

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Incontinentia pigmenti is a rare hereditary multisystem disorder affecting skin, central nervous system, eyes, hair, teeth and nails, which is caused by mutations in the NF-KappaB essential modulator (NEMO) gene located at Xq28. The skin lesions evolve through characteristic stages from blistering in infancy to a wart-like rash and finally swirling hyperpigmentation and hypopigmentation. A one month old girl with incontinentia pigmenti and delayed detachment of umbilical cord for 8 weeks was reported. The patient was admitted to our clinic with multiple skin lesions over distal parts of her limbs and trunk. She had similar skin lesions since birth and was given antibiotics with a diagnosis of sepsis. Her skin lesions were in a vesiculobullous character on an erythematous base and in a linear configuration which was typical for incontinentia pigmenti. Skin biopsy showed intraepidermic vesicular formation rich in eosinophils revealing vesicular phase of incontinentia pigmenti. The lesions may be confused with those of herpes simplex, bullous impetigo, or mastocytosis, but the linear configuration is unique. She was examined for any infectious or immunological disorders. Delayed separation of umbilical cord may be due to factor XIII deficiency or a defect in leukocyte adhesion. Limited immunological tests were normal in our patient but immunodeficiency disorders could not be excluded. The patient is still under follow-up by Dermatology and Clinical Immunology Departments.

Pachyonychia congenita: a case report

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A 10-year-old boy presented with thickening and discoloration of nails and palmar hyperhydrosis. He and his sister have same features but they don’t have any other skin findings and palmoplantar keratinization. Changes of the nails started within a few months after birth. The patient’s sister, mother’s brother and mother’s grandfather had similar findings and history. Pachyonychia congenita is an uncommon type of ectodermal dysplasia, characterized by thickened, dystrophic nails and hyperkeratotic skin lesions. PC patients have variable clinical findings: hyperhydrosis, oral leukokeratosis, follicular keratosis, palmar keratoderma, cutaneous cysts, hoarseness or laryngeal involvement, coarse or twisted hair, early primary tooth loss, and presence of natal or prenatal teeth. Four distinct types have been described: Type I: hypertrophy of nails, palmoplantar hyperkeratosis, follicular keratosis and oral leukokeratosis Type II: clinical findings of type I plus blisters of palms and soles, hyperhydrosis, neonatal teeth, Steatocystoma multiplex Type III: clinical findings of type II plus angular cheilosis, corneal dykeratosis, cataracts Type IV: clinical findings of type III plus laryngeal lesions, hoarseness, mental retardation, hair anomalies There was no history of teeth malformations, oral lesions, cutaneous cysts, hair and voice changes or systemic complaints neither in our patient nor in his sister. Our cases are less severe than these four types. As this is an autosomal dominant syndrome, clinical variation is an expected finding. The other older family members of our patients also have similar less severe clinical findings.

Cytogenetic findings in pediatric myelodysplastic and myeloproliferative diseases

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The implementation of routine cytogenetic analyses gives clues for diagnosis, treatment alternatives and prognosis in childhood hematological malignancies.

Methods: We performed cytogenetic analyses on children with myelodysplastic and myeloproliferative diseases, before chemotherapy was started.

Results: A total of 30 children were enrolled in three groups: eight patients had juvenile myelomonocytic leukemia (JMML), five patients had myeloid leukemia of Down syndrome and 17 patients had myelodysplastic syndrome (MDS). We observed cytogenetic abnormalities in 50% of all patients. We found t(9;22) in five patients with JMML. +8 and other 8th chromosome abnormalities were demonstrated in four patients with myeloid leukemia of Down syndrome. We observed -7/7q, -5/-5q, q, 16q, -20/20q, +mar, r(17), +8, +14, +20, +21, and +22 in the karyotypes of patients with MDS. The frequency of -7 was 40%.

Conclusion: The t(9;22), -7 and complex karyotype findings are associated with poor prognosis. Those patients may be offered bone marrow transplantation instead of chemotherapy alone.

Keywords: cytogenetic, myelodysplastic, myeloproliferative diseases
Mitochondrial disorders in children

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Mitochondrial diseases (MD) represent a heterogeneous group of multisystem disorders which preferentially affect tissues with high energetic demands and are often manifested in children. A wide variety of neurodegenerative diseases has been linked to mutations in mitochondrial genes located in either the mitochondrial DNA (mtDNA) or the nuclear DNA. Mitochondrial disorders affect tissues with high energetic demands, may present with a huge variety of symptoms, even if the same mutation is involved. We examined 36 children (36 months-16 years) suspected of having MD (screening).

Methods: Biochemical, neurophysiological, genetic investigation.

Results: Elevated serum lactate level in, hypotonia, cardiac dysrhythmia, migraine headaches, vomiting, hypoglycemia, hypothyreosis, delayed speech affected most of these patients. Breath-holding spells and/or febrile convulsions were seen in three of the patients, nine had complex partial temporal or frontal lobe, secondarily generalized seizures. The EEG also showed the decreased functional level of brain activity in all patients. Stroke occurred in six children. In nine of these patients the dilated cardiomyopathy was found in combination with stroke in three of them. MRI findings where mild or moderate frontal-temporal cortical atrophy, periventricular leucomalacia and stroke-like lesions. SPECT results in 10 children showed decreased and uneven perfusion of brain tissue. An increase of auto-antibodies level of glutamate receptor subunits GluR1 and NR2A in blood serum was revealed in all children. Genetics: A3243G, A11084G (MELAS), cytochromeCoxidase, tRNAlys, multiple mtDNA mutations. The first manifestation of ATPsynthase6 mutation was dilated cardiomyopathy in four out of five patients, recurrent stroke-like episodes and seizures developed later. 16SrRNA mutation represent of hypoglycemia, epileptiform EEG discharges, seizures, stroke. In one case in a mentally retarded girl with hypotonia, short stature and stroke, a previously unknown mutation in transcription-replicate elements of mitochondrial genome was revealed.

Conclusion: It is very important to improve our knowledge of MD for searching new therapy options for these disorders.

Keywords: children, mitochondrial diseases, genetic investigation

Prolonged iron therapy for normalization of hemoglobin in passive smokers’ anemic kids

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This article focuses on hemoglobin and iron deficiency anemia in children. Hemoglobin levels are amongst the most commonly performed blood tests, usually as part of a full blood count or complete blood count.

Methods: We used prospective study of level hemoglobin in blood children with anemia and analyses after treatment with Ferum sulphat. Authors took 40 randomized cases in their four stratification category as milder anemia for passive and no smokers and moderate anemia for passive and no smokers.

Results: The differences in the mean values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference.

Discussion: Oxyhemoglobin is formed during respiration when oxygen binds to the heme component of the protein hemoglobin in red blood cells.

Conclusions: Prolonged time of therapy with iron medications is need for kids as passive smokers comparing increases number of anemia with mild or moderate lower level of hemoglobin in families where parents smoked. The regular response of iron and hemoglobin defiency anemia to adequate amounts of iron is an important diagnostic and therapeutic feature.

Keywords: hemoglobin, iron, kids, passive smokers

**TABLE 1 KIDS WITH MODERATE ANEMIA- PASSIVE SMOKERS**

<table>
<thead>
<tr>
<th>KIDS</th>
<th>1st day</th>
<th>1 month</th>
<th>2 months</th>
<th>3 months</th>
<th>6 months</th>
</tr>
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<td>10.10</td>
<td>10.40</td>
<td>10.70</td>
<td>11.00</td>
<td>11.60</td>
</tr>
<tr>
<td>3</td>
<td>10.10</td>
<td>10.50</td>
<td>11.00</td>
<td>11.30</td>
<td>11.80</td>
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<td>11.10</td>
<td>11.50</td>
<td>11.60</td>
<td>12.00</td>
</tr>
<tr>
<td>6</td>
<td>10.00</td>
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<td>10.80</td>
<td>11.00</td>
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<tr>
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<td>10.40</td>
<td>10.00</td>
<td>11.10</td>
<td>11.40</td>
<td>11.60</td>
</tr>
</tbody>
</table>

Conclusions: Prolonged time of therapy with iron medications is need for kids as passive smokers comparing increases number of anemia with mild or moderate lower level of hemoglobin in families where parents smoked. The regular response of iron and hemoglobin defiency anemia to adequate amounts of iron is an important diagnostic and therapeutic feature.

Keywords: hemoglobin, iron, kids, passive smokers
A rare cause of ischemic stroke: fibromuscular dysplasia

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Childhood ischemic stroke is uncommon and may be associated with many causes and require extensive evaluation. Fibromuscular dysplasia (FMD) is a rare cause of unknown etiology of childhood stroke which is mostly related with renovascular hypertension and in adults about 85% of cases renal artery has been involved whereas the intracerebral circulation is the main area affected in children and documented cause of stroke. We report a 4-year-old girl patient who presented with facial paralysis. Diffusion MR imaging revealed acute left middle cerebral artery ischemia (Figure 1). Digital subtraction angiography of the cerebral vessels was performed and revealed left internal carotid artery and left MCA beading, which was diagnostic of FMD (Figure 2). Intracranial fibromuscular dysplasia without renal artery
involvement was diagnosed. She was treated with low molecular weight heparin (which was then switched to aspirin) and corticosteroids. In the follow up period of 2 months to date, the right central facial paralysis improved. In conclusion, fibromuscular dysplasia can involve intracranial vessels in pediatric age group and should be included in the differential diagnosis of children who present with ischemic stroke.

Keywords: fibromuscular dysplasia, childhood, ischemic stroke, intracranial artery

PP-216

Acute myeloid leukemia presented with internal carotid thrombosis and complicated with nephrotic syndrome

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Acute promyelocytic leukemia (APL) is a subtype of acute myelogenous leukemia characterized by abnormal hypergranular promyelocytes in the bone marrow and peripheral blood. It can present with severe coagulopathy. This is due to intrinsic characteristics of leukemic cells which are able to directly activate the clotting cascade by secreting tissue factor and cancer procoagulant. APL with nephrotic syndrome was reported previously in adults. A causal link between these two diseases is very rare and it may result from different pathways. A previously healthy 9-year-old boy was admitted with right hemiparesis and focal convulsion. Peripheral blood smear revealed 58% myeloblasts with Auer bodies. The diffusion magnetic resonance imaging (MRI) demonstrated acute infarctions in the left middle cerebral artery territory (figure 1). He was diagnosed as APL after presenting with ischemic stroke. At 6 weeks of treatment, the patient developed progressive pretibial edema and developed nephrotic syndrome. Remission was achieved with high dose oral corticosteroids therapy. In the follow period of 8 months to date, no clinical or laboratory deterioration regarding leukemia or nephrotic syndrome was detected. Partial progression of joint mobility was obtained with physiotherapy. In conclusion, Hematological malignancies should be considered in differential diagnosis of ischemic strokes. To our knowledge, this is the first APL patient report complicated with bilateral cerebral thrombosis and nephrotic syndrome in the same.

PP-217

Relationship between levels of loneliness and perceived social support of mothers of children living with cancer

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A descriptive study was made to investigate relationship between levels of loneliness and perceived social support of mothers whose children living with cancer and to examine the factors affecting these.

Methods: The study sample was composed of 87 randomly selected mothers whose children were treated at the Oncology Clinic of a hospital, were willing to participate in the study.

Results: It was determined that the total average loneliness scores of the mothers participating in the study was 41.41 ± 11.75 and that the loneliness levels of 56.8% of the mothers were at the medium level. A statistically significant relationship was determined between the income level and loneliness scores and that the loneliness scores of mothers, whose income level is low, are higher. The loneliness scores of the mothers of the children, who were diagnosed to have cancer 1–12 months ago, were higher than the scores of the mothers of the children, who were diagnosed to have cancer 13 months ago or a longer period of time ($P < 0.05$). A statistically negative relationship was determined between the perceived social support scores and loneliness scores.

Conclusion: It can be proposed that the health professionals treat the ill child together with his/her family as a
whole within the framework of a holistic approach, that the pediatric nurses share the lonelines of the mothers by using effective communication techniques and that they provide psychological, social support for them.

Keywords: Childhood, cancer, parents, loneliness, social support

PP-218
Twenty-four-hour blood pressure profile in patients after an anthracycline treatment

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A late effect of anthracycline chemotherapy on 24-hour profile of blood pressure (BP) in patients 10 year after therapy was studied.

Methods: We compared a 24 h BP profile of 45 patients after anthracycline treatment for acute lymphoblastic leukaemia (A, 9.7 ± 5.1 years after therapy, age subgroups 13–15, 16–18, and 19–22 years) and of 64 age-matched healthy subjects (Co). Systolic (SBP) and diastolic blood pressure (DBP) were taken by a Space Lab International device. The least-squares fit of the cosine curve with a period of 24 h was done. Estimates were obtained for the rhythm-adjusted mean value (MESOR), for the amplitude (AMP) of the sinusoidal curve (double amplitude is a raw estimate of the difference between day and night), and for acrophase (ACR), the timing of overall high values recurring in each cycle. The age-dependent development of MESOR, AMP and ACR was determined.

Results: A significant correlation between MESOR and age was found in controls (SBP: r = 0.374, P < 0.01; regression coefficient b = 1.34 mmHg/1 year; DBP: r = 0.365, P < 0.01; b = 0.95 mmHg/1 year) but not in anthracycline treated patients. AMP and ACR were age-independent. MESOR values of SBP and DBP were lower in A than in Co in the age 19–22 years (SBP: 112 ± 6 versus 117 ± 6 mmHg. P < 0.05; DBP: 67 ± 3 versus 69 ± 6 mmHg).

Conclusion: Age-dependent increase of blood pressure seen in healthy controls between 11 and 22 years of age does not occur in patients after anthracycline therapy.

Acknowledgements: Supported by grants MSM 0021622402 and MSM0021630529.

Keywords: Acute, lymphoblastic leukemia, anthracyclines, 24-hour, blood pressure

PP-219
Presenting features of childhood acute lymphoblastic leukemia and its prognostic value for the relapse time of the disease

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The optimal choice of therapy for children with acute lymphoblastic leukemia (ALL) is allowed with more precise classification into risk groups on the basis of some initial presenting features. The disease relapse is noted in about 20% of the ill, and the risk for the treatment failure rises with its early occurrence.

Aim: To determine which of the presenting features at ALL diagnosis in children have prognostic value for the time of the relapse occurrence.

Methods: The group of children with the first relapse of ALL (altogether 45) treated at the Institute for Mother and Child Belgrade, from 1996 to 2003. By using Chi square test we analysed the relationship between time of the relapse and presenting features at ALL diagnosis (sex, age, complete blood count, organomegaly, immunophenotype, early response to corticotherapy).

Results: Very early relapse occurred in 23/45, early in 13/45 and late in 9/45. Two children with very early relapse (8.7%) were of favourable age, and five (55.6%) with late relapse (P < 0.05). Poor prednison response was in 15/23 (65.21%) with very early, and 2/9 (22.22%) with late relapse (P < 0.05). Statistically relevant difference was not found for the remaining presenting features of ALL in relation to the time of the relapse occurrence.

Conclusion: The predictive relevance for the time of the ALL relapse occurrence was found for the age of patients at ALL diagnosis and early response to corticotherapy.

Keywords: acute, lymphoblastic leukemia, relapse

PP-220
Relapse of acute lymphoblastic leukemia in children – time and site of occurrence

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2. Hematology-Oncology, Institute for Mother and Child Belgrade, Serbia

The relapse of acute lymphoblastic leukemia (ALL) can occur at any site and at any time from remission achievement. Immunophenotype, localisation and time point of relapse are important prognostic factors that allow us to adapt more precisely treatment intensity to individual prognosis. Aim of this study is to determine the frequency of ALL relapse in children in relation to the time and place of its occurrence.
Methods: The diagnosis of disease relapse was established in 45 children with ALL at the Institute for Mother and Child, Belgrade, in the period from 1996 to 2003. The frequency of various types of relapse was analysed using Chi square test.

Results: According to the time of occurrence, very early relapse occurred in 51.11%(23/45), early in 28.89%(13/45), and late in 20.00%(9/45) of the children. According to the site of occurrence 64.44%(29/45) of the children had isolated medullary, 20.00%(9/45) isolated extramedullary, and 15.56%(7/45) combined relapse.

Conclusion: According to the time of occurrence, there was found the highest frequency of very early relapse (P < 0.05), and according to the site of occurrence of isolated medullary relapse (P < 0.001). We found the highest frequency of very early isolated medullary relapse with weak chances of successful treatment.

Keywords: acute, lymphoblastic leukemia, relapse

PP-221
Anger or neuropathic pain. A case report
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The diagnosis of neuropathic pain in small children at the preverbal age, is not easy, but can be possible. Very often the child presents shooting pain, responsible of dysthesia, allodynia or hyperalgesia, which could be taken for anger episodes. We report the case of an 18 months old boy who was presented on two occasions for “crying” at the paediatric emergency unit in 1998. Although, his mother insisted that the child’s behaviour had changed recently, the diagnosis of neuropathic pain was only confirmed when he presented paraplegia and MRI showed an extensive medullar lesion from TH10 to S1. To allow better recognition of such a pain and early treatment, different tools can be useful for such a diagnostic approach: i) General practioners should take the time to question the family, play with the child, use a teddy bear to look for dysthesia or allodynia and avoid emergency units. Clinical advice can be asked with a paediatric neurologist or a pain specialist, ii) It is often useful to keep the child under observation with their mothers for a 24–48 h hospitalisation allowing better clinical observation, iii) Neuropathic pain can appear after laceration, traumatisms, tumor lesions, polynеuritis etc. and is frequent in polyhandicapped children. This diagnosis should be considered in a child whose behaviour has changed and iv) Regular training in pain assessment for medical students, doctors and paramedics will allow to diagnose neuropathic pain earlier.

Keywords: neuropathic pain, tumor, preverbal age, child

PP-222
Immerslund-Grasbeck syndrome: report of two cases
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The Immerslund-Grasbeck Syndrome is a rare hereditary autosomal recessive disease, characterized by onset of megaloblastic anemia and mild asymptomatic proteinuria is frequently but not always present. Aim of this study is to emphasize the importance of early detection of this disorder, due to high morbidity when not correctly treated.

Methods: We report two patients, male and female, 5 years old and 1 year old, respectively. Both of them are siblings. Past history of the male one revealed anemia and multiple blood transfusions since his infancy. Their parents are cousins of each other.

Results: The findings of pancytopenia were determined in the peripheral blood of these two patients. Bone marrow aspiration of our patients showed a marked megaloblastic erythropoiesis, permanent proteinuria with favourable outcome under parenteral B12 administration. In addition, B12 level was low and no folate deficiency and no antiintrinsic factor antibodies were seen in our patients.

Conclusions: The outcome of the disease is always favourable if parenteral administration of B12 is maintained.

Keywords: megaloblastic, anemia, Immerslund-Grasbeck syndrome, children

PP-223
Pseudothrombocytopenia in infancy: a case report
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Acute ITP is the most common cause of thrombocytopenia in childhood. The other causes of thrombocytopenia should be ruled out for exact diagnosis of ITP. But sometimes thrombocytopenia due to other causes may be misdiagnosed as ITP. One of the causes of thrombocytopenia among children is pseudothrombocytopenia. Pseudothrombocytopenia may be caused by platelet activation, unmeasured megathrombocytes, platelet agglutination in presence of EDTA and specific platelet glycoprotein monoclonal antibodies like abciximab, ebtifibatide and tirofiban. A 12 months old patient was admitted to our department due to a platelet count of 60000/mm³ with a diagnosis of ITP. She was diagnosed to have acute tonsillitis and didn’t have mucosal bleeding, petechia and organomegaly. In our department results of complete blood count by test tubes with EDTA were as follows: white blood cell 10500/mm³, hemoglobin 11.7 g/dL, platelet 26000/mm³. As 15–20 platelet aggregates were...
detected in peripheral smear and no clinical clues of thrombocytopenia were present, pseudothrombocytopenia was suspected in differential diagnosis and platelet count assessed in citrated tubes was found to be 394000/mm³. In a child admitted to our department with diagnosis of acute ITP, we found that thrombocytopenia was due to the agglutination of platelets due to EDTA in collecting tubes. Although pseudothrombocytopenia is a rare entity in differential diagnosis of thrombocytopenia, it should be kept in mind to prevent unnecessary investigations.

Keywords: pseudothrombocytopenia, thrombocytopenia, childhood

PP-224

Hemophagocytosis might be the cause of anemia and thrombocytopenia in congenital syphilis

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Congenital syphilis is a rare, serious disease. Here we report an infant with congenital syphilis as a very rare cause of infection associated hemophagocytic syndrome. A previously healthy 2 months old boy presented with fever, swelling of abdomen and restlessness. Pallor, palmarplantar scaling of the skin and purulent rhinitis was remarkable. Liver and spleen were palpable at midclavicular line 4 cm below the costal margins. In initial laboratory investigations hemoglobin was 6.1 g/dL, white blood cell count 22.1 10⁹/L, platelet count 130 10⁹/L, reticulocyte count 2%. At 8th day of admission platelet count decreased to 23 09/L. Bone marrow aspiration revealed cellular bone marrow with many histiocytes that phagocyte several thrombocytes. Ferritin, triglyceride and fibrinogen levels were 291 ng/mL, 926 mg/dL, fibrinogen 276 mg/dL respectively. There was no family history of hemophagocytic syndrome or early death. X-ray graphs showed bilateral symmetrical minimal periost reaction in diaphysis of femur that considered syphilis. Venereal disease research laboratory (VDRL) and Treponema pallidum haemagglutination tests were positive. VDRL test was also positive in cerebrospinal fluid. At the end of benzathine penicillin therapy, purulent rhinitis and palmpoplantar peeling disappeared, anemia and thrombocytopenia improved. Hematological manifestations of syphilis includes hemolytic anemia and mild thrombocytopenia. Treponema pallidum has been very rarely defined as an etiological cause of hemophagocytic lymphohistiocytosis (HLH). We suggest that hemophagocytosis may play role in pathogenesis of cytopenia particularly thrombocytopenia in patients with congenital syphilis. We recommend to investigate syphilis in infants who considered to have HLH.

PP-225

Hematoma after mechanical trauma or aggressive malignant illness - case report

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Angiosarcoma are rare neoplasms that make up approximately 1% of all soft tissue sarcomas. This malignant vascular tumors are clinically aggressive, difficult to treat, and have a reported 5-year survival rate of less than 20%.

Methods/Case History: We present an eleven year old boy with whom due to a mechanical trauma a hematoma appears on the leg. Next 6 months the hematoma grows gradually and becomes painful. With the aim to evacuate its content, surgical intervention was performed, yet in that process tumor tissue was discovered. Pathohistological examination revealed the diagnosis: Angiosarcoma.

Results: The boy was classified into the group of high risk, and in February 2007, therapy was started according to the protocol CWS 2002. After four series of chemotherapy he was directed to radiotherapy. Then, the consilium decided that the tumor be completely surgically removed, and combined chemotherapy and radiotherapy applied. During the treatment, the boy begins to cough with the occurrence of hemoptysis. Computerised tomography of the thorax reveals metastasized changes in the mediastina, pulmo parenchyma and the obliteration of segmental bronchi with the lung condensation and pleural discharge. Despite therapy application for non respondere there is a progression of illness and the parents give up further medical treatment.

Conclusion: Unusally long lasting of the seemingly naive changes in children such as hematomas after mechanical trauma, demand special attention as they can conceal very serious illnesses with which an early diagnosis has a key role for prediction.

Keywords: angiosarcoma, hematoma, trauma, child

PP-226

A rare cause of macrophage activation syndrome in an acute lymphoblastic leukemia: invasive Candida crusei infection

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Macrophage activation syndrome (MAS) is a life-threatening syndrome that is thought to be caused by excessive...
activation and proliferation of T lymphocytes and macrophages due to systemic viral infections and sometimes bacterial, fungal and protozoal infections. It is accompanied by the overproduction of cytokines. A similar syndrome has been described in the immunosuppressive situations like malignancy, chemotherapy and radiation therapy. In this case report, a five year old patient was presented who had developed macrophage activation syndrome due to invasive *Candida Crusei* infection while receiving acute lymphoblastic leukemia maintenance therapy.

Keywords: Acute, lymphoblastic leukemia, *Candida crusei* macrophage activation syndrome

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**PP-228**

**Hepatobiliary involvement in Langerhans cell histiocytosis**

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Langerhans Cell Histiocytosis (LCH) is a rare proliferative disorder with unknown etiology of Langerhans cells expressing CD1a antigen and Birbeck granules. The clinical presentation varies widely ranging from solitary lesion in a single organ to disseminated disease with organ dysfunction. Liver involvement occurs in 16–36 % of multisystem LCH in the pediatric population and usually present with hepatomegaly, abnormal liver enzymes or jaundice, with selectivity for the bile ducts. We report two LCH cases one with hepatic and the other with gall bladder involvement. Case 1: A 22-months-old boy presented with polyuria, polydipsia, bilateral ear discharge, left hip pain of 1 month duration, yellow-brown scales on scalp and marked hepatosplenomegaly. LCH-III treatment protocol and desmopressin were started. He is in remission with positron emission tomography showing only minimal enhancement in the left iliac wing. Case 2: A 7-year-old girl presented with polyuria, polydipsia, short stature and diplopia. The craniospinal MRI showed multiple lesions in the suprasellar area, base of third ventricle and cerebellum and an intramedullary lesion in vertebra which was positive for S100. The abdomen ultrasound showed multiple polyps in the gall bladder. Tissue biopsy of gall bladder was not performed. A definite reduction of lesions in different organs was achieved with 2-chlorodeoxyadenosine treatment, only two polyps which also decreased in size after chemotherapy were left, suggesting LCH involvement of gall bladder. We want to emphasize LCH's hepatobiliary involvement, which was not common in the literature.

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**PP-227**

**Epidermoid cyst of the spleen. Report of a case**

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Epidermoid cysts, which are caused by abnormal development during the seventh week of the intra-uterine life, are often asymptomatic but the occurrence of a complication may enable the diagnosis. These cysts are uncommon and represent about %10 of the non parasitic benign cysts of the spleen. Abdominal ultrasonography and magnetic resonance imaging are the most reliable studies available in the diagnosis of these cysts. In this case report, an eleven years old patient who suffered abdominal pain for 2 months was presented. Cystic lesions in the spleen were seen by the ultrasonography and magnetic resonance imaging. Histopathological examination of the total splenectomy material confirmed the diagnosis of the epidermoid cyst in the spleen.

Keywords: Epidermoid, cyst, Spleen, Abdominal pain
Hepatic veno-occlusive disease in childhood ALL treatment

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Hepatic veno-occlusive disease (VOD) remains a serious complication after hematopoietic stem cell transplantation (HSCT). VOD is believed to be caused by primary injury to sinusoidal endothelial cells and hepatocytes with subsequent damage to the central veins in zone three of the hepatic acinus. Clinical syndrome characterized by painful hepatomegaly, jaundice, ascites, fluid retention, and weight gain. Chemotherapy associated VOD is not common especially in children. We used BFM based acute lymphoblastic leukemia (ALL) regimen for treating childhood ALL. Here we report four case of VOD related with chemotherapy basically purin analogs (6-mercaptopurine or 6-thioguanine) in combination with sitozin arabinoside and 6-thioguanine. Defibrotide was used in three insufficiency. The early diagnosis and treatment is essential in chemotherapy- associated VOD.

Usage of foscarnet in an ALL patient with varicella infection resistant to antiviral therapy

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Acyclovir resistance in Varicella zoster infections is a rarely seen phenomenon for the immunocompromised patients, nevertheless it leads to serious complications and even death when it develops. A 17-month old girl receiving maintenance therapy for ALL as an outpatient presented to our clinic with generalized papulovesicular lesions. The chemotherapy was ceased promptly and the patient was admitted to the hospital and was administered i.v. acyclovir. Lesions began to regress and get crusted and the hematologic parameters returned to normal ranges at the end of the third day. Then the patient was discharged from the hospital with oral acyclovir therapy on the seventh day of treatment. The second and third doses was started 2 days after hydration. Uric acid levels are checked every 12 h during chemotherapy. Patient received three doses of rasburicase (0.2 mg/kg per dose IV, first, second and fifth day of treatment). The second and third doses was given when the serum uric acid levels are high. He showed no clinical evidence of hyperuricemia.

Case Summary: A 10-year-old boy presented to our institution with a 1-week history of jaundice, pruritis, cervical swelling and lethargy. Initial laboratory investigations revealed a white blood cell (WBC) of 517.054 /103-mm3 with 96% lymphoid blasts. After bone marrow aspiration he was diagnosed as acute lymphoblastic leukemia with CALLA positive B cell. Induction chemotherapy was started 2 days after hydration. Uric acid levels are checked every 12 h during chemotherapy. Patient received three doses of rasburicase (0.2 mg/kg per dose IV, first, second and fifth day of treatment). The second and third doses was given when the serum uric acid levels are high. He showed no clinical evidence of hyperuricemia.

Discussion: The main advantage of using rasburicase over allopurinol is it’s rapid onset of action (4 h) with an immediate decrease in serum uric acid. Rasburicase plays a significant role in the management of hyperuricemia. Using repetitive dosing of rasburicase may be needed patients with high WBC counts.

Conclusions: Adapting the dose of rasburicase according to the response of plasma uric acid levels is feasible.

Keywords: rasburicase, leukemia
Pediatric acute lymphoblastic leukemia initially presenting with walking disability

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Most frequent initial symptoms of the acute leukemia (AL) are fatigue, unclear febrile state and bone pains. We report a child with acute lymphoblastic leukemia with walking disability and leg pain as the first symptoms of the disease. A 3-year-old boy complained of progressive walking disability due to pain of the left lower leg for 6 weeks. Laboratory data showed pancytopenia, and bone marrow examination revealed acute lymphoblastic leukemia with CALLA (common acutelymphoblastic leukemia antigen) positive. We found the occurrence of the radio-lucent metaphyseal bands on the left distal femur and proximal tibia, and periosteal reaction on the left tibia in pretreatment skeletal X-rays. The patient was treated with standard chemotherapy and was successfully induced to complete remission. Induction chemotherapy resulted in decrease of pain and walking disability. but X-ray lesions didn't regressed. In a paper striking correlation was found between the expression of the CALLA on the leukemic cell and the occurrence of the early metaphyseal bands and authors speculated that the bands might reflect an ongoing anti-leukemic reaction which was associated with relatively favorable prognosis. Because the initial presentation of patients with leukemia often involves the musculoskeletal system and early diagnosis significantly decreases morbidity and mortality, the physicians should suspect AL in any child with unexplained persistent skeletal pain or radiographic alterations.

Cystic abdominal mass: a case report in two newborns

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Mesenchymal hamartoma is a benign lesion that occurs primarily in young children. It is composed of large, serous fluid-filled cysts surrounded by loose mesenchymal tissue containing small bile ducts. Case Report: Background: We have found multiple, hepatic cystic lesions in two newborns. The patients presented with hepatomegaly and normal liver function tests. The tumor was cystic in imaging studies. First case: preterm born (28.GW) with hypoplasia of the lungs and hepatic cystic mass, in the prenatal ultrasound screening after the 12 week there was a SGA with abdominal mass. Our first patient was also too small for the gestation age (birth weight: 320 g, birth length 24 cm). Microscopically the open liver biopsy showed details of mesenchymal hamartoma and no details of malignancy. The histological examination of the placenta established the diagnosis of mesenchymal stem villous hyperplasia. Abdominal ultrasound revealed no renal or pancreatic involvement with cysts. Second case: Still born (34.GW), in the prenatal ultrasound screening in the 8 week we saw a cystic abdominal mass. Birth weight: 2215 g, birth length 43.5 cm. Open tumor extirpation also presented microscopically details of mesenchymal hamartoma and also no details of malignancy with mesenchymal stem villous hyperplasia of the placenta. After the surgery in the imaging studies there were no cystic elements to see.

Conclusions: If you see an enlarged cystic placenta along with normal or too small for gestation age fetus, mesenchymal stem villous hyperplasia of the placenta should be considered and the fetus be screened for any sign of intrauterine growth retardation, Beckwith-Wiedemann syndrome, omphalocoele or cystic lesions in the abdomen.

Intracranial haemorrhage as initial presentation of hemophilia B: case report

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Life-threatening bleeding such as intracranial hemorrhage as the initial presentation of haemophilia is rare. A 2 months old boy was reported who was admitted to our hospital with fever and convulsions. He was diagnosed as meningitis and given antibiotic treatment. Due to intractable seizures cranial imaging was performed which revealed intraparenchymal and subdural haemorrhage. His family history was unremarkable for coagulopathies. It was uncovered that he had a minor head trauma ten days before admission which was formerly denied by his parents. Also he had massive subcutaneous hematoma after venipuncture on his right arm. Bleeding diathesis evaluation showed normal platelet count, bleeding time and prothrombin time. But activated partial thromboplastin time was prolonged and factor IX level was found as 2%. We emphasize that hemophilia should be considered in the differential diagnosis of intracranial hemorrhage in infants even if there is no family history. A detailed and careful history taking is very important. Urgent neuroimaging and coagulation studies are necessary for an early and adequate diagnosis.
Rectal swab cultures among patients with malignancy in pediatric hematology oncology clinic during 2007

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Vancomycin-resistant Enterococcus (VRE) are significant nosocomial pathogens in patients with hematologic malignancy. Aims of this study are to search rectal swab culture results among children with malignancy to determine VRE colonization and systemic infections due to VRE.

Methods: From January 2007 to January 2008 rectal swabs were taken from all of the patients with malignancy hospitalized in pediatric hematology oncology clinic when there is a clinic suspicion or when at least one rectal colonization with VRE was present. All the specimens were inoculated onto Enterococcosel agar plate and into Enterococcosel broth supplemented with and without vancomycin (6 microg/mL). The agar plates were incubated at 37°C for 24 h. Rectal swabs were taken every 7 days from VRE colonized patients. The results are evaluated retrospectively.

Results: One hundred forty-three rectal swabs were taken in 46 of 118 patients. The number of samples obtained from the patients varied between 1–8 specimens. VRE colonization were detected in 30 samples obtained from 10 of 46 patients. Only one VRE sepsis has occurred in this period. Seventy stool samples taken due to diarrhea were negative from VRE.

Conclusion: Risk stratification for development of VRE infection is possible for patients with hospitalized. Patients with malignancy represent a high-risk population, and targeted prevention strategies must include improved antibiotic stewardship, particularly judicious use of vancomycin therapy.

Keywords: Rectal, swab, VRE, malignancy, children

Evaluation and in vitro susceptibility of microbiological materials in pediatric hematology oncology patients during 2007

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Aim of this study is screening for the cultures taken from the patients hospitalized in pediatric hematology oncology clinic from January 2007 to January 2008 and inspect the antibiogram of microorganisms.

Methods: The cultures (blood, urine, wound, stool, sputum, cerebrospinal fluid, oropharynx) taken from children hospitalized in pediatric hematology oncology clinic over a one year period in 2007 during fever and/or existing clinical infection were evaluated retrospectively, regardless of neutrophil status. The patogen microorganisms grew on the cultures and their antibiograms were recorded.

Results: Six hundred and fifty specimens from 91 out of 118 patients were enrolled (blood: 447, urine: 118, stool: 70, sputum: 2 wound: 2, orofarinks : 2, cerebrospinal fluids: i). Forty eight (7.3%) of them were positive for patogen microorganism. While pathogen microorganisms grew on 40% of wound cultures, 8.2% of hemocultures and 5.9% of urine cultures, the specimens of stool, oropharynx, sputum were sterile. Among all of the microorganisms, 54% gram (+) and 46% gram (-) microorganisms were identified. The gram (+) microorganisms identified on cultures were Klebsiella (9), E. coli (8), Pseudomonas (2), Proteus (1) and unidentified (4). The gram (-) microorganism identified on cultures were Streptococci spp. (7), Staphylococci spp. (15), Enterococcc (7) and VRE (1). Antibiogram of all pathogen microorganisms were studied. The sensitivity pattern of gram (+) microorganisms to the commonly used antibiotics were as follows: linezolid (100%), vancomycin (96%), teicoplanin (92%), erythromycin (38%), penicillin G (25%), and clindamycin (20%). The sensitivity pattern of gram (-) microorganisms to the commonly used antibiotics were as follows: piperacillin–tazobactam (90.4%), levofloxacin (85.7%), ofloxacin (81%), meropenem (76%), amikacin (76%), cefoxitin (66.6%), ciprofloxacin (66.6%), netilmicin (66.6%), gentamicin (57%), cefepime (50%), ceftriaxone (44.4%), ceftazidim (35%), piperacillin (33.3%).

Conclusion: Routine surveillance of culture results of such clinics dealing with immunocompromized population is an invaluable work-up for making a decision of appropriate antibiotic choice, not only for empirical use in infections but also to overcome resistant pathogens.
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Spontaneous regression of infantile hemangioendothelioma

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Infantile hepatic hemangioendothelioma (IHHE) is a rare tumor of infancy, sometimes associated with cutaneous hemangiomatosis. It is clinically evident within the first 6 months after birth and can be life threatening because of heart failure, intraperitoneal hemorrhage or thrombocytopenia. In less severe forms spontaneous regression has been described. A-month-old infant was admitted to the hospital for cutaneous hemangiomas on the suboccipital area, forehead and the thigh. Hepatomegaly was detected on physical examination. Abdominal ultrasonography and MRI studies demonstrated hepatomegaly and multiple variable-sized hypoechoic masses. Serum alpha-fetoprotein, NSE and urine VMA levels were normal. Although the patient did not have congestive heart failure or coagulopathy, wedge biopsy was performed to rule out malignancy. Histopathologic examination revealed type II infantile hemangioendothelioma. The patient were drop out of follow up until she were one-year-old. The follow-up ultrasonography and MRI revealed spontaneous regression of the hepatic masses. Because of the auto-involutive nature of the lesions, patient had followed up without any treatment. When the patient was 2 years old, hepatic and cutaneous lesions had been completely resolved. The management of the patients of IHHE depends on symptoms. If a patient is asymptomatic, no treatment is required. Although no treatment is given to the patient close follow up is suggested. But when cardiac failure or hemoperitoneum and shock secondary to rupture of IHHE present, the patient should be treated urgently.

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The role of chemotherapy in congenital infantile hemangiomia

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Congenital infantile fibrosarcoma, a rare malignant tumor of childhood, may present as a highly vascularized mass that is clinically difficult to distinguish from a hemangioma. Although hemangioma and congenital fibrosarcoma can have a similar presentation, their treatment is different. We report an infant who had congenital fibrosarcoma whom initial diagnose were hemangioma. A 20-day-old male infant was noticed to have an ulcerated and hard swelling over the right upper arm since his birth. This mass was misdiagnosed and followed up for 3 weeks until the mass has progressed. Physical examination was normal except the mass of the right upper arm. The MRI revealed a solid mass with gross vascularity measuring 3 5 cm. There were no signs of infiltration. Biopsy from the mass was performed. The biopsy result revealed congenital infantile fibrosarcoma. The patient received chemotherapy with four cycles of vincristine, actinomycin D and cyclophosphamide (VAC) at 3 week intervals. Post-chemotherapy MRI scan showed partial regression. Although we planned complete resection of the mass, amputation of the arm from shoulder should be done. The patients is in remission for 22 months. The clinical course of congenital infantile fibrosarcoma is favorable and metastatic spread is rare. Wide surgical excision is the first choice of the standard treatment. But it is impossible in some patients because of the significant functional and/or cosmetic problems. Chemotherapy may be given as neoadjuvant or adjuvant treatment to avoid the morbidity associated with wide excision. In contrast, there is no defined role for adjuvant chemotherapy or radiation following complete surgical resection. Although there is a significant risk of local recurrence, most of them can be successfully treated with further surgery and the overall survival rate exceeds 90%.

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Secondary hemophagocytic lymphohistiocytosis in children: a single center experience

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Hemophagocytic lymphohistiocytosis (HLH) is a syndrome composed of primary and secondary (infection, malignancy, metabolic disease) HLH. The diagnostic criteria for HLH include fever, splenomegaly, cytopenias, hypertriglyceridemia, hypofibrinogenemia, abnormal natural killer cell functional assay, elevated soluble IL-2R alpha level, and elevated ferritin level (>500 µg/L), hemophagocytosis in the tissues such as bone marrow, spleen, liver or lymph nodes. Methods: Retrospective review was performed on the age and gender of the patient, precipitating events, clinical manifestations, presence of cytopenia, biochemical abnor-
Cognitive function in long-term survivors of childhood acute lymphoblastic leukemia

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The objective of the current study was to evaluate cognitive function in patients treated for childhood acute lymphoblastic leukemia (A.L.L.) after being off treatment for at least 2 years.

Methods: The total number of participants was 34, 18 male and 16 female, aged from 8 to 24 years old (median age 13.6). All of them had been diagnosed with childhood A.L.L. and had completed their treatment with chemotherapy only at least 2 years before (2–12.5 years from the end of treatment). The intelligence batteries used in our study were WISC III and WAIS-R, which are frequently used for assessing children (between 6 and 16 years old) and teenagers (above the age of 16) and adults respectively. For each participant there was a total of three sessions with a Child Psychiatric and a Psychologist, in order to exclude the existence of major psychopathology and to assess his/her intellectual skills psychometrically.

Results: The analysis of the data revealed that an 85.0% of the participants have cognitive function within normal a 26.0% in the lower normal levels, a 44.0% in the median normal levels and a 15.0% in the upper normal levels. The rest 15.0% had a borderline performance.

Conclusions: Our study emphasizes the need for detailed analysis and interpretation of these results, taking into strong consideration both the performance in the intelligence batteries and the conclusions drawn at the sessions. It becomes apparent that psychological parameters derived from these sessions can play a crucial role in cognitive function and in the psycho-emotional development of these patients.
systems were normal. Laboratory investigations showed that whole blood count and peripheral blood smear were normal. Clotting time was longer than 15 min, prothrombin time (PT) was 70 s, partial thromboplastin time (PTT) was 150 s. Blood urea nitrogen, electrolytes, hepatic enzymes, bilirubin levels, CRP were within the normal limits. No sign of infection was observed. Fibrinogen degradation product was negative. Fresh plasma and vitamin K with cryoprecipitate were transfused and bleeding stopped. On the day after, PT was 24.6 s, PTT was 40.3 s. Plasma fibrinogen level was under 10 mg/dL. The other coagulation factors were normal. Cranial CT and MRI showed multiple haemorrhages. Epileptic CT and MRI showed multiple haemorrhages. The patient was treated frequently with cryoprecipitate infusions to achieve normal haemostasis. In conclusion, in newborn infants with bleeding, a rare genetic disorder with congenital afibrinogenemia should be considered.

Keywords: afibrinogenemia, bleeding

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**Hope in healthy adolescents and adolescents with cancer**

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This research was conducted as a descriptive study to determine the effect of hope on quality of life in healthy adolescents and adolescents with cancer.

Methods: The research population was adolescents with cancer, aged 12–18, being followed by pediatric oncology services in Izmir and healthy adolescents, aged 12–18, educated at a college during the 2005–2006 school year. The sample included 91 adolescents with cancer who agreed to participate and who were followed in pediatric oncology clinics and a convenience sampling method used to choose 76 healthy adolescents. Data collection tools were “sociodemographic data form” which was developed by researcher based on information in the literature, “Beck Hopelessness Scale”, “Hopefulness Scale for Adolescent (HSA)” and “SF-36 Quality of Life Inventory”. Data were analysed with number and percentage distribution, Student’s t-test, One Way Analysis of Variance (ANOVA), Tukey HSD Test, and correlation analysis tests. In the statistical analysis for validity and reliability, the validity and reliability of the Turkish Version of the Hopefulness Scale for Adolescents were determined.

Results: Based on the research results, HSA scores between healthy adolescents were not different from adolescents with cancer at a statistically significant level ($P > 0.05$). It was determined that mother’s age, mother’s and father’s educational level and knowledge of diagnosis affected HSA scores of adolescents with cancer ($P < 0.05$). It was determined that HSA scores were not different for type of cancer, length of diagnosis, stage of diagnosis and whether or not they were receiving treatment ($P > 0.05$). Hopefulness correlated with quality of life subscales of physical functioning, emotional role limitations and vitality in healthy adolescents at a statistically significant level ($P < 0.05$). Hopefulness correlated with all subscales of quality of life in adolescents with cancer at a statistically significant level ($P < 0.05$).

Conclusion: The findings show that the Hopefulness Scale for Adolescents, Turkish form is valid and reliable, that hopefulness has an influence on quality of life, particularly in adolescents with cancer, and that hope is an important concept for nursing.

Keywords: adolescence, cancer, hope, quality of life, nursing

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**Study of L-carnitine levels in beta-thalassemic patients**

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L-Carnitine plays an essential role in fatty acid oxidation in mitochondria, glucose metabolism and energy production and stabilizes the red cell membrane. Reduced Carnitine levels alter the RBC life span and its supplementation may be of potential benefit in increasing the survival of red cells in thalassemic patients. Determine L-Carnitine levels in regularly transfused beta thalassemia patients.

Materials and Methods: Forty regularly transfused thalassemic patients (24 males, 16 females) receiving iron chelation at Nanavati Hospital, Mumbai, India were included in this study. The mean age was 17.5 ± 5.03 years. Ten age matched controls were also studied. Dietetic history, symptomatology with special reference to myalgia and muscle weakness, and history of splenectomy were documented. Serum L-Carnitine levels were measured using Enzymatic UV method. Serum Ferritin levels were determined by Chemiluminescence Enzyme Immunoassay. Statistical analysis was done using Student’s t-test.

Results: The mean L-Carnitine level in thalassemic patients was 23.71 ± 7.33 mmol as compared to control 29.26 ± 5.68 ($P < 0.0001$). Mean Carnitine was significantly lower ($P < 0.05$) in those with Ferritin >2000 ng/dL (22.80 ± 6.97) in comparison to those with Ferritin <2000 ng/dL (30.1 ± 7.77). Although Carnitine levels in non vegetarians was higher (26.91 ± 8.4) than the vege-
tarians (22.34 ± 6.55), this difference was not statistically significant (P = 0.072). Also no statistically significant difference was noted between splenectomised (25.22 ± 5.4) and non- splenectomised (22.60 ± 8.4) patients (P = 0.27) and symptomatic (22.90 ± 9.02) versus asymptomatic (24.06 ± 6.72) patients (P = 0.655).

Conclusion: L-Carnitine levels were found to be lower in Thalassemics as compared to age matched controls. As low levels of Carnitine were noted in those with Ferritin >2000 ng/dL and in vegetarians, Carnitine supplementation is advisable in such patients and adequate iron chelation is mandatory in all cases with thalassemia.

Keywords: L-carnitine, thalassemia, ferritin

**PP-244**

**“Osteoporosis in thalassemia” evaluation by bone mineral densitometry, biochemical indices and sex hormones**

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Osteoporosis in beta thalassemia has emerged as a topic of interest since optimized transfusion regimens have increased life expectancy and improved quality of life in these children. Thalassemia patients have an increased incidence of bone disease than the general population. The pathogenesis is multifactorial and is due to imbalance between bone resorption and bone formation.

Aim: To evaluate the markers of bone turnover in order to understand the cause of osteopathy and propose appropriate treatment.

Methods: We evaluated 40 patients (10–25 years) by Dual Energy X-ray Absorptiometry (DEXA) as an index of bone density by Lunar prodigy. Urine C-terminal cross-linked telopeptide of type 1 collagen (crosslaps) was estimated by ELISA as a marker of bone resorption and serum vitamin D, parathyroid and osteocalcin evaluated as bone formation markers. Serum FSH, LH, Estradiol and Testosterone was studied by chemiluminescence in 23 patients. Serum ferritin was taken as a marker of iron overload.

Results: Of 40 patients, 31(78%) had osteoporosis/osteopenia by Z-score on DEXA. Urinary crosslaps was high in 48% indicating increased bone resorption. In terms of bone formation 57% had normal osteocalcin levels, 65% had low vitamin D levels and 43% had high parathyroid levels. Low Estradiol was noted in 3/14(21%) and normal FSH in 13/14(93%) females; low Testosterone in 5/9(55%) and normal LH in 5/9(55%) males.

Conclusion: This study reveals that there is increased bone resorption due to hyperparathyroidism secondary to low Vitamin D levels. Above observations indicate that along with Vitamin D supplementation, early intervention with Hormone replacement therapy (HRT) and Bisphosphonates will help in management of osteopathy in thalassemia.

Keywords: osteoporosis, thalassemia, DEXA

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**Child health surveillance in Iran**

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The surveillance system is continues systematic process of collection, analysis and interpretation, and dissemination of descriptive information for monitoring and investigate health problems. The Iran Ministry of Health developed a surveillance system to assess death event amongst children (1–59 month). The main objective of this system was obtaining descriptive epidemiologic information on the health problem (death among target group), linking achieved information to health service providers and planners, education, policy and research.

Method: It has been developed by qualitative and quantitative standard methods of surveillance system production in 2006. The active surveillance system was developed computer and web based and will be established country wide.

Result: The developed surveillance system was an active system which focused on notified death cases among target group (1–59 month children) in health system. The approach was based on registries, records and information system of health services. The mentioned surveillance system will provide health managers and policy makers with updated, evidence based data and information related to death event to make most relevant timely decisions, improve health interventions and perform required modifications to cease problems if needed. All required and relevant health indicators and out puts have been defined as first step automated out puts of the surveillance system.

Conclusion: Development and establishment of an active and computerized child death surveillance system was first attempt in our region in this scope and will cause significant promotion in related area in Iran and would be an applied practice to be introduced and shared with other countries in region and the world.
Acute chest syndrome in children with sickle cell disease in Madinah region, Northwestern province of Saudi Arabia

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Acute chest syndrome is defined as a new pulmonary infiltrate and some combination of fever, chest pain and symptoms and signs of pulmonary disease such as cough, dyspnea and tachypnea. It is one of the most frequent complications of patients with sickle cell disease, causing significant morbidity and mortality. The frequency is variable reaching up to 45%. It accounts for more than 90% of hospital admission, and cause approximately 25% of death in patients with SCD. Relatively little is known on the etiology and pathophysiology, some cases are clearly due to infection other causes include hyperventilation after opioid analgesics, splinting due to rib infarction and excessive intravenous hydration and fat embolism. The risk factors for development of ACS include homozygous sickle cell anemia, younger age group and lower hemoglobin F and high steady state white blood cell count.

Methods: This retrospective study was carried out at Madinah Maternity & Childerns hospital between January 1996 and January 2000. All pediatric patients with SCD and developed ACS within the study period were included.

Results: Total number of SCD patients were 120 of which 12 had ACS which accounted for prevalence of 10%. All patients had HB SS disease. The age range were between 2–13 year. Eleven (92%) presented with fever, chest pain occurred in six (50%), 10 (83%) were associated with painful vaso occlusive crisis and hypoximia occurred in two (17%). The ACS was recognized on presentation in nine pt (75%) and was recognized later. After admission in three (25%). The WBC were more than 15,000/mm³ in eight (67%) and HB was less than 6 g/dL in eight pt (67%). The chest X-ray showed right lower lobe involvement in six pt (50%), bilateral involvement in four pt (33%) and left lower lobe in two pt (17%). Bacterial causes was identified in two pt (17%) and undetermined in 10 pt (83%). Bronchial asthma was a precipitating factor in five pt (42%). Eight patient (67%) received simple blood transfusion, recurrence occurred in 17%, and there were no mortality.

Conclusion: In conclusion we found that majority of ACS is due to undetermined origin presumably secondary to rib infarction, atelectasis or fat embolism, we also conclude that bronchial asthma is an important precipitating factor for occurrence of ACS in SCD. Finally we recommend simple blood transfusion to be part of the management of ACS in children.

Langerhans cell histiocytosis: different appearances of cutaneous disorders, two case reports

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Langerhans Cell Histiocytosis (LCH) is a rare disease involving clonal proliferation of langerhans cells, abnormal cells deriving from bone marrow and capable of migrating from skin to lymph nodes. Clinically, its manifestations range from isolated bone lesions to multisystemic disease. The disease is part of a group of clinical syndromes called histiocytoses, which are characterized by an abnormal proliferation of histiocytes. These diseases are related to other forms of abnormal proliferation of white blood cells, such as leukemias and lymphomas. Histiocytosis is an excessive number of histiocytes, that is an excessive number of tissue macrophages, and is typically used to refer to a group of rare diseases which share this as a characteristic. We present clinical, radiological and histopathological findings and treatment results of two infants. An 5 year old girl presented a 12 month history of recurrent pustular eruption, mainly on the scalp. She was initially treated for seborrheic dermatitis without notable improvement. After the patient’s correct diagnosis was made by a biopsy of the scalp, she was treated with combined chemotherapy and we see clinical amelioration. After 3 months scalp eruptions recurred. Also the pustular eruptions appeared at the trunk and vaginal. The lesions recalled scattered papulas and pustules on the erythemat base. During the healing phase the eruptions leave residual hypopigmentation located on the scalp, trunk and extremities, involving the labia majores. The second case is a girl, who had a tumor at her eyelid which looks like a lipoma, it was operated in the childrens surgery and the histological result also showed a Langerhans cell histiocytosis, she got postoperative combined chemotherapy. Today she does not show any signs of relapse. The major differential diagnosis is lipom and liposarcom. Also you have to think about other dermatological disorders.

Influence of speleotherapy on parameters of immunity of patients with atopic bronchial asthma

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The purpose of research was to establish influence speleotherapy on some parameters of immunity of children in the age of 4–6 years with bronchial asthma.

Methods: We have surveyed 50 children with topic bronchial asthma, in a stage of remission of the disease, not
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Recurrent parotitis in selective IGA deficiency-a case report

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Recurrent parotitis, also known as juvenile recurrent parotitis, is defined as recurrent parotid inflammation, generally associated with non-obstructive sialectasis of the parotid gland. The etiology is multifactorial and causes like genetic inheritance, autoimmune manifestation, allergy, viral infection and immunodeficiency have been suggested. Recurrent parotitis may be the first manifestation of immunodeficiency. Up to date, few patients with recurrent parotitis have been reported to be associated with immunodeficiency. A six and a half years old boy is presented here who had six episodes of recurrent swellings of the right parotid gland, lasting 5–10 days each in the past 3 years. The first episode was when he was 3 and half years old. He had swelling and pain on the right side. There was no history of associated fever. He had no history of dryness of mouth and eyes, arthritis, rashes suggestive of an autoimmune condition. Complete blood count was normal, erythrocyte sedimentation rate was slightly elevated (58 mm/h). Autoimmunity markers were negative. Ultrasonography of bilateral parotid glands showed heterogeneous echogenicity with hypoechoic areas more remarkable on the right side and sialectasis with intraparotid lymph nodes on the same side. We learned that he has gone to an otorhinolaryngologist for these symptoms and has been prescribed multiple courses of antibiotics in the past. Serum immunoglobulin levels were IgG: 1597 mg/dL, IgM: 96 mg/dL, IgE: 192 mg/dL and IGA: <0.1 mg/dL. We recommend that IgA and other immunoglobulins be tested in all cases of recurrent parotitis.

PP-250

Major histocompatibility complex class II deficiency (study of nine observations)

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Major histocompatibility complex class II deficiency (MCH class II) or Bare lymphocyte syndrome (BLS), is a rare primary combined immunodeficiency characterised by profound defects in human leucocyt antigen class II expression. Objective is to define the principal characteristics: clinics, immunological, genetic, outcome and therapeutic of this pathological entity.

Methods: Over a period of 5 years, we have established the diagnosis of BLS in nine cases, over three departments of paediatrics in the Tunisian center.

Results: The clinical symptoms started at the mean age of 30 months. The mean age of the immunological diagnosis was 60 months. A chronic diarrhea rebel to the usual treatments had inaugurated the clinical presentation in four children. A wide oral mycosis was found in five children, regional lymphadenitis following BCG vaccination made it possible to retain the diagnosis in one case. One patient could profit from a bone-marrow graft. The caring was limited, for the other patients to: intravenous immunoglobulins, associated with antibiotherapy. Prognosis was very poor: the mean age at the time of death was 25 months. Class II HLA antigens were not expressed on resting and activated lymphocytes among eight patients.

Conclusion: This study confirms the frequency of this disease among the North African population. This disease is fatal in the absence of bone marrow transplantation.
**PP-251**

**A case report with Griscelli syndrome**

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Griscelli syndrome is a rare autosomal recessive disorder resulting in pigmentary defect of the integumentary system, so-called silver hair. Some patients show hepatosplenomegaly, lymphohistiocytosis, and a combined T-cell and B-cell immunodeficiency. In another variant, neurologic signs are most prominent. Hemophagocytosis may develop which usually has a fatal course.

Case report: A six years old girl with normal neurological development complained with dizziness, vomiting, strabismus and deviation of mouth. She visited a medical center and cranial computed tomogram and cerebrospinal fluid (CSF) work-up were all normal. The patient was suspected to have herpes virus infection and resulting facial palsy. She was put on acyclovir and steroid oral therapy. She suffered from gait disturbance a few days later and referred to our hospital. She had typical gray hair. Light microscopy view of hair was typical with Griscelli syndrome. Magnetic resonance imaging showed diffuse lesions involving brain stem; resembling an infectious, infiltrative or neoplastic process. A second analysis of CSF and acute phase reactants were completely normal, but antituberculous treatment was given because of compatible neuroimagings and pending immunological work-up. A cerebral biopsy was attempted but could not be done due to improper localization of lesions. Clinical status of patient deteriorated rapidly. Severe respiratory problems developed as she had lesions around brain stem. Skin biopsy for genetic tests were planned, but the patient died.

Conclusion: Griscelli syndrome is diagnosed very rarely worldwide; many cases are reported from Turkey. This disorder must be considered by caregivers in any patient with characteristic silver hair.

**PP-252**

**Long term follow-up of undefined hypogammaglobulinemias**

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Symptomatic hypogammaglobulinemia in childhood may be the initial finding of primary immunodeficiency or due to delay in maturation of immunoglobulin synthesis. 20% of symptomatic patients are followed without exact diagnosis. The aim of the present retrospective study was to review the clinic and laboratory records of 37 patients with undefined hypogammaglobulinemia.

Methods: Between 2002–2008 years, 412 patients admitted to our clinic and 375 of them had been diagnosed as one of the primary immune deficiencies. The rest of them (37 cases) were evaluated regarding to changes in serum immunoglobulins during follow-up period of 34.1 ± 22.0 months. Thirty-seven patients (51.4% boy, 48.6% girl) who were not classified according to ESID diagnostic criteria were included. Inclusion criteria were as follows; age >30 months, >1 year follow-up duration, Ig levels at least 1 SD low for age, isolated IgG or IgG+IgA, or IgG+IgA+IgM deficiency.

Results: Mean age of the patients was 85.8 ± 27.5 months. The commonest clinical presentations were recurrent upper respiratory tract infection (94.6%). Immunoglobulins of 18 patients reached to normal levels at follow-up period. In remained 19 patients, three partial IgA deficiency, seven IgG subclass deficiency, two selective IgM deficiency were diagnosed. B cell differentiation tests were performed in two girls and detected decreased switched memory B cell levels. Functional T cell defects were thought to be associated with this condition. Low IgG and IgA levels persisted in three patients who had no severe clinical sympotms. IgG, IgA and IgM levels remained low in two patients with suspected diagnosis of common variable immunodeficiency.

Conclusion: In conclusion, it is important to monitor symptomatic patients with hypogammaglobulinemia periodically. Some of these patients show full recovery with the maturation of immune system by age and the others can be exactly diagnosed and treated after carefully follow-up.

Keywords: childhood, hypogammaglobulinemia

**PP-253**

**Chronic granulomatous disease in an infant with Sweet syndrome**

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Sweet syndrome(SS) is a rare and recurrent febrile neutophilic dermatosis that is characterized by pyrexia,
leukocytosis, painful erythematous plagues of skin and neutrophile infiltration of the dermis. The etiology is unknown. It may be idiopathic or associated with infections, malignancies, drugs, autoimmune disorders and chronic collagenous diseases. A 15-month old boy attended with the complaints of fever and rash. In physical examination, he was pale and had widespread lymphadenopathy. He had oral candidiasis and eruption characterized by macules and plaques on an erythematous basis. He was anemic and trombocytopenic. His ESR and CRP levels were high Antibiotics were started with the possible diagnosis of sepsis. But there were no growth in his cultures. Viral tests were also negative. After a course of antibiotics he was still febrile and his skin lesions did not diminish. Skin biopsy was performed and the histopathological examination confirmed neutrophilic infiltration of the dermis. According to the diagnostic criteria, the diagnosis of Sweet syndrome was made. He was evaluated for a possible accompanying immunodeficiency and a diagnosis of chronic granulomatous disease was confirmed with NBT test. He was evaluated for the presence of malignancies and collagenous disease, but none was present. His clinical and laboratory findings improved after systemic steroid treatment (methyl prednisolone 2 mg/kg/day). Here, we describe a rare syndrome accompanied by a concurrent rare immunodeficiency. In the literature there was two cases reported with these disease associations. But still any relationship between these two disorders remains to be described. Thus, we aimed to point out the importance of searching for a concurrent disease with Sweet syndrome.

PP-254

Hemorrhagic syndrome associated to lupus anticoagulant: description of two cases

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We report two cases of hemorrhagic syndrome associated to presence of lupus anticoagulant (LAC): i) A five year old child presented with an extensive purpura over his limbs and trunk, an ematoma in the trunk and recurrent epistasis. Seven days ago she presented a viral gastroenteritis with a resolution after 3 days. Laboratory test revealed a normal PT (30.6%) and a prolonged aPTT (89.2) with normal platelet count. Antibodies for LAC resulted elevated (>49, normal value <10), while IgG anti-cardiolipin and anti-prothrombin resulted negative. Any treatment was started and after 3 months we observed the complete resolution of purpura with normalization of aPTT and negativity of LAC, IgG anti-cardiolipin and anti-prothrombin, ii) A nine year old child presented with an extensive purpura over limbs and trunk, 4 days ago she presented a viral acute bronchitis. Laboratory test revealed a normal PT (28.5%) and a prolonged aPTT (95.6) with normal platelet count. Antibodies for LAC resulted elevated (>49, normal value <10), while IgG anti-cardiolipin and anti-prothrombin resulted negative. Any treatment was started and after 3 months we observed the resolution of purpura with normalization of aPTT and negativity of LAC. In according to other experiences, these cases evidenced as the presence of LAC can be determine a transitory hemorrhagic syndrome in children. The hemorrhagic syndrome associated to LAC is a different condition by thrombotic syndrome; it is characterized by a prolonged aPTT and positivity for LAC, with a spontaneous resolution into 3 months.

Keywords: hemorrhagic, syndrome, lupus, anticoagulant

PP-255

Immune system in children with epidermolysis bullosa congenita

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Epidermolysis bullosa congenita (EBC) represents a rare and heterogenous group of blistering inherited dermatoses characterized by enormous skin fragility due to the malfunction of collagen. EBC also affects mucosals leading to severe damage including malabsorption and severe infections. The disease can be divided into three major groups according to the layer of the skin separation. In our study we focused on the immune system in children with EBC that are traumatized with repeated skin and mucous membrane infections.

Methods: Basic nonspecific, humoral, and cellular immunity parameters were studied.

Results: Examination of 39 pediatric patients aged 3–18 years (median 13 years) revealed no defects in phagocytosis or humoral immunity. A high number of memory T cells as well as NK cells corresponds with chronic infection. Antibodies IgA and IgG to gluten and cows milk was highly positive. Immune system in children with EBC is fully functional, reflecting chronic inflammation of the skin and mucosals.

Conclusion: Due to the disrupted integrity of mucosals, the sensitisation with different antigens may occur. We have revealed sensitization to gluten and cows milk.

Keywords: immunity, child, epidermolysis, bullosa, infection
Rhinosinusitis in children in Bosnia and Herzegovina

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Rhinosinusitis in children is a multifactorial disease in which the importance of several predisposing factors changes with increasing age. Acute rhinosinusitis is estimated to be one of the most common diseases in childhood. Only a small percentage (1%) of viral rhinosinusitis is complicated by acute bacterial sinusitis in Sarajevo, Bosnia and Herzegovina. The most common complaints among parents seeking medical care for their children include: nasal discharge, cough, low-grade fever, fetid breath and painless morning periorbital swelling. Bacterial rhinosinusitis usually follows a viral infection or allergic rhinitis. The diagnosis of pediatric rhinosinusitis is usually based on a combination of the history, physical examination, laboratory investigations, and radiological findings. Antibiotics are significantly more effective than placebo for treating acute bacterial rhinosinusitis, reducing the clinical failure rate by one-half. Children with acute rhinosinusitis often improve spontaneously following a course of empirical antibiotics. For young children with mild to moderate acute rhinosinusitis, amoxicillin is recommended at the normal or high dose. Duration of therapy is usually 10–21 days or until symptoms resolve plus 7 days.

Methods and Results: We made retrospective cohort studies during last ten years in Sarajevo on different pediatrics and otorhinolaryngology Health-Center places after the Bosnian war (1996–2006). These results showed smaller number cases and complications if we compare American and European studies. This work includes analyses in Micro Soft Word 97 and tables and diagrams in Excell 97.

Discussion: Most studies suggest that regardless of the data that indicate approximately 40% of cases of acute sinusitis will resolve without antibiotics, antibiotics allow for earlier resolution and may prevent recurrence.
infants and six older children. Nine infants did not receive any dose of vaccination against pertussis, five received one dose of whole cell pertussis vaccine and 1–2 doses. Four patients of six children did not receive any dose of vaccination against pertussis and two received one dose of whole cell pertussis vaccine. The age of not vaccinated infants was from 1 to 8 months (average 5.1 ± 2.4). The age of not vaccinated or not fully vaccinated children was from 3 to 13 years (average 9.0 ± 3.6).

Results: Only four (19%) of 21 NVNFV were referred to the hospital with suspicion of pertussis. 11 (52.3%) patients before they got ill had been in contact with person suffering from long-lasting cough at home or at school or day-care center. The clinical presentation in NVNFV group included paroxysmal cough 95.2%, whooping 57.1%, apnea 28.5% and post-tussive vomiting 55%. Patients in not vaccinated group presented with whooping 53.8%, apnea 38.4%, post-tussive vomiting 46.1%, whereas patients in not fully vaccinated group 50%, 0% and 50%, respectively.

Conclusions: Clinical presentation of pertussis in not vaccinated patients group was similar as in not fully vaccinated group, except apnea, which was more frequent in not vaccinated children.

Keywords: pertussis, children, clinical, presentation, epidemiological, data

PP-258
Household size and allergic diseases in childhood
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According to the hygiene hypothesis a negative association between household size or older siblings and the risk of allergic diseases symptoms through the impact of infections on Th1/Th2 immune response is suggested. The study was aimed to explore the impact of the presence of siblings and the presence of older siblings on asthma, hay fever and eczema in children.

Methods: In a project conducted in eight cities of R. Macedonia, the self-reported data from 1272 children aged 12/16 years from Tetovo obtained through the ISAAC phase three written questionnaires were analysed. The presence of siblings and older siblings separately (adjusted for sex, gas/wood cooking and wood/coal/oil heating, passive smoke exposure at home, cat ownership) were correlated to current wheeze, sleep-disturbing wheeze and ever-diagnosed asthma; current allergic rhinitis symptoms, rhinoconjunctivitis symptoms, interference of nose problem with daily activities and ever-diagnosed hay fever; current itchy rash, sleep-disturbing itchy rash and ever-diagnosed eczema. The data were statistically analyzed by odds ratios (OR, 95% CI) in binary logistic regression.

Results: A significant association of household size and the presence of older siblings with the investigated allergic diseases and their symptoms was not found (P > 0.05 for all the parameters).

Conclusion: The results do not confirm the suggested negative association of household size and older siblings with asthma, hay fever and eczema in childhood. Maybe household size in interaction with other environmental factors has a protective role on allergic diseases.

PP-259
Antibiotic usage in childhood airway infections and attitudes of parents
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The increasing antibiotic resistance is due largely to the increasing use of antibiotics in last years. Antibiotic consumption is widespread in childhood and pediatric populations are important targets for efforts aimed at reducing unnecessary antibiotic use. The aim of this study was to evaluate the antibiotic prescription rates for childhood respiratory tract infections and attitudes of parents on antibiotic usage in Izmir, Turkey.

Methods: Data were obtained from medical records of 314 children who admitted to Ege University Faculty of Medicine Pediatric Outpatient Clinics for different reasons between September 1, 2005 and December 1, 2005 and a 33-item questionnaire was administered to the parents of the participants.

Results: Mean age of 52.0 months and 45.9 % of them was female. A total of the patients was 84.3. 565 office visits for respiratory tract infections were recorded. In this four 1.1 for each month period, mean antibiotic use for airway infections was 1.44 patient. Antibiotic usage rate was 100% for pneumonia, 98.2% for sinusitis, 96.3% for tonsillitis, 92% for otitis, 66% for laryngitis and 6.4% for viral upper respiratory tract infections. Ninety-nine percent of the antibiotic users was taking this medication at the suggestion of doctor. The most prescribed antibiotic was amoxicillin-clavulanate (45.9%); the other commonly used antibiotics were second generation cephalosporin (17.2%), macrolide (11.5%), oral penicillin (6.8%), amoxicillin-sulbactam (6.8%), amoxicillin (4%), third generation cephalosporin (3.5%), ampicillin (1.5%), benzathine penicillin (1.1%), first generation cephalosporin (0.9%) and quinolone (0.4%). Oral route was mainly preferred (96.6%). Major concerns of parents while using antibiotics were mainly size effects of medications, allergic reactions, antibiotic resistance development and cost of the medications.

Conclusion: Efforts should be made and both administrative and educational intervention should be implemented to reduce inappropriate antibiotic use for the sake of containing costs, preventing side effects, and limiting the spread of antibiotic resistance.
PP-260

Stomatoglositis at pediatric age

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Stomatoglositis is a relatively common syndrome of pediatric age, documented as single or recurrent episodes. The objective of this study was to show epidemiological, morphological and clinical data of pediatric patients with stomatoglositis.

Methods: A retrospective study was conducted, reviewing medical charts of children hospitalized during 1 year period. Classification of stomatitis was done based on morphologic criteria: 1-Minor aphthae: ulcers varying between 3–10 mm. 2-Major aphthae: Deep and larger lesions, size exceeding 10 mm. 3-Herpetiform aphthae: Multiple crops or small ulcers of 2–3 mm with fusing tendency, confirmed by serology.

Results: Ninety-two children aged from 7 months to 14 years old are hospitalized with stomatitis during the study period. The age group of 1–5 years represented 79% of patients. A slightly male predominance (57.6%) was observed. The minor aphthae were more common as morphological classification encountered for 64% of cases, followed by herpetiform group which represented 31.5%. Recurrent episodes are registered only in 6.5% of patients, mainly of herpetiform group ($P = 0.007$). Symptoms as fever and eating difficulty had a mean duration respectively: 3.7 and 2.7 days, not depending of types of lesions. Anemia was present in 41% of cases. The lesions were treated symptomatically with topical medications.

Conclusion: A simple aphthosis or a complex one can be seen as clinical manifestation of stomatitis at children. Usually, it is a begin situation, but it can cause clinically significant morbidity, associated with fever, eating, speaking and swallowing difficulties thus affecting children quality of life.

Keywords: stomatitis, aphthae, herpetic

PP-261

Hepatitis A vaccination during epidemic outbreak

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Limited extent Hepatitis A epidemic can emerge in any country. Main weapon for epidemic control is vaccination against disease. Such an outbreak occurred in our territory on September 2007. Vaccination of children population began with the first incidences. 1018 children were vaccinated, 45 of whom expressed disease and 20 required hospitalization. Those 20 children were the material of our study. Aim was to follow the course of the disease and compare its characteristics with those of non vaccinated children who were hospitalized for hepatitis (40 children) in the same period.

Method: Demographic data, signs and symptoms, laboratory data, were noted during the course of the disease and finally compared with those of the second group.

Results: IgM antiHAV antibodies were found in all children. In 67% symptoms started 15 days after vaccination. 28% presented fever and vomiting and 50% dark urine and light colored stools. 28% of children had jaundice. Transaminase levels over 500 iu were found in 29%. Three days later corresponding percentage was 12% and after an other 3 days 11%. In seven children disease relapsed, after initial subsiding, with increase in transaminase levels and intensity of symptoms.

Conclusion: Group vaccination, during epidemic outbreak, is effective if it starts in time. It prevents the expansion of epidemic. Vaccinated children present mild but prolonged disease in lower percentage than not vaccinated.

PP-262

Tuberculosis meningitis with hydrocephalus: a follow study

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Tuberculosis (TB) is one of the most important community based health in developing countries. The infection usually starts from respiratory tract, and central nervous system involvement occurs by lymphohematogenous pathway. The presentation of Tuberculosis meningitis (TBM) is usually atypical and hard to diagnose. Hydrocephalus is a serious and common complication. Four TBM patients with hydrocephalus, two girls and two boys, aged between 2 month to 7 year, who were hospitalized between 2005–2007 are reviewed. All patients were unresponsive to previous ampirical antibiotic treatment for bacteriaemia and required further investigation including control lumbar punctures and cranial imaging. The time between presenting symptoms and diagnosis was 8–35 days. All had cerebrospinal fluid findings convenient with TBM (low glucose, high protein levels), three of them were pcr positive. All of them had neurologic signs (seizures in three, hypertonic posture in one, facial nevre paralysis in one) and hydrocephalus was detected on cranial tomography. The symptoms resolved after specific medical treatment and external drainage (ED). The duration of ED was 20–77 days. The patient underwent permanent ventriculoperitoneal (VP) shunt had the longest ED time. Regarding the presenting symptoms the patient with permanent VP shunt was the one with tonic motor posturing and hypertonicity. Development of hydrocephalus is an important predictor of morbidity and mortality. However,
clinical outcome is mostly related to severity of hydrocephalus and presence of hypertonicity as a sign of underlying central nervous system damage.

Keywords: tuberculosis, meningitis, hydrocephalus

PP-263

Clamydia, mycoplasma and viral infections in children with chronic cough

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Aim is to study the role of mycoplasma, chlamydia and viral infections in children with chronic cough.

Methods: Examination of 82 children (2–17 year), 51 boys and 31 girls, suffering chronic cough for more than 6 weeks. The virologic research of aspirates from the upper respiratory tract on presence of originators of acute respiratory diseases was carried out.

Results: Practically at each child those or other infectious agents, in most cases in associations (70%) were taped. adenoviruses were taped more often (61.4%). “Latent” serovariants of adenoviruses, which can persist in lymphoid tissue for a long time were taped in overwhelming majority (77.1%), so-called “active” adenoviruses, which often can be the originators of acute respiratory tract infectious in 22.9 %. The parainfluenza viruses were taped almost at half of surveyed (41.5%), the antigens of respiratory syncytial virus were found at 31.7 % of children. Mycoplasma pneumoniae antigens were taped in 28.8% of cases. hlamydia trachomatis and Chlamydia pneumoniae antigens were taped much less often (13.7% and 4.1%). The antigens of cytomegalovirus were found out in 25.6 % of cases. The virus of simple herpes was taped at 17.1 % of surveyed.

Conclusions: There is possible to find the persistence of various associations of originators of virus infections, such as adenoviruses, parainfluenza, the respiratory syncytial virus and the intracellular originator - Mycoplasma pneumoniae in children with chronic cough. The Chlamidia trachomatis infectious apparently has less essential importance at this pathology.

PP-264

Screening for Chagas disease in pregnant women

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Chagas disease or American Trypanosomiasis is a human parasitic disease endemic in some areas of Central and South America. It’s caused by a protozoan (Trypanosoma cruzi) and transmitted to human by vectors (bugs of the Triatominae family). Others methods of transmission are described, such as blood transfusion and mother-to-fetal transmission. Due to migration movements the disease can be found in places far away from the original endemic places, so we have started a screening program to detect pregnant women infected by trypanosoma and their offspring, children at risk to be infected during pregnancy, in order to begin the treatment as soon as possible.

Methods: Study group: pregnant women coming from Central and South America who gave birth in our hospital since September 2006 to January 2008. We have tested serologic samples of these women obtained from the routine serologic control of pregnancy, analyzed by ELISA.

Results: We have had 6504 deliveries in this period, 107 of whom were women from the risk areas. Two of the samples were positive and infection was confirmed in the two mothers and in the child of one of them. All of them where asymptomatic when the treatment was started. Commentaries - Migrations from endemic areas of trypanosomiasis has given rise to a “urbanization of parasitism” meaning that Chagas disease can be found in places where the vector doesn’t exist because other methods of transmission take place, like our country. Early treatment of this infection become in better results, so we think that this easy screening during pregnancy must be done in every hospital to detect women and babies infected and start treatment as soon as infection is confirmed.

PP-265

Etest assessment of in vitro amphotericin B susceptibility of Candida clinical isolates isolated from children

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Objectives: Data on the distribution and susceptibility of Candida spp. from children's hospitals are limited. Amphotericin B remains the “gold standard” for the therapy of many invasive fungal infections. The Clinical and Laboratory Standarts Institute (CLSI) broth dilution method is useful for antifungal susceptibility testing of yeast. However, it might be unable to detect some amphotericin B resistant organisms because the range of amphotericin B minimal inhibitory concentrations (MICs) determined by this
method is relatively narrow. On the other hand, the Etest may detect a broader range of amphotericin B resistance in Candida isolates. The aim of the study is to evaluate the susceptibilities of Candida spp to amphotericin B using Etest and to determine the distribution of amphotericin B MICs in different species in children hospital.

Methods: We used the Etest (AB Biodisk, Sonla, Sweden) to evaluate the MICs of Candida clinical isolates collected during 2004–2007.

Results: Of the 55 isolates evaluated, Candida albicans (36, 65.4%) was the most common species, followed by Candida parapsilosis (7, 12.7%), Candida krusei (4, 7.3%), Candida glabrata (3, 5.5%), Candida tropicalis (3, 5.5%), Candida lypolytica (1, 1.8%) and, unidentified Candida spp. (1, 1.8%). The minimal concentrations of amphotericin B required to inhibit 50%/90% of the isolates (MIC50/ MIC90) were 0.19/0.5 μg/mL. 52.7% of isolates were less susceptible to amphotericin B (MIC ≥1 μg/mL). Only one blood isolate of C. krusei (1.8%) was resistant to amphotericin B (MIC ≥1 μg/mL).

Conclusion: The present study demonstrated that amphotericin B resistance remains rare at children hospital in Candida clinical isolates.

PP-266
Post-exposure acyclovir prophylaxis for Varicella in children with leukemia: our experience in 21 patients

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Varicella may have a severe and fatal course in immunosuppressed patients receiving chemotherapy for leukemia. Post-exposure use of varicella-zoster immunoglobulin and acyclovir are recommended. However there is limited knowledge about the prophylactic use of acyclovir in leukemia patients.

Methods: Twenty-one patients receiving chemotherapy for leukemia and had been exposed to varicella were started on oral acyclovir in the first 24 h (10 mg/kg, three times a day). They had not suffered varicella or any other vesiculobullous rash before, according to the past medical records as well as to the family’s statement.

Results: Seventeen patients had ALL and four 3.8 years. The mean time interval patients had AML. The mean age was 6.0 months (0.5–64 months). On the time of exposure, the mean granulocyte count was 1061.0/mm³ and the mean lymphocyte count was 5800, 450 and 10/mm³, and lymphocyte counts were 1500, 980 and 650/mm³, respectively. The course was uneventful with full recovery on all patients.

Conclusion: Post-exposure acyclovir prophylaxis may prevent or modify varicella in patients receiving chemotherapy for leukemia. Controlled studies are needed to to determine the appropriate beginning time, dose and duration of prophylaxis.

Keywords: varicella, acyclovir, post-exposure, prophylaxis, leukemia

PP-267
Brucella spp meningitis and peritonitis in a patient with ventriculoperitoneal shunt

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We present a case of simultaneous meningitis and peritonitis in a 7-year-old boy. He was admitted with a 1-week history of fever, associated with headache, vomiting and abdominal pain. He had ventriculoperitoneal shunt placed for hydrocephalus secondary to meningomyelocele 7 years ago. On examination he was febrile, had abdominal tenderness and nuchal rigidity. The patient was started on ceftriaxon and vancomycin for ventriculoperitoneal shunt infection. Initial cerebrospinal fluid and blood cultures revealed no growth. At follow-up, abdominal tenderness diminished, but he suffered fever and headache. A second lombar puncture was performed and Brucella spp was isolated from the repeat cerebrospinal fluid culture. Wright agglutination titer was 1/320. Rifampicin and gentamicin were added to ceftriaxone. He exhibited a rapid recovery without shunt removal. We conclude that Brucella may be the cause of ventriculoperitoneal shunt infection in countries where brucellosis is endemic.

Keywords: brucella, ventriculoperitoneal, shunt, meningitis, peritonitis

PP-268
Meningoencephalitis complicating the course of hepatitis A virus infection

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Involvement of central nervous system is very rare in the course of hepatitis A infection. We present a case of
hepatitis A, complicated by meningoencephalitis. Case: A five-year-old boy was admitted with a 3-day history of fatigue, abdominal pain, jaundice and vomiting. His brother had similar complaints 2 weeks ago and hepatitis A was diagnosed. On examination he had fever, subicter and enlarged liver. He was conscious. Laboratory analyses showed an AST level of 1110 IU, an ALT of 1931 IU, a prothrombin time of 13.2 s and prothrombin activity of 70.12 %. Serum Anti HAV IgM and IgG were positive. On the 4th day, he developed disturbance of consciousness, nuchal rigidity and cerebellar signs. An EEG demonstrated mild but diffuse disorganization. An MRI revealed contrast enhancement in the right parietal region. Cerebrospinal fluid was clear with 55 lymphocytes/mm³, and a protein level of 19.3 mg/dL, a glucose level of was 78 mg/dL. Simultaneous blood glucose was 120 mg/dL. A diagnosis of hepatitis A virus associated meningoencephalitis was confirmed by detection of anti HAV IgM in the cerebrospinal fluid. He improved gradually. Blood and cerebrospinal fluid cultures revealed no growth. He was discharged with full recovery on the 21st hospital day.

Conclusion: Meningoencephalitis may complicate the course of Hepatitis A virus infection. Therefore hepatitis A virus should be considered in the etiology of meningoencephalitis especially in the countries with high prevalence.

Keywords: hepatitis A, infection, meningoencephalitis

PP-269
Central nervous system tuberculosis in children: what has changed in the last 20 years?
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Central nervous system tuberculosis (CNS Tb) is the most severe form of childhood tuberculosis.

Methods: We reviewed the medical records of our patients admitted for CNS Tb in two periods through almost 20 years: from 1988 to 1996 (Group 1, n: 165) and from 2000 to 2006 (Group 2, n: 38).

Results: A scar of BCG was noted in 44 % of the patients in Group 1 and in 42 % in Group 2. Another case of tuberculosis was identified by contact tracing in the families of 99 patients (49 %). A CT revealed normal signs in only 26 % of the patients in Group 1 compared to the 13 % in Group 2. The culture of either cerebrospinal fluid or gastric aspirate yielded M. tuberculosis in 10 % of the children in Group 1 and in 21 % of the patients in Group 2. Rifampicin resistance was detected in one patient and multiple drug resistance in another case in Group 2. On admission, stage 3 disease was observed in 38 % of the older patients, compared to the recent 53 %. The mortality rate decreased from 19 % to 11 %.

Conclusion: Although the numbers of patients and the mortality rate have decreased in the last years, a greater percentage of the children were in stage three recently and the incidence of sequel has increased consequently. Drug resistance is an emerging problem. Early diagnosis, thorough contact tracing, prompt treatment and ensuring compliance with the treatment may help reduce the burden of disease.

Keywords: tuberculosis, central nervous system, childhood

PP-270
Childhood tuberculosis: a review of 55 patients admitted in the last year
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Children suffer severe tuberculosis related morbidity and mortality in countries where tuberculosis is endemic. In this study we present our cases to call attention to childhood tuberculosis.

Methods: Fifty-five patients admitted with suspected tuberculosis from 01.01.2007 to 31.12.2007 were reviewed. The following parameters were analysed: clinical signs and symptoms, tuberculin skin test, radiological findings (posteroanterior and lateral chest radiographs) and contact case surveyance. Three consecutive morning gastric aspirates were taken and they were subjected to smear microscopy and culture for acid-fast bacilli. Drug susceptibility test was applied to the culture positive samples. Computerized tomography, bronchoscopy and lumbar punction were used in relevant cases.

Results: The scope of the study included 11 patients with exposure, 12 patients with latent tuberculosis infection and 32 patients with tuberculosis disease. 15 of the 32 patients were female (40 %). The age range of the patients was 5 months to 15 years (7.53 ± 4.89, mean). Pulmonary tuberculosis was diagnosed in 21 patients, where as 11 patients suffered extra-pulmonary tuberculosis (four military diseases, three meningitis, two peritonitis and two lymphadenitis). The most common clinical signs were fever (62.5 %), cough (46.8 %) and respiratory distress (12.5 %). After the investigation of the families a source case was detected in 16 of the cases (50 %). Tuberculin skin test was positive in 22 patients and 16 of them had the typical scar of BCG vaccination. Consolidation (40.6 %), lymphadenopathy (37.5 %) and pleural effusion (9.3 %) were observed as the most frequent pulmonary findings on the chest radiographs. In four patients the suspected diagnosis of endobronchial disease was confirmed by bronchoscopy. The smear of four patients were positive for AFB (25 %). The cultures revealed Mycobacterium tuberculosis in 14
patients (43.75%). Three patients were determined as resistant to isoniazid (one meningitis, one endobronchial tuberculosis, one miliary disease). The treatment of seven patients was completed where as 25 of all the cases were still treated as tuberculosis disease.

Conclusion: Diagnosis of childhood tuberculosis is very difficult. The occurrence of new and drug resistant cases should be prevented by identifying the source cases and ensuring compliance with the treatment.

Keywords: childhood, tuberculosis, source case, prevention, treatment

PP-271

Brucellosis

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Brucellosis is a zoonotic disease, transmitted to humans by direct contact with infected animals or secretions or by ingesting unpasteurized milk or milk products. Cases in the first year are rare but human-to-human transmission and congenital Brucellosis has been reported. A 5 month old boy had received a diagnosis of Brucella. He had no symptoms, no signs and his physical examination was completely normal. He had a positive family history of Brucellosis. His mother developed arthralgia, malaise during lactation and also his father had rash, fever, arthralgia, backache undiagnosed for about a year. They had positive antibody titers for Brucella and mothers' blood culture yielded Brucella spp. When we evaluated the baby, he also had Brucella IgG and blood culture positive for Brucella spp. We performed lumbar puncture to rule out neurobrucellosis and the cerebrospinal fluid was negative for Brucella PCR. We started a combination therapy with trimethoprim- sulfamethoxazole 10 mg/kg per day and rifampicin 20 mg/kg per day. Brucella may be difficult to diagnose in childhood, since it is endemic in Turkey we should keep in mind that infected mothers may transmit through breastfeeding.

Keywords: brucellosis, breastfeeding

PP-272

A case of pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections

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Post streptococcal autoimmunity due to A group β-hemolytic Streptococcus (GABHS) has been postulated as an etiologic factor in the development of childhood-onset obsessive-compulsive disorder (OCD) and tic disorders. Pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections (PANDAS) subgroup of children with sudden and dramatic onset of symptoms and have a high frequency of comorbid neuropsychiatric symptoms like attention deficit/hyperactivity disorder, oppositional defiant disorder, major depression, separation anxiety disorder, overanxious disorder and enuresis (1). We are presenting a case referred to child psychiatry clinic having abnormal behaviours realized by his teacher and defined as PANDAS clinically. Case: 12 years old boy. He came to our clinic complaints with compulsions like washing hands, opening and closing the classroom door repeatedly, singing song, lack of attention, elevated motor activity, restless, seeming more negative than usual, difficulty in sleeping. He had no previous history of emotional or behavioral problems. 1 week ago he had an upper respiratory tract infection and psychiatric complaints initiated subsequently. Elevated antistreptococcal antibody titers and throat culture was positive for GABHS were found after pediatric consultation. In psychiatric examination, increased motor activity and inattention, restless, compulsions, negativism affective lability were found, speech was not spontaneous. He prescribed amoxicillin 750 m/g/day. His psychiatric complaints improved rapidly without any psychiatric medication.

Conclusion: If a child with no prior psychiatric history who had a sudden and dramatic onset of OCB, ADHD symptoms following a GABHS throat infection these psychiatric symptom exacerbations can be temporally related to GABHS infection and only antibiotic treatment improved the psychiatric symptoms.

References:

Keywords: PANDAS, psychiatric, symptoms, treatment, antibiotics, child

PP-273

EBV-induced fulminant hepatic failure treated with liver transplantation

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Epstein Barr virus (EBV) causes infectious mononucleosis which is characterized by fever, lymphadenopathy and frequently accompanied by benign hepatitis. Primary EBV infection is usually asymptomatic, but it rarely results in hepatic failure. We report a case of fulminant hepatic
failure in an immunocompetent 3.5 years old girl caused by primary EBV infection that was treated by orthotopic liver transplantation. The patient was admitted with the complaint of jaundice for 15 days. Serum aminotransferase and bilirubin levels were elevated, prothrombin time was prolonged. Anti-HAV IgM, HbsAg, anti-Hbc IgM, anti-HCV were negative, while EBV VCA IgM was positive. The patient received supportive therapy for acute viral hepatitis. At 3 week of the onset of jaundice, she was confused and had diminished hepatomegaly in physical examination, and INR was prolonged. Cranial MRI findings indicated hepatic encephalopathy. The patient received intensive care and underwent an living donor liver transplantation (LDLT) from her mother. This paper emphasizes that EBV must be known as a possible cause of fulminant hepatitis and that liver transplantation is probably the unique therapeutic option to avoid a fatal course.

**PP-274**

**Neonatal infection of herpes simplex virus**

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Neonatal herpes starts as a consequence of transferring the infection from the mother to the fetus, that is the infant. The cause of this disease in the majority of cases is HSV-2, rarely and HSV-1. Demonstrating a case of a child who due to an undetected intrapartial infection HSV-1 developed encephalitis and died.

Results and Methods: A girl M.K. born 2000, was a first child from a third normal pregnancy (one Ab. spontaneous; two extrauterine). The delivery was on time, natural, B.W. 3450 g, B.L. 51 cm, AS 9/10, BCG administered at birth. Family anamnesis is no information of importance for the disease. The disease started with convulsions on the 15th day of life due to which was hospitalized, when after differential – diagnostic examination: physical; neurological; neuro-imaging; ultra-sonoigraphy; CT; MRI-CNS; laboratory – serological examination, HSV-1 was proven. Encephalitis ensues, infection recurs with structural damage of CNS, and lasting neurological sequel, and complications arose in the shape of convulsions non reactive to therapy; respiratory insufficiencies and problems of circulation liquor, depression immunological system. In the second year of life there are common convulsions, reeding respiratory, urinary infections, aspirational pneumonias, the last one is complicated by a sepsis and that in the sixth year.

Conclusion: The prevention of neonatal infection of HSV includes applying measures that have as their objective preventing a development of the primary infection of HSV in pregnant woman, as well as avoiding the possibility that the new born comes in contact with herpetic damages, on the mother genitals during child birth.

**Keywords:** infection, encephalitis, HSV, damages, death

**PP-275**

**Comparison of ampicillin-sulbactam and 1st generation cephalosporins in treatment of pneumonia**

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Pneumonia is a common cause of morbidity in pediatric age. Isolation of responsible agent is usually difficult and time-consuming. Empirical treatment of bronchopneumonia or lobar pneumonia with suspected bacterial origin using ampicillin-sulbactam (amp-sulb) and successive use of 1st generation of cephalosporins (cephazolin+cephalexin) were compared in this study.

Methods: Children aged between 6 months and 14 years were included and divided into two groups. All patients were followed up on outpatient basis. The patients were diagnosed as bacterial pneumonia by clinical features, acute-phase reactants and by radiological evaluation. Neither of them had any comorbidity nor received an antibacterial treatment during last 2 weeks. Amp-sulb was given to group I intramuscularly for 5 days and then orally for 7 days. Cephazolin was prescribed for 3 days and then oral cephalexin was added to therapy in group II. Therapy was completed to 10 days. No case had to discontinue the trial due to adverse effects. At the end of therapy all patients were reevaluated and results were classified (Table 1).

Results: The most frequent side effect was related to gastrointestinal system. Age distribution has been shown on table 2. Therapy with amp-sulb was more successful (76.9%) during infancy. Amp-sulb and first-generation cephalosporins yielded unlike results of cure rate for the patients with lower respiratory tract infection at less than and older than 6 years-age.

Conclusion: Potential pathogens vary according to the age, and we concluded that the age of the patient should be considered when ordering an empirical treatment to such patients.

**Table 1: Comparison of two groups**

<table>
<thead>
<tr>
<th>Result</th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full recovery</td>
<td>34</td>
<td>31</td>
</tr>
<tr>
<td>Improvement</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Failure</td>
<td>6</td>
<td>8</td>
</tr>
</tbody>
</table>
Table 2: Age distribution of two groups

<table>
<thead>
<tr>
<th>Age Distribution</th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 month–2 year</td>
<td>10/13</td>
<td>6/11</td>
</tr>
<tr>
<td>2–6 years</td>
<td>13/18</td>
<td>11/20</td>
</tr>
<tr>
<td>6–14 years</td>
<td>11/19</td>
<td>14/19</td>
</tr>
</tbody>
</table>

PP-276

**The efficacy of short and long-course of azithromycin in upper respiratory infections**

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Upper respiratory infections are the leading cause of outpatient admissions in pediatric population. The modality of treatment for bacterial origin is various and azithromycin is considered appropriate for short-course and once daily dosing. In this study, the efficacy of azithromycin in upper respiratory infections for 3 days and 6 days regimens were compared.

Methods: One hundred and fifty children between 9 months and 14 years age were included into study. The patients were diagnosed as acute otitis media, acute tonsilopharyngitis or acute sinusitis according to history and clinical findings. They were divided into two groups (each 75 patients) and were similar in demographic features. Azithromycin was given orally either for 3 days (group I) or 6 days (group II) period. The patients were evaluated at the end of and 4 days after the completion of therapy. They also were followed up for side effects and compliance.

Results: The success rate in long-course (6 days) group was 92% (158 patients), whereas only 57 (76%) of the patients in 3 days regimen showed clinical response. The side effects of treatment were similar in both groups. Those were mainly related to gastrointestinal tract and did not need for discontinuation of the therapy except for three patients (one in group I, two in group II). Acute uncomplicated bacterial respiratory infections are usually treated empirically. Patient adherence, tolerability and most importantly, the duration of the treatment are the main factors determining selection of drug.

Conclusion: According to this study results, azithromycin seems appropriate for this indication when used for 6 days.

PP-277

**Frequency of rotavirus gastroenteritis during childhood**

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Acute gastroenteritis is an important cause of hospital admissions during childhood. Viruses, especially rotavirus, play a major role.

Methods: Children aged between 1 month and 5 years suffering from acute gastroenteritis for 1–7 days and admitted to our hospital during 2007 were enrolled in this study. All information was collected retrospectively from recorded data. The stool specimens from these patients were studied using rota strip. Totally 1970 sample suitable to the procedure was analysed by chromatografic method.

Results: According to these results, positivity was detected in 23.6% (465) of total stool specimens. The highest rate of rotavirus infection was detected during January and February, whereas lowest during summer months. This was consistent with the literature.

Conclusion: In conclusion, rotavirus should be investigated routinely for acute gastroenteritis during childhood. The serotyping of rotavirus is expensive and not routinely performed. This type of investigation will enlight the effectiveness of the recently available rotavirus vaccines. In developing countries, like Turkey, conventional methods like encouraging breast-feeding is important other than immunization for the prevention of disease.

PP-278

**Pseudomonas necrotizing fasciitis in a non-immunocompetent infant**

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Necrotizing fasciitis (NF) occurs predominantly in adult patients. The initiating site is usually a local trauma or a surgical wound. Although relatively rare in children, NF is associated with significant mortality rate, necessitating prompt, aggressive, specific medical and surgical treatment. Case: An 18 months-old boy was brought to the Emergency Room for evaluation of his perineo-scrotal wounds.
Intramuscular ampicillin-sulbactam injection for upper respiratory tract infection 4 days prior to his admission was marked in his history. Two days after this treatment, he was noted to have scrotal and perineal wounds. On his admission to ER, there were patchy necrotic areas surrounded by violed-colored skin and blisters which rapidly spread to the left buttoc (Fig 1). The child was otherwise hemodynamically stable with a heart rate of 120 beats/min, blood pressure of 80/40 mmHg, and his temperature was 38.2°C. CBC’s were: Hb = 10.5 g/dL; Htc = 33%; Leukocytes = 8360 mm³; Platelets = 233000/mm³; CRP = 27.3mg/dL; ESR = 64mm/h. Immunoglobuline levels were all normal. Cultures obtained from the cutaneous blister secretion and tissue biopsy both revealed *Pseudomonas aeruginosa* infection. The patient was transferred to the Pediatric Surgical Intensive Care Unit with the diagnosis of necrotizing soft tissue infection where he had undergone sequential surgical debrideaments and repair of the wounds (Fig 2). He was treated with metronidazole, ceftriaxone and amikacin for 10 days in the ICU and postoperative course was uneventful.

**Conclusion:** Although the mortality rate in the pediatric age group remains high, early diagnosis, aggressive surgical debridement and intensive ICU support is the most important factor for survival of these patients.

**PP-279**

May hypothermia be a clinical feature or complication in children with Crimean Congo hemorrhagic fever?

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Several tick-borne viral zoonosis are present all over the World. Crimean Congo Hemorrhagic Fever (CCHF) is endemic in over 30 countries over Black Sea, Middle East and African region. CCHF is caused by a Nairovirus of the Bunyaviridae. Transmission to humans came true by Hyalomma ticks or close contact to infected blood, tissue or secretion of humans or livestock (Symptoms and signs include sudden onset of weakness, fever, headache, diarrhoea, abdominal pain, nausea and vomiting, elevated liver enzymes, leucopenia, thrombocytopenia, and coagulopathy. Herein we present two cases of CCHF whom developed hypothermia in the course of the disease. Cases: Our two cases are boys, lives in a village and they are shephards. They live with goats, sheeps and they feed their livestock in pasturage and forests where tick live commonly. Both two cases had tick bite history 4–5 days before begining the symptoms. In literature majority of the cases came from agricultural workers, shephards, livestock industry and veterinerians (6) Tick bite and/or travelling to CCHF endemic area are key feature to diagnose CCHF infection. Their laboratory studies revealed leucopenia, thrombocytopenia, elevated liver enzymes and prolonged aPTT. On day two, they had hypothermia and hypothermia recovered without any medication.

Discussion: In Turkey CCHF outbreaks were first described in Tokat in 2003. Since 2003 CCHF outbreaks have still seen in Tokat and other Anatolian Cities The most frequent clinical symptoms are fever, nausea, vomiting, arthralgia/myalgia in CCHF. Half of the patients had abnormal bleeding, the most common sites are nose and intestine. Elevated liver enzymes, coagulopathy, thrombocytopenia are the laboratory findings which are mostly determined. In prodromal phase or clinical course of the disease fever is one of the most frequent symptom. Our two cases had fever at the begining of disease but in clinical follow up, they had hypothermia. Hypothermia last 2 days in case I and 1 day in case II. Hypothermia is a rare complication or clinical feature of viral infections which is rarely reported. It is known that septic patients can develop hypothermia. Endotoxin, inflamatory or antiinflamatory agents may cause this alterations of body temperature. By which mechanism viral infectons cause hypothermia is not established.Antibody against viral antigen or viral antigen itself may be effect on control center of body temperature.
PP-280

Safety and efficacy of voriconazole in the treatment of invasive fungal infections in children

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Aims: Invasive fungal infections are one of the most common causes of deaths due to infectious diseases, especially in immune compromised patients. Early diagnosis and treatment are important in these diseases. In new studies, voriconazole seems to have high treatment cure alone and can also be used in prophylaxis. In this study we examined the efficacy and safety of voriconazole in the treatment of children with invasive fungal infections.

Methods: A retrospective analysis of the use of voriconazole was performed in 21 patients with invasive fungal infections and who were treated in our institution between October 2004 and December 2007.

Results: The trial enrolled 21 patients (15 male, 8 female; age range 4–18 years). The most common underlying condition was hematological malignancy in 15 cases. The mean length of voriconazole therapy was 28 days (range: 2–400 days). The overall response rate was 76%. Six patients had disseminated infection and three of them died. One patient had zygomycosis and another two had aspergillus infection in postmortem biopsies. One case died due to respiratory failure. Only one of the patients had polyneuropathy as a side effect, treatment change was not done.

Conclusion: Voriconazole can safely be given to children with invasive fungal infections. Side effects were minimal and among those treated early the overall cure rate was high.

PP-281

Epidemiology of vancomycin resistant Enterococcus infection and colonization in pediatric cases

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5. Pediatric, Military Hospital, Belgrade, Yugoslavia
6. Pediatric, MC “Cacak”, Cacak, Yugoslavia

Vancomycin resistant enterococcus (VRE) is a common infection with a rapid increasing rate. In this article, we report VRE positive patients in Istanbul Medical Faculty, Pediatrics Department between November 2005 and February 2008.

Methods: All VRE isolates are detected with standard methods like aesculinin hydrolysis and ability to grow in 6.5% saline. Antibiotics sensitivity tests are made then.

Results: Thirty-four VRE positive patients (16 female and 18 male) are detected between the study periods. VRE was isolated in 17 urine culture, in 10 rectal swab, three blood culture, two bile product, one nasal smear and one central venous catheter surface cultures. One of them was positive for both urine and rectal smear. Thirteen of them were in Hematology Department, 12 patients were in intensive care unit, four of them were in Gastroenterology Department and three of the patients were in neonatal intensive unit. Twenty-three of them were presumed as infection and treated with linesolide.

Conclusion: Antimicrobial resistance is a serious problem in chronic and severe patients. It will be helpful to find out new treatment protocol to deal with VRE colony prevalence and risk factors.

PP-282

Varicella in Kaludjerica (Belgrade, Serbia), years 2005, 2006, 2007

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Varicella (chickenpox) is relatively mild contagious childhood disease, although it can be complicated in neonates, adults, pregnant women and immunocompromised. In Serbia reporting of varicella cases is mandatory, but the vaccine is not recommended. Aim is to establish three facts: i) if the number of children infected with chickenpox in Kaludjerica has been increased in the last 3 years, ii) if any of the varicella cases reported in December 2007 was further complicated and iii) how many sick days did the parents of varicella infected children take in December 2007 in Kaludjerica. We used the official varicella notifications and the medical records of the infected children from the Kaludjerica pediatric practice, Health Center “Grocka”, Belgrade.

Results: In 2005 there where 70 varicella cases reported, 39 boys and 31 girls; in 2006 there were 22.9% less cases—54, 31 boys and 23 girls. In 2007 the number of reported cases was 5.1 times larger than in 2006–274 cases, 152 boys and 122 girls. None of the sick children had any serious complication as a result of the chickenpox infection. We had one case of impetigo, two cases of bronchitis, one otitis media, one adenovirus infection and one cathar tubae auditive. Our research also reveals that in December 2007,
Conclusions: Number of children infected with chickenpox significantly rose in 2007–5.1 times. In December only there were more reported cases (127) than in 2005 and 2006 altogether (124). Although the number of children that got ill was increased, there were neither serious complications, nor significant rise in the number of sick days taken by their parents.

Keywords: Varicella, no of cases, yrs 2005, 2006, 2007, complications, sick, days

PP-283

The efficacy of cefdinir in upper respiratory infections in children

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Cefdinir is an oral extended-spectrum cephalosporin that is approved for upper respiratory infections (URI), including acute sinusitis, acute otitis media and tonsillopharyngitis with bacterial origin. The purpose of this investigation was to document the efficacy of cefdinir in bacterial URI in children.

Methods: The diagnosis of URI for every patient was considered according to clinical evaluation and laboratory work-up, like whole blood count and C-reactive protein. Microbiological assessment could not be performed because it was unavailable in our hospital setting.

Results: Forty-four patients aged 6 months and 14 years were included in the study and cefdinir at a dosage of 14 mg/kg/day was administered orally for 7–10 days. The patients were controlled at the end and after 3–5 days of therapy. According to this, four patients have failed (9%) and therapy was switched to another agent. Only four patients suffered from nausea, vomiting, diarrhea and dyspepsia, and they could tolerate these symptoms. No patient had to stop therapy due to adverse effects. These results indicate that cefdinir is effective and safe in the treatment of pediatric upper respiratory infections.

Conclusion: Once-daily administration, good taste and relatively mild side effects of this drug offers a convenient and attractive therapeutic option.

PP-284

Multi-drug resistant Pseudomonas infection in a leukemic child

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Multidrug resistant pseudomonas (MDR) is the emerging pathogen of critically ill patients. An eight years old girl was admitted with fever and multiple septic emboli. She had been treated as acute lymphoblastic leukemia 3 years ago; then discontinued follow-up. She was diagnosed as relapsed ALL. Teicoplanin+ meropenem+amikacin were started as she was neutropenic and in septic appearance. Pseudomonas aeruginosa susceptible to all antipseudomonsals was isolated from blood culture and skin biopsy of necrotic lesion. She also received hyperbaric oxygen therapy (HBO) for those disseminated ecthyma gangrenosum lesions. The necrotic wound over lower lip and chin went on autodebridement, leaving soft tissue inflammation. Her clinical status improved and continued to chemotherapy. A second attack of febrile neutropenia developed and cefoperazone-sulbactam+gentamycin were given. Repeted blood culture revealed no pathogen and therapy was switched to meropenem because of ongoing fever. Her clinical status improved, but the lesion on lower lip was still in an inflamed appearance, necessitating a second biopsy. MDR P. aeruginosa was isolated, sensitive to colistin and only intermediately sensitive to imipenem. Colistin is not readily available in our country, and imipenem was administered. Whole body bone scintigraphy and magnetic resonance of mandibula were normal, thus osteomyelitis concomitant with this lesion was excluded. The patient continued to undergo HBO therapy and recovered satisfactorily at the end of 4 weeks, with almost complete scarring of lip lesion. Treatment of MDR pseudomonas infections is problematic. This case was presented to mention about the contribution of HBO therapy to localized infections with MDR pseudomonas.
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Mucormycosis in child: a case report

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Mucormycosis is an invasive fungal disease. It is an opportunistic infection that occurs in immunocompromised patients. The clinical manifestations are characterised by the rapidly necrosing nature of the histological lesions. Prognosis is poor needing an early diagnosis and aggressive therapy.

Results: We report a case of mucormycosis in a three-year-old girl admitted in our pediatric unit for fever and right auricular swelling. Brain computed tomography scan showed an extensive auricular disease. Diagnosis was suspected because of extensive necrotic lesions and was confirmed by mycologic tests and pathology examinations. The girl was treated surgically with wide excision of necrotic tissue. An anaphylaxis sudden had complicated the systemic administration of the dose test of Amphotericin B. Liposomal amphotericin was not used because of prohibitive costs. The local treatment and Itraconazole were the only therapeutic possibilities. No clinical improvement was observed in our patient.

Conclusion: Should we try a second administration of amphotericin B despite the anaphylaxis sudden? Must liposomal amphotericin be available in our country to resolve such situations?

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A neutropenic leukemic child with vancomycin resistant Enterococcal bacteremia

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Vancomycin resistant enterococcus (VRE) is an important cause of nosocomial pathogen. Cancer patients are colonized with VRE frequently, but invasive infection has been reported rarely. We present a leukemic child with VRE bacteremia, who was treated with linezolid successfully. A ten years old boy was admitted due to swelling in both testes, hepatosplenomegaly, leukocytosis and thrombocytopenia. He had been followed up for acute lymphoblastic leukemia for 2.5 years and diagnosed as relapsed ALL. He developed febrile neutropenia (FN) related to chemotherapy and ceftazidim+amikacin was started. Typhlitis developed and teikoplanin+clindamycin was added. No surgical intervention was needed as the patient improved and continued to undergo chemotherapy. He experienced a second attack of FN and cefepime was given pending culture results. Amphotericin B was added due to severe oral mucositis. He had crackles on left hemithorax, compatible with pneumonia on chest computed tomogram and vancomycin was added. His fever repeated on tenth day with no overt focus, leading us to switch to meropenem empirically. Vancomycin resistant Enterococcus faecalis was isolated on repeated blood culture. Rectal swab was also positive for VRE. Therapy was arranged as linezolid+gentamycin. After 14 days of antibiotherapy, the patient got well and cultures remained sterile. He is still on routine follow-up with no notably infection. Immunocompromised patients carry many risks of hospital infections. VRE infection should be suspected as a cause of febrile neutropenia in cancer patients. Thus, empirical choice of anti-gram-positive agents for FN seems to be revised if infections with this pathogen will get more frequent.

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A case of acute generalized exanthematous pustulosis caused by varicella infection

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Acute generalized exanthematous pustulosis (AGEP) is a condition characterized by sudden onset of non-follicular aseptic pustules all over the body. The disease is self-limiting and it is not very common. Infections and drugs are seen in the etiology. A 9-year-old boy was referred for evaluation of sudden onset of fever and skin lesions of 6 days duration. His lesions were previously diagnosed as varicella. He had a generalised skin rash for a day. Physical examination showed fever, axillary body temperature was 38.5°C. There were numerous non-follicular pustules on an erythematous surface and a few target lesions were seen all over the body. Also there were crusting lesions of varicella. There was a right axillary lymphadenopathy. Laboratory findings revealed white blood cells 21170/mm, C-reactive protein 147 mg/L, ESR 83 mm/h. Urine analysis was normal. Patient was hospitalized and was given oral antihistaminic and parenteral cefazolin. Cultures of the blood and lesion samples were subjected. Punch biopsy was performed. Erythematous lesions faded day by day. On the third day, desquamation was seen all over the body. Body temperature returned to normal. Any type of organism wasn’t observed by Gram staining, thereas in the samples of pus and blood cultures were negative. Punch biopsy showed spongiosis, dermal edema, polymorphonuclear cell
collection in perivascular area and epidermis. The patient was discharged on the fifth day of admission to the hospital.

Conclusion: In this case generalized sterile pustules occurred just after the onset of varicella lesions. The patient was diagnosed as AGEP caused by varicella infection.

Keywords: Varicella, exanthema, pustule

PP-288

Vitamin D receptor gene polymorphisms in childhood tuberculosis

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Host genetic factors are important in determining susceptibility to tuberculosis and outcome of infection. Vitamin D receptor gene polymorphisms (VDRGP) may be involved in the pathogenesis. In this study we aimed to investigate the role of vitamin D and VDRGP in childhood tuberculosis.

Methods: A total of 257 children were enrolled in three groups: Group 1 consisted of the 97 patients with tuberculosis. Group 2 involved the 72 children with tuberculosis infection (a positive reaction to the tuberculin skin test and no clinical, bacteriological or radiographic evidence of active tuberculosis) and Group 3 included 100 healthy controls. Two samples of blood were obtained to determine 25OH vitamin D level and to detect VDRGP at three sites (Taq1, BSM1 and Fok1).

Results: The mean 25OH vitamin D levels were 23.8 ng/mL in Group 1, 37.7 ng/mL in Group 2 and 41.5 ng/mL in Group 3 (P < 0.05). We did not observe a significant difference in genotypic distribution among the three groups. However we found an association of Taq1 T allele with the extent of disease and Foq1 F allele with rapid clinical response.

Conclusion: Vitamin D deficiency may contribute to the susceptibility to the tuberculosis. VDR genotype seems to be involved in the extent of disease and clinical response to treatment.

Keywords: tuberculosis, vitamin D, vitamin D receptor, gene, polymorphism

PP-289

A case of abdominal tuberculosis mimicking malignancy

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Tuberculosis can involve any part of the gastrointestinal tract. It can have a varied presentation, frequently mimicking other common and rare diseases. A 5 years old boy applied to our pediatric intensive care unite with fever, abdominal pain, abdominal distention, weight loss, anorexia and malaise.

Clinical findings: Fever (38.5°C), ascit, hepatosplenomegaly, growth retardation. Laboratory findings: raised ESR and CRP, bone marrow aspiration was normal, PPD:14 mm. Chest X-rays was normal. Computed tomographic (CT) scan and abdominal USG findings: enlarged mesenteric lymph nodes and mesenteric thickening, enlarged liver and spleen. Ascitic fluid examination was straw coloured fluid with high protein, predominantly lymphocytic cells (65%). BACTEC and PCR were between normal ranges. Laparoscopy was performed and characteristic granulomas were seen in the mesenteric lymph nodes and liver biopsy. Antitubercular therapy was done.

Conclusion: In children with abdominal pain, weight loss, anorexia and fever tuberculosis should be kept in mind in differential diagnosis. Laparoscopy is a very useful in evaluation of doubtful cases.

Keywords: tuberculosis, vitamin D, vitamin D receptor, gene, polymorphism

PP-290

Infection by Bartonella henselae: two atypical cases

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We present two atypical cases of infection by Bartonella Henselae: i) A nine years old child presented with an extensive purpura over his limbs and trunk, a spleen palpable 1 cm below the costal margin and a cervical lymphadenopathy. Laboratory test revealed a leucocyte count of 8.9 × 10⁹ per liter, with 0.24 neutrophils, 0.63 lymphocytes. The haemoglobin level was normal and platelet count was 7.109 per liter. PT, aPTT, RSV, RCP were normal. Chest roentgenogram and abdominal ultrasound examination were unremarkable, while neck ultrasound examination evidenced a diffuse cervical lymphadenopatgy with reactive characteristics. Treatment with intravenous gamma-globulin 1 g/Kg/die was prolonged for 2 days. After 48 h the platelet count was...
89 109 per liter and on day seven the count was 179 109 per liter with a total regression of purpura. IgG antibodies to *Bartonella henselae* was performed using an indirect immunofluorescence assay and resulted positive (1: 2048, >128). Treatment with clarithromycin (15 mg/Kg/die) was prolonged for 14 days, obtained the regression of lymphadenopathy, ii) A fifteen year old child presented with a 5 days history of fever and abdominal pain, without superficial lymphoadenopathy. She presented a spleen palpable 1 cm below the costal margin. Laboratory test revealed a leukocyte count of 13.9 109 per liter, 0.25 neutrophils, 0.64 lymphocytes. RCP was 264 IU/L (<5). Abdominal ultrasound examination evidenced a diffuse lymphoadenopathy with reactive characteristics and two ipoecogen lesions in the spleen. IgG antibodies to *Bartonella henselae* resulted positive (1:2640). Clarithromycin-therapy (15 mg/Kg/die) was prolonged for 21 days, obtained the normalization of ultrasound examination.

**PP-291**

*Mycobacterium tuberculosis* meningitis in adolescence

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A 13-year-old girl presented with a one-day history of severe and persistent headache, high fever, vomiting and nuchal rigidity. Previous history of cranial traumatism (occipital injury) when she was six and hypoacusis since she was an infant. Complete blood count showed leucocitosis and neutrophilia; high C reactive protein; platelets, serum electrolytes, creatinine and liver profile were normal; coagulation profile revealed high fibrinogen; and serum glucose was 145 mg/dL. Blood culture was negative. Cerebrospinal fluid showed: normal pressure; White Blood Cells count 900 cells/mm^3^; significant polymorphonuclear pleocytosis; glucose 47 mg/dL; protein 132 mg/dL; specific capsular bacterial antigens were negative. CSF culture revealed *Mycobacterium tuberculosis*. Dexamethasone was given just before antibiotics. Treatment with ceftriaxone (10 days) was performed. Clinical course was positive without fever or others symptoms 2 days after admission. Investigation of immunologic causes was negative. Extensive imaging investigation (cranial computed tomography scan and magnetic resonance imaging) revealed traumatic frontal cranial deformity and meningocele. Pneumococcal polysaccharide vaccine (PPV) was given before discharge and neurosurgical intervention was planned.

Keywords: meningitis, Haemophilus, influenzae, adolescent

**PP-292**

Pulmonary fungus ball with cavity in cavity image in a leukemic child

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Invasive fungal infections possess a considerable place in oncologic patients. Early diagnosis and close monitoring is essential. This case was presented to mention a different imaging of invasive fungal infection in compromised host. A five years old girl attended to hospital suffering from weakness and knee pain. She was diagnosed as acute lymphoblastic leukemia (ALL) and chemotherapy was started. She experienced a third attack of febrile neutropenia at the end of first month and did not respond to empirical use of antibiotics pending culture results. She developed dysphagia and fungal plaques of oral cavity and fluconazole was added. She had coughing and an opacity in right upper zone was observed on chest X-ray. Concomitant thorax computed tomogram (CT) showed a fungus ball, so-called halo sign, compatible with invasive aspergillosis. Antifungal drug was switched to amphotericin B. After 1 week with a relatively clinical improvement, a second X-ray yielded a cavitary image of the previous lesion. On tenth day of treatment Control CT was taken and the same lesion progressed to a cavitary appearance with a second cavity within it. Amphotericin B was replaced with voriconazole. The patient was consulted with pediatric surgery and total resection of the right lobe was suggested. Unfortunately the patient was in poor medical status and not suitable for such an operation, necessitating only medical intervention. She improved considerably with this approach, and lesion on CT regressed. She did not need an operation. She continued to receive cancer chemotherapy wth no recurrent fungal infection. The patient has been continuing to follow-up with unproblematic course.

**PP-293**

An experience of ventriculitis caused by vancomycin resistant *Enterococcus* and treatment with linezolid

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*Enterococci* are uncommon cause of infections in central nervous system (CNS). The experience of linezolid use for therapy is limited. A case with ventriculitis due to vancomycin resistant *enterococcus* (VRE) has been presented. A 35 days old baby, with underlying diagnosis of mening-
omelycele and had been operated on third day after birth, presented with meningitis on postnatal 18th day. Vancomycin and cefepime were administered pending cerebrospinal fluid culture results. His convulsions were treated appropriately. He developed ventriculitis and hydrocephalus. There was no organism isolated. His clinical status and findings of cerebrospinal fluid got worsened, necessitating antibiotic change to meropenem instead of cefepime. The second CSF culture yielded Enterococcus faecium sensitive to ciprofloxacin and gentamycin; resistant to ampicillin and vancomycin; thus he was switched to linezolid. External ventricular drainage was inserted to control intraventricular infection. Repeated CSF was sterile on 3rd day, and remained so in other two more. Linezolid was used for 4 weeks, with reversible myelosuppression. He was transferred to neurosurgery department for ventriculoperitoneal implantation. He remained with relatively mild to moderate developmental sequelea and neurological follow-up has been extended. Linezolid is currently only available drug for VRE in our country. Intravenous linezolid appears to be safe and effective therapy for CNS infections caused by VRE. This success is encouraging for such complicated infections.

PP-294

Congenital tuberculosis in a premature infant

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Congenital tuberculosis is an unusual clinical pattern of tuberculosis presentation of Mycobacterium tuberculosis infection. We report the clinical and radiological findings of a one-month-old male infant who presented with fever, irritability, vomiting and bronchopneumonia; mother with pleural tuberculosis. A one-month-old male infant was admitted to our hospital with a 1 week history of fever, irritability and vomiting. He was born to a primigravida mother 32 week 3 days of pregnancy, weighing 1970 grams. Per examination she had: Tonsillar enlargement with Fusula on the left, mild eye and skin jaundice, cervical lymphadenopathy, liver and spleen enlargement. Mononucleosis infection was suspected. Symptoms started 8 earlier. Serologic analyses shown positive anti VCA IgM and IgG natibody against Epstein Barr virus (EBV). Laboratory findings: Inflamatory factors elevation with leucenia. Liver enzymes were minimal elevated. Blood culture, urinalysis and rest of biochemistry were normal. Cranial ultrasound and cranial CT was normal. Abdominal ultrasound revealed splenomegaly of 48 mm. Abdominal CT was normal except splenomegaly. Chest X-ray showed extensive homogenous condensation in the right hemithorax. Tuberculin test was non-reactive. Acid resistant bacilli were found in the gastric lavage on the fifth day of hospitalization. Smears of gastric aspirates and tracheal aspirates specimens contained acid-fast bacilli and cultures were positive for M. tuberculosis (BACTEC radiometric method and Lowenstein Jensen). Computerized tomography of the lung revealed scattered infiltrates and consolidation mostly in the right hemitoraks. QuantiFeron TB-Gold test was found positive. Intravenous antibiotic therapy was initiated with amoxicillin-cefotaxim then changed to vancomycin-cefotaxim after 2 days due to lack of clinical improvement. On the same day we learned that mother had pleural tuberculosis diagnosed at another hospital. So isoniazid, rifampicin, streptomycin and pyrazinamide were prescribed. In conclusion, congenital tuberculosis should be considered in the differential diagnosis of infant pulmonary diseases, particularly in countries such as Turkey where there is a high prevalence of tuberculosis. Furthermore the clinicians should be aware of that anamnesis is still the most important parameter for diagnosis.

Keywords: congenital, tuberculosis, acid fast, bacilli, antituberculous, treatment, tuberculosis

PP-295

Infectious mononucleosis complicated with hemolytic anemia

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Montenegro introduction Mononucleosis infectious (MI) is a generalised lymphoproliferative disorder most comonly coused by Epstein Barr virus. Acute hemolytic anemia is a rare complication, and it usually lasts for 1–2 months. The aim of study was to present hemolytic anemia as a rare complication of MI. Material Mononucleosis infectious was verified with serologic ELESA test. We examined patients clinically, with standad laboratory and other additional tests.

Results Case report: Patient BS, female, 15 years old, was admitted at the Infectious disease department with symptoms: weakness, chill, fever (39°C), sore throat, abdominal pain Per examination she had: Tonsillar enlargement with pussy on the left, mild eye and skin jaundice, cervical lymphadenopathy, liver and spleen enlargement. Mononucleosis infectious was suspected. Symptoms started 8 earlier. Serologic analyses shown positive anti VCA IgM and IgG natibody against Epstein Barr virus (EBV).

Laboratory findings: Inflamatory factors elevation with lymphocytosis, law RBC, HCT, HGB, with positive direct Coombs test. Liver enzymes, lactate dehydrogenase, total bilirubin with unconjugate bilirubin predominate were elevated too. Periferal smear shown schistocytes, the significant number atypical lymphocytes and reticulocytes. Immunoserology analyses shown positive ANA antibody.
Complications of mononucleosis infectious
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Introduction: Mononucleosis Infectious (MI) is a generalized lymphoproliferative disorder, mostly caused by Epstein Barr virus (EBV). Disease lasts usually 2–3 weeks, complications are rare and most serious is spleen rupture (0.5%). The aim of study was to analyze frequency and characteristics of complication in hospitalized patients with MI. Material in this prospective study from the beginning of the 2007 years we analyzed 60 hospitalized patients between three and 18 age and divide them into two age groups to better analyze complications, preschool <7 age (20 patients) and school age (40 patients). All patients satisfied criteria of acute MI: positive IgM and IgG antibody against EBV VCA (Viral capsid antigen) EBV. We used clinical examination, standard laboratory tests and additional analyses, when necessary.

Results: All patients had symptoms: fever, sore throat and lymphadenopathy. Most frequent complication was second bacterial throat infection (50% in all age groups), mostly caused by GABHS (group A beta hemolytic streptococcus), with higher prevalence in the first age group. Complications like thrombocytopenia and upper airway obstruction were frequently in the first age group, while peritonsillar abscess was in the second age group. Other complications like pneumonia and anemia were not age related.

Conclusion: The average lasting of hospitalization was 10 days. All patients completely recovered. We treated them with standard, symptomatic and additional therapy, when necessary (Corticosteroids, Antibiotics, chirurgical-incision in patients with peritonsillar abscess).

Enterococcus meningitis
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After presenting their own case the authors give an overview of enterococcal meningitis in childhood. Being a very rare entity there are just a few paediatric cases mentioned in the literature.

Methods: A case report and search of the literature.

Results: The authors present a case of Enterococcus faecalis meningitis in a previously healthy infant with no predisposing factors. The child regained his health after a prolonged antibiotic treatment containing linezolid. There were no complications or relapse.

Conclusion: Enterococcus meningitis is an extremely rare disease in adults and children as well. The majority of cases are predisposed by an underlying condition: central nervous system surgery or malformation, immunologic or other serious abnormalities. The overall mortality is around 20%. Our case is significant because the pathogenesis of the disease was unclear, the pathogen was relatively resistant, and a new agent, linezolid had a key role in the therapy of an infant.

Keywords: Enterococcus, meningitis, infant, linezolid, rare

Nasopharyngeal carriage and antimicrobial susceptibility of Streptococcus pneumoniae in healthy children in a Greek Island
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To evaluate the carriage rate and distribution of Streptococcus pneumoniae (Sp) serotypes in the nasopharynx of healthy children and to estimate the prevalence rate of antibiotic resistant Sp, in the Greek Island of Milos.

Methods: Nasopharyngeal swabs were collected in October 2007 from all healthy children 4–6 years, attending local kindergartens. Children receiving antibiotics for active infection were excluded. Sp isolates were identified according to standard microbiological procedures and serotyped by the capsular Quellung reaction. Antimicrobial susceptibilities (penicillin, cefuroxime, ceftriaxone, erythromycin, trimethoprim /sulfamethoxazole and tetracycline) were determined by E-test on Mueller-Hinton agar.

Results: Nasopharyngeal swabs were collected from 96 healthy children leading to the recovery of 21 Sp isolates (mean carriage rate 21.87%). Four serotypes 6B (19.04%), 19F (19.04%), 23F (14.28%), 14 (9.52%) accounted for 61.9% of all serotypes. All those four serotypes are vaccine related serotypes. Of the 21 Sp isolates, two (9.5%) were resistant to penicillin, one (4.7%) to cefuroxime, zero to ceftriaxone, four (19%) to erythromycin, three (14.2%) to trimethoprim/sulfamethoxazole and five (23.8%) to tetracycline.

Conclusions: Nasopharyngeal carriage of Sp in the Greek Island of Milos is 21.87%. An overall 61.9% of serotypes included in the seven valent pneumococcal conjugate vaccine. Pneumococcal antibiotic resistance in this specific population it is not high, probably related to limited prescription of antibiotics to the children of this Island.
Identification of public awareness on the protection of patients’ rights

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Realization of the “right to health” includes geographical and financial accessibility to the health care services without any kind of discrimination; getting having access to full information and accordingly taking the informed consent; the right to choice the medical facility and health care professionals.

Methods: Public Defender (PD) of Georgia in association with the Patients’ Rights Center carried out research to evaluate the level of the public awareness in the field of the protection of patients’ rights (PR). 600 patients from 12 medical institutions were surveyed.

Results: Almost every fourth (22.7%), believed they had access to “enough” information on their rights, 53.5% “not well informed”. More than half of respondents (53.7%) paid treatment bills themselves. More than half (56%) of patients said they have a hospital near to their place of residence. About 77% of surveyed believed that all patients are treated equally, regardless their ethnicity or religious beliefs. Patients are the most informed about medical fees, 56.5% of patients received information from doctors about potential risks. Every fifth respondent did not know: that they have rights ask for a photo copy of medical records, and to apply to the court and demand compensation for damage. Every tenth respondent (10.8%) did not know that they had PR to select a doctor and obtaining a second opinion. Inform Concept is mainly taken from patient before surgery (19.5%).

Conclusion: The results of the study would be interesting for health professional and general public.

Keywords: Patients, Rights, accessibility, health, care, inform, concept

Neonatal jaundice in Qods Children Hospital

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Hyperbilirubinemia is one of most prevalent disease in newborn. Delay in diagnosis and treatments may results in kernicterus. The etiologic identification of neonatal jaundice in Qods Children Hospital, Qazvin, Iran.

Materials and Methods: In this study 185 newborns that were suffering from jaundice were evaluated during 6 months in neonatal ward of Qods Children Hospital, Qazvin, Iran. The data were derived through medical examinations, laboratory tests and their medical records. Data were analyzed with statistical methods.

Findings: Of 185 icteric newborns, 94 (50.8%) were male and reminder female. The age range was 1–30 days and the most of patients had 3–7 days old. The most common signs were: icter of sclera and skin, lethargy and vomiting. Two (1.1%) had positive direct coombs, 5 (2.6%) spherocytosis and 10(5.6%) anemia. Maximum and minimum bilirubin were 41.4 and 10.5 mg/dL, irrespectivily with average 20.2. The etiology of hyperbilirubinemia were: exaggerated physiologic jaundice 91(49.2%), ABO incompatibility 42(22.7%), breast feeding 10(5.4%), RH incompatibility nine (4.9%) ,G6PD seven (3.8%), sepsis five (2.7%) and reminder unkown.

Conclusion: Study revealed that the most common etiology of neonatal jaundice is exaggerated physiologic jaundice and ABO incompatibility.

Keywords: jaundice, ABO, RH incompatibility, newborn
Severe fulminant form of neonatal citrullinemia: a case report

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Citrullinemia is a rare autonomic recessive disorder of the urea cycle with estimated incidence of 1 out of 57,000 live births. Three clinical presentations: neonatal, infantile and late onset (adult) are described. In neonatal period the disease is represented with vomiting, lethargy and rapidly progressing respiratory insufficiency and coma. The patient was born as the first child of a non-consanguineous family without any known metabolic disorders. On the third day, the child is admitted to the emergency room due to poor feeding and vomiting. Lack of sucking, hepatomegaly and lethargy was found during physical examination. Dyspne, tachypne, gastrointestinal bleeding, and convulsions started on the 6th hour of admission to NICU. Metabolic screening revealed hyperammonemia. Citrullin levels were high. Treatment was started with total potential nutrition without protein, and supplementation of arginine, and sodium benzoat. On the 38th day the patient died. The symptoms of citrullinemia can be confused with the symptoms of other diseases, especially septisemia in neonatal period. The prognosis usually depends on early diagnosis and early treatment can be lifesaving. The complications are cerebral edema, elevated intracranial pressure, herniation and hyperammonemic coma potentially leading to death. In this case, the patient was diagnosed early and the necessary treatments were started after diagnosis. Because of the long duration of hyperammonemic coma, hydrocephaly, periventricular leucomalasia and cortical atrophy has been observed in the cranial ultrasound. In our country, metabolic disorders can be serious because of the high ratio of consanguineous marriages. We would like to inform this case to emphasize the importance of citrullinemia in Turkey.

Keywords: citrullinemia, gastrointestinal bleeding

Increased serum copper levels and their relation with folic acid in mothers and their newborn infants with neural tube defects

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Nutritional factors appear to be an important contributor to the etiology of many neural tube defects (NTDs) occurring in the population. We investigated the relationship between serum folic acid, vitamin B12, zinc (Zn), selenium(Se), copper (Cu), and lead (Pb) concentrations and neural tube defect occurrence in mothers and their newborns with a neural tube defect in this case-control study.

Methods: Serum samples were obtained at delivery from 35 healthy mothers and their newborns, and 74 mothers who had a newborn with NTD. Zn and Cu determinations were made using flame atomic absorption spectrophotometer (AAS). Graphite furnace AAS was used to measure Pb, and Se levels. Serum Fe concentrations were determined by the colorimetric method. Serum folic acid and vitamin B12 levels were determined by a commercial kit with an automatic hormone analyzer.
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A case with subcutaneous fat necrosis of the newborn complicated by nephrocalcinosis and hypertriglyceridemia

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Subcutaneous fat necrosis (SFN) is a rare disease affecting adipose tissue of term infants following mostly a complicated delivery causing perinatal asphyxia. Subcutaneous lesions are characterized by painful, firm, and erythematous nodules or plaques and usually resolve spontaneously within several weeks to months. The prognosis of the disease is generally good but it may be complicated by potentially life-threatening metabolic alterations. Hypercalcemia is the most serious complication of SFN. Persistent hypercalcemia can result in nephrocalcinosis and nephrolithiasis. We report a case with SFN complicated by all metabolic complications including hypoglycemia, thrombocytopenia, hypercalcemia with bilateral nephrocalcinosis, and hypertriglyceridemia. A full term girl weighing 4250 g had been delivered by caesarean section because of fetal distress and admitted to a neonatal intensive care unit for perinatal asphyxia. At 1 day of age, hypoglycemia (15 mg/dl), hypocalcemia (7.1 mg/dl), thrombocytopenia (58,000/mm3), and increased AST, ALT, BUN and creatinine levels had been noted. At 3 days of age, reddish and echimothic lesions on upper legs and gluteal area had been noticed. She had been discharged with clinical and laboratory improvement at 7 days of age. At 3 months of age, the patient presented to her pediatrician with the complaints of failure to thrive, consipation, and polydyspia. The patient who had bilateral nephrocalcinosis on abdominal ultrasonography was referred to our hospital. On her examination, she had large, irregular, firm, and erythematous plaques on the lateral part of both thighs. Serum glucose, BUN, creatinine, AST, ALT levels were within normal limits. Serum calcium (13.5 mg/dl) and fasting triglyceride (536 mg/dl) levels were high. The parathyroid hormone was suppressed at 3.3 pg/mL and serum vitamin D levels were normal. Urinary calcium/creatinine ratio was elevated at 1.2. The hypercalcemia resolved with intravenous hydration and a diet with low calcium and vitamin D. Hypertriglyceridemia progressively increased and then reduced to normal range with the use of omega 3 fatty acids. Medullary nephrocalcinosis persisted on abdominal ultrasonography at the 12 months of age. SFN of the newborn is a rare clinical entity. The long term complications may be prevented with early diagnosis or appropriate therapy. Infants with SFN should be regularly and closely monitored for the potential lethal complications especially hypercalcemia.

PP-305

Lipid peroxidation and fluidity in very low birth weight (VLBW) infants during their first 7 days of life

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Birth produces considerable oxidative stress, especially in pre-term infants. However, there are only few studies about the evolution of oxidative stress during the neonatal period and even less about its repercussions on membrane fluidity. Therefore, we have studied the evolution of lipid peroxidation and membrane fluidity in VLBW infants during their first 7 days of life.

Methods: Control group was constituted of 63 full-term infants (samples were obtained at 0 h and at 3 h of life). VLBW group was constituted of 57 pre-terms with a birth weight of less than 1500 g (samples were obtained at 0 h, 3 h, 72 h and 7 days of life). Hydroperoxides and membrane fluidity were measured.

Results: Very low birth weight group showed higher concentration of hydroperoxides and lower membrane fluidity during the first 72 h.

Conclusion: Erythrocytes from VLBW infants showed higher oxidative damage and lower fluidity, which may cause alterations in their functions and flexibility.

PP-306

Giant cavernous hemangioma in two neonates with Kasabach-Merritt syndrome: successful management with interferon alpha and prednisolone

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We have presented two newborns who have giant cavernous hemangioma (Kasabach-Merritt syndrome)
treated with corticosteroids and interferon alpha. One of them had a giant hemangioma extending left arm and centralized elbow. Poor movements and poor moro reflex had been examined of left arm assessed as mimicking left lower brachial plexus paralysis. Laboratory data revealed a severe consumptive coagulopathy findings. He was treated pulse steroid and then interferon alpha-2a therapy (3 106 U/m2/day subcutaneously). He has been given a good response to interferon therapy and tapered after 5 months. Second infant had a giant cavernos hemangima on her right leg extending to ankle. She had mild consumptive coagulopathy findings. Same therapy had been administered and her response was satisfactorily, too. Her interferon therapy tapered after 5 months but prednisolone continued till to 8 months. In conclusion, here for two patients with Kasabach-Merritt syndrome we could not obtain any response to only steroids, but both of them has given a good response to interferon alpha. The infant who had severe consumptive coagulopathy findings has been given earlier and better response to interferon alpha compared to other case who had mild consumptive coagulopathy findings.

Keywords: Kasabach-Merritt, interferon alpha

thanatophoric dysplasia type I: case report

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Thanatophoric dysplasia is one of the common and lethal skeletal dysplasia with an incidence of approximately 1 in 6,000–20,000 births. This syndrome was separated into two types. The features of Type I are extremely short and bowed limbs, narrow thorax and platyspondylly with narrow spinal canal. We describe a male case showing typical physical and radiological characteristics of Thanatophoric Dysplasia Type I. He was found to have severely short (less than 3rd centile), bowed bones (femora and humeri), bell-shaped chest, hypoplastic round-shaped vertebral bodies, lung hypoplasia and cloverleaf skull deformity. His parents have an intermarriage (uncle’s son). The patient died in the fourth day after delivery because of the characteristic complications of this type of dysplasia. The characteristics of the patient were discussed.

Keywords: thanatophoric dysplasia

Figure 1 First case’s right arm before treatment.

Figure 2 First case, after five months treatment.

Figure 3 Second case pre-treatment view of right leg.
Epidermal nevus syndrome, a case report

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Epidermal nevi (EN) are congenital hamartomas of embryonal ectodermal. When other organs are involved it is considered an Epidermal Nevus Syndrome (ENS). Skin, brain, eyes, and skeleton can be affected.

Case Report: Full term female newborn who presents bilateral hairless plaques, generalized hypotonia and blinking movements. During stay in neonatal unit, she exhibited seizures with different characteristics that have become more frequent as well as drug resistant. At second week of life, epidermal nevi appeared in the anterior and posterior regions of left trunk, presenting progressive darkening. MR demonstrated an increase of cisterna magna and cortical dysplasia. The Video EEG showed an asymmetric basal rhythm that was slower on the left side. Histologic examination of skin showed verruciform epidermal nevus. The child is at present two years old and has West Syndrome, partially controlled with drugs. She shows signs of mental and motor retardation. Nevus has disseminated and idiopathic central precocious puberty has developed at the age of 18 months.

Conclusions: In our case we can appreciate that ENS is the result of a defect in specific developmental events, such as neuronal migration and cortical differentiation. Skin lesions in ENS can be less obvious at birth and because of that the diagnosis can be delayed. We emphasize the utility of MR and Video-EEG to perform a detailed neurological examination of children’s brain with ENS.

The role of gastric tonometry in acute cardiological conditions in infancy

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Gastric tonometry was first described in the late 1950, however, it was not applied in the clinical practice until the 1970–1980. Its use in the paediatric intensive care is still limited, although the gastric-arterial partial CO2 pressure (PCO2) gap may help us to monitor the stability of circulation. In the case of stable circulation the intragastric PCO2 (PgCO2) is higher by some mmHg, than the PaCO2 level. If a deterioration of perfusion occurs, the worsening of the gastric tonometric parameters can be the first sign. Recently we developed a new balloon free gastric tonometer, which makes the applicability of the method much easier even in neonates. In our present examinations we wanted to examine the diagnostic and prognostic value of gastric tonometry in the care of neonates and infants with severe cardiological conditions.

Methods: We performed a prospective study on ventilated, infants after cardiosurgery or in the state of cardiac decompensation (n = 9+9, weight: 22240–6700 g). Gastric tonometric examinations and acid-base measurements were simultaneously performed and the PCO2 gap was determined. Patient data were divided into group 1 of surviving (n = 12) and group 2 of non-surviving patients (n = 6).

Results: Both PgCO2 (49.6 ± 10.2 versus 61.0 ± 16.2; P = 0.001) and PCO2 gap values (5.5 ± 8.5 mmHg versus 11.0 ± 8.9 mmHg; P = 0.02) were significantly higher in group 2.

Conclusions: The new probe is well applicable for measurements of gastric PCO2 levels in infants. High PCO2 gap is a bad prognostic sign also in this population PgCO2[sb2].

Keywords: gastric tonometry, PCO2 gap, infancy
Renal vein thrombosis and bladder hematoma in a newborn: case report

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Renal vein thrombosis (RVT) occurs as an acute and life-threatening event in neonates. Predisposing factors for neonatal RVT include birth asphyxia, shock, dehydration, acute blood loss, polycythemia, sepsis, diarrhea, maternal diabetes, sickle cell disease, after maternal ingestion of thiazides, traumatic delivery, congenital renal vein defects, and rarely primary renal disease.

Case summary: The pink urine was noted in a 3 day old boy by his mother. His physical examination showed right flank mass, hypertension and dehydration and gross hematuria. The patient had 12% weight loss since birth. Urinalysis showed gross hematuria. Laboratory studies disclosed the following values: sodium, 144 mEq/L; blood urea, 47 mg/dL; and creatinine of 1.0 mg/dL. Clotting studies normal and his blood pressure (BP) was 180/70 mm Hg. Doppler ultrasound showed a large right kidney and a big hematoma-fibrin ball in bladder. Abdominal CT scan showed a high-density thrombus extending caudally to the right renal vein, and hematoma in the bladder. Because of the patient was hypertensive, mean BP 130 to 90 mm Hg; he was maintained on nifedipine. Low molecular weight heparin (LMWH) treatment was also started because of fibrin ball in the bladder and renal vein. Patient discharged at the 17th day without any complication.

Discussion: All dehydrated and pink urine newborns should be considered for RVT. LMWH and anti-hypertensive agents can be safely used in these cases. Despite further investigations for the etiology of RVT, sometimes causes can not be identified.

Conclusions: Early diagnosis and treatment is very important to improve outcome and preserve renal function in RVT.

Keywords: renal vein thrombosis, newborn, LMWH, bladder hematoma

Alpha 1- acid glycoprotein for the early diagnosis of neonatal sepsis

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Since the laboratory tests are needed for the early diagnosis of sepsis while blood culture results are pending, search for diagnostic markers of infection with high sensitivity and specificity is still required. We present a prospective study about the diagnostic value of C-reactive protein (CRP) and 1AG levels (C-reactive protein and alpha 1-acid glycoprotein (so called orosomucoid) (1AG) in the early diagnosis of neonatal sepsis in newborns hospitalized for “rule out sepsis” to neonatal intensive care unit. A total of 99 children (16 with confirmed sepsis, 36 with clinical sepsis and 47 in control group) were enrolled in the study. On admission to neonate intensive care unit, blood was sampled for CRP, blood culture and 1AG before starting antibiotic therapy. Twenty-four hours later CRP and 1AG levels were detected for second tests in the study group. It is shown that CRP has limited value in the early diagnosis of neonatal sepsis. A significant increase in 1AG levels was detected in neonatal sepsis but its high specificity was accompanied with low sensitivity. Since the 2nd test 1AG values resulted with high sensitivity, we suggest that serial 1AG tests may be used but a single test for 1AG has limited usefulness in the neonatal sepsis which requires rapid diagnosis.

Keywords: sepsis neonate, 1-acid glycoprotein
Adrenal bleeding in neonates: report of 37 cases

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Adrenal hemorrhage is more common in neonates than in any age. The real occurrence is uncertain because it may remain asymptomatic and there is also a lack of evidence of frequency for adrenal hemorrhage in unexplained neonatal jaundice and hypoxic neonates. Epidemiologic properties, risk factors and clinical presentations of adrenal hemorrhage were evaluated in term newborn babies with special emphases on unexplained neonatal jaundice and hypoxic neonates in this retrospective study. Diagnosis of adrenal hemorrhage was based on abdominal ultrasonographic examination. Abdominal ultrasonography was applied to 2280 newborns between January 2003–July 2007 in Dr. Sami Ulus Children’s Hospital NICU and 37 newborns diagnosed as adrenal hemorrhage (1.6 %). Twenty four of the patients (64.8%) were male. The average age on admission was 4.9+/- 0.3 days. Adrenal hemorrhage was right-sided in 24, left-sided in nine and bilateral in four babies. The most common clinical feature in infants with adrenal hemorrhage was jaundice and was observed in 67.5% of cases (n = 25). In the study period, a total 459 term newborns were hospitalized because of unexplained jaundice, and 25 of them (5.4%) diagnosed as adrenal hemorrhage. There was a history and/or clinical findings of traumatic delivery and/or perinatal asphyxia in 12 cases (32.5%), in rest of them (25), the cause of hemorrhage was unclear. Two patients with severe HIE and adrenal bleeding died. Adrenal hemorrhage should be kept in mind for the differential diagnosis of neonatal jaundice without a clear etiology, and an abdominal ultrasonographic examination may be recommended for this babies.

Keywords: adrenal hemorrhage, newborn, jaundice, abdominal ultrasonography, hypoxia

Coexistence of homozygous protein C deficiency and homozygous methylenetetrahydrofolate reductase mutation in a newborn

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Protein C (PC) is a vitamin K dependent serine protease anticoagulant that plays an essential role in regulating coagulation by degrading activated factors V and VIII in plasma. Methylenetetrahydrofolate reductase (MTHFR) is a critical enzyme in the metabolism of homocysteine. Hyperhomocysteinemia caused by MTHFR gene mutation is a potential risk for thrombosis. A male patient who was referred to our hospital on the 16th day of his life with diffuse gangrenous lesion on left thigh extending to knees and patchy lesions on right thigh. Lesions were dark purple, indurated and demarcated from healthy tissue by a purpuric zone. Protein C antigenic level and activity were non-detectable. Molecular genetic testing demonstrated homozygous MTHFR 677C-T mutation and homocysteine level was 30.8 micromol/L (N: 5.5–17). Both parents and siblings were found to be heterozygous for protein C deficiency and MTHFR 677C-T mutation. They were all asymptomatic. This is a first report of a coexistence of homozygous PC deficiency and homozygous MTHFR 677C-T mutation in the literature. The coexistence of more than one thrombophilic mutation may be contributed to the severe neonatal purpura fulminans in our case.

Keywords: protein C, Methylenetetrahydrofolate reductase, Purpura fulminans, vitamin K, newborn

Evaluation of parent satisfaction in a NICU setting

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Aim of the study is evaluation of health care services by the consumers is vital to the assessment of quality of care. Very few questionnaires assess parent satisfaction. The aim of the study is to develop and validate a project questionnaire as an instrument for measuring parental satisfaction in a NICU setting.

Methods: Twenty-five items selected with reduction to 20, 11 of which measuring satisfaction and nine measuring dissatisfaction. The items fell into three domains: communication, personality, confidence. The questionnaire was of a four scale response in which one indicated the highest level and four the lowest. It was offered at
the time of discharge and readministered on the first visit to outpatient clinic. Socioeconomic issues and the parental education status were recorded. The sample estimation based on the equation (Py) (Pa)/SE2 was 384 parents.

Results: We then conducted a pilot study, enrolling 61 parents and 10 NICU doctors and nurses. Thirty-five had male and 26 female infants, 41 in the ICU, 20 in the low dependency unit. The mean gestation age was 34.6 weeks, the mean birth weight was 2442.6 g and the mean duration of care was 26.1 days. 75% of parents had completed secondary education and 10% had a university degree. The ranges of satisfaction were of min: 45.3 to max: 190 (mean 120, SD: 35.6) (validity). The highest scores were recorded for personality and confidence and lesser high scores regarding communication. Ten parents re completed the questionnaire. The interclass correlation was 0.72 (reliability).

PP-316
Breast or formula milk in neonates born to Hepatitis C positive mothers?
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Breast feeding is the recommended feeding method for most babies and so is encouraged in maternity units. Occasionally breastfeeding should be avoided because of health risks to the baby, but in many cases this decision is very difficult. The role of mother-to-child transmission of Hepatitis C via breastfeeding is unclear and therefore it is currently difficult to advise infected mothers whether to breastfeed their baby or not. We present four (4) neonates born at the Countess of Chester Hospital during the period August 2007 to January 2008 to mothers positive for Hepatitis C. In 3 cases the mother was on a methadone programme, while in one case there was no history of drug use. One mother wanted to breastfeed, while the other 3 mothers opted initially for formula milk. The uncertainty over the safety of breastfeeding in these cases resulted eventually in all the neonates receiving formula milk. Further investigation and follow-up of the neonates was arranged based on the protocol of our Department. We reviewed the evidence-base regarding the risks of breastfeeding by Hepatitis C-positive mothers and concluded that the mother who wanted to breast feed should have been given greater encouragement.

Keywords: breast feeding, Hepatitis C

PP-317
Congenital cytomegalovirus (CMV) infection in twins born to a CMV-negative mother
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Cytomegalovirus (CMV) is the most common cause of congenital infection in newborns. Between 85% and 90% of infected newborns are asymptomatic at birth, while the remaining 10–15% of the infected newborns develop petechiae, hepatomegaly, splenomegaly, jaundice, periventricular calcifications, microcephaly, hearing impairment, and chorioretinitis. Intrauterine transmission occurs transplacentally during maternal CMV viraemia. Primary infection in the mother and intrauterine transmission during the first 16 weeks of pregnancy have a greater clinical impact on the foetus than non-primary infections and infections occurring during the last trimester of pregnancy. The usage of ganciclovir in the management of congenital CMV infection in newborns is limited. We report a case of twin pregnancy in which both twins were urine CMV-DNA positive and symptomatic after their birth. Interestingly, maternal CMV infection was not detected antenatally or postnatally by both urine polymerase chain reaction (PCR) and serology. Both twins were treated with ganciclovir. However the outcome for the first twin was poor due to the co-presence of congenital cardiac disease. We also discuss the importance and the limitations of PCR in the diagnosis and management the CMV-infected newborns with ganciclovir.

PP-318
A newborn infant with nemalin rod myopathy with cholestasis and respiratory insufficiency
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Nemalin rod myopathy (NM) is a congenital myopathy which is a rare cause of floppy baby, and characterized by generalized hypotonia, hyporeflexia, muscle weakness, feeding difficulties and respiratory insufficiency. A significant decrease in fetal movement and related joint contractures can be seen during perinatal period. Serum CK level can be normal or mildly elevated but the muscle biopsy is diagnostic. In this report, we describe a male newborn with nemaline rod myopathy presented with
cholestatic and respiratory insufficiency. The patient was delivered at 36 weeks gestational age by cesarean section for severe fetal distress. Physical examination showed growth retardation, severe respiratory insufficiency, hypotonia and contractures. Onset of cholestasis was recorded at age of 3 days. Hepatobiliary scintigraphy showed that no intestinal image of isotope. Other investigation of cholestasis is not determined in the etiology. Muscle and liver biopsies were carried out with a clinical diagnosis of mitochondrial disease. Investigation of skeletal muscle biopsy revealed pathologic changes of typical congenital nemaline myopathy and liver biopsy revealed intrahepatic cholestasis. Cholestasis resolved in the postnatal second month and he died at the age of 3 months from respiratory problems. No case of nemaline rod myopathy with cholestasis have been described in the literature so far. This spontaneously resolving forms of neonatal cholestasis with NM may result from the association of chronic fetal distress leading to hepatic hypoxia or ischemia.

Keywords: nemaline rod myopathy, neonatal cholestasis, newborn

PP-319
Prospective follow-up study on post-traumatic stress disorder in the neonatology intensive care unit
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To evaluate the prevalence of emotional alterations in the neonate and to examine the influence of physical contact with the mother during the infant’s stay in the NICU; to determine whether the exposure of the preterm infant to the apparently-hostile environment of the NICU might give rise to the appearance of destructured and potentially pathologic conduct that is compatible with anxiety disorder and that could develop to become PTSD if the harm-inducing stimulus persists.

Methods: Prospective follow-up study of a group of neonates admitted to a NICU (the “exposed” group), together with a control-group of full-term neonates, not admitted to a NICU, with follow-up of both cohorts until the age of 13 months. For PTSD to be diagnosed it was a prerequisite that the study population should have been subjected to a stressor. The two groups were compared by calculating the relative risk (RR) and the corresponding 95% confidence interval (95%CI), in terms of the proportion of neonates with signs/symptoms compatible with PTSD. The level of statistical significance was set at \( P < 0.05 \).

Results: On comparing the number of responses considered to be pathologic observed among neonates, in the mothers’ arms it was 0.5 per hour (SD = 0.8) and in the incubator/cot, 19.5 (9.7), \( (P = 0.001) \). In the follow-up, there were statistically significant differences concerning the presence of pathologic reactions to external stimuli, which tended to produce a repeated sensation of living out the traumatic event \( (RR = 3.3; 95\% CI = 1.1–9.8) \).

Conclusions: This research such as the present leads us to believe that studies should be made of possible modifications to the environmental surroundings of the NICU. Larger-scale studies are needed of premature neonates admitted to a NICU, so that we may assess its effects and implications, concerning both the consolidation of PTSD after discharge from hospital and the development of the child’s personality.

PP-320
Congenital pseudoarthrosis of clavicle with cleft palate
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Congenital pseudoarthrosis of clavicle is a rare malformation of unknown etiology. Only 200 cases have been reported in the literature. Bilateral cases are even rarer. The clavicle is formed into two separate segments in utero. Congenital failure of ossification of the central portion of the clavicle produces a prominence in the right anterior superior chest in the absence of trauma. The lesion is usually right sided, prominent, and painless. A neonate presented at 10 h of age with cleft lip and palate and transient tachypnea. The patient was born as the first child of non-consanguineous parents after a non-traumatic spontaneous vaginal delivery. On the chest X-ray, bilateral pseudoarthrosis is located in the middle of the clavicles. The patient was asymptomatic, the range of motion was full, and upper extremities functioned normally. After a two month observation period there were fusions on the second chest X-ray between pseudoarthrosis and no surgery was needed. Congenital pseudoarthrosis of clavicle is usually diagnosed in early childhood with a palpable non tender mass. The patients usually are asymptomatic. Bilateral cases are rare and associated with genetic syndromes. In differential diagnosis birth fracture, obstetric fracture, posttraumatic non union, cleidocranial dysostosis, or neurofibromatosis should be considered.

Keyword: congenital pseudoarthrosis of clavicle

PP-321
Atypical presentation of congenital lymphedema: a rare case report
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Hereditary primary lymphedema is a rare disorder present with persistent edema of lower extremities at birth. It is characterized by the dysfunction of lymphatic vessels due to swelling of the soft tissue secondary to obstruction of lymphatic drainage. Primary lymphedema is divided into 5 groups: congenital, praecox and tarda. Congenital lym-
The role of energetic and antioxidant metabolism in neonatal adaptation in preterm newborns

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PP-322

Rehabilitation of preterm newborns demands the implementation of revised therapy. Target to define the pathogenesis of adaptation failure in preterm newborns of 26–32 gestational weeks.

Methods: We observed 35 preterm newborns, 1 group (22) born in 30–32, 2 group (13) in 26–28 gestational weeks. Were evaluated lactate, piruvate, 2,3-diphosphoglycerat, a-ketoglutarat, glutamate, LDG, MDG, IDG, lactate/private, glutathione antioxidant system, catalase activity on the 1 and 7 days of life.

Results: The increase of metabolism and insufficient supply by energy capacious substances was revealed in both groups during first days of life. The activation of AOS and reduction of catalase is familiar for group 1 newborns, as well as for 2 group newborns - the oppression of AOS and catalase function. Total blocking of oxidative-restored reactions, reduction of enzymes activity, and exhaustion of substrates resources was revealed in 2 group newborns on the 7–10 days of life. The significant depression of a-KG and glutamate on the background of further increase NH3 led to the disorders of specific N-methyl-aspartate receptors of nervous system, depolarization of neurons and neurodegeneration. The accumulation of a-KG in 1 group led to activation of neurons and development of excitement syndrome, motor disorders. In both groups the reduction of glutathione-AOS, catalase was stated, but just in the 2 group this reduction had crucial character by inhibition of mitochondrial respiration.

Conclusion: The revealed disorganization of homeostasis predisposes the precise control of oxygen therapy, demands the creation of treatment – recovery complex including the metabolic medications.
The use of safety intravenous cannula - a survey of practice in neonatal intensive care units in the United Kingdom

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Intravenous safety cannulae are designed to prevent needle stick injuries. Several types of cannulae are available. It is recommended that they are used in hospitals across UK to reduce risk of iatrogenic injury to patients. The aim of this study was to determine if safety intravenous cannulae are used in Neonatal Intensive Care Units (NICU) throughout the country.

Methods: Telephone survey of NICU in UK.

Results: Hundred NICU in UK were successfully contacted. 55 units were level 3 and 45 were level 2 units according to British Association of Perinatal Medicine (BAPM) guidelines. 93% of respondents were Specialist Registrars, 2% were Consultants and 5% were SHO. Only 35% of respondents were aware about safety intravenous cannulae, mostly in paediatric departments. Only 7 NICU have safety intravenous cannulae available. 3 NICUs have trialled different types of safety cannulae, including 1 unit which has a trial in progress. 5 of 7 (71.4%) NICU use Insite Autoguard 24G safety cannulae, 1 (14.3%) NICU have chosen Braun Introtcan 24G safety intravenous cannulae.

Summary of results - Safety iv cannulae in UK NICUs

<table>
<thead>
<tr>
<th>NICU</th>
<th>Aware safety device</th>
<th>Device available</th>
<th>Device widely used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 3 (n = 55)</td>
<td>30/55</td>
<td>6/55</td>
<td>3/55</td>
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<tr>
<td>Level 2 (n = 45)</td>
<td>5/45</td>
<td>1/45</td>
<td>0/45</td>
</tr>
<tr>
<td>Total (n = 100)</td>
<td>35/100 (35%)</td>
<td>7/100 (7%)</td>
<td>3/100 (3%)</td>
</tr>
</tbody>
</table>

Conclusion: Safety intravenous cannulae devices are not widely used in NICU despite its safety benefits and national recommendation. Most respondents are not aware of safety cannulae devices are available for neonatal use. There is much work to do to educate staff around the use of these cannulae.

The use of laryngeal mask airway (LMA) in NICU – a survey of practice in neonatal intensive care units (NICU) in United Kingdom

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There is increasing evidence of application of LMA for the neonatal population. We aim to investigate the use of LMA in UK NICUs.

Methods: Telephone survey of level 3 and level 2 NICUs.

Results: Hundred NICU in UK were contacted by telephone. 55 units were level 3 NICU and 45 were level 2 NICU. The majority of respondents were Specialist Registrars (93%), 2 (2%) Consultants and 5 (5%) Specialty Trainee 1–3. 12% of NICUs (20% of level 3 NICU and 1 level 2 NICU) have LMA available in the unit. 8 of 12 (67%) NICUs have LMA available as part of standard resuscitation equipment. All units use LMA only if intubation fails and not for routine resuscitation. 58% of respondents would consider using LMA if unable to intubate. 62% of respondents would not use LMA due to lack of training or unaware of its applications in NICU but would welcome training in using LMA.

Conclusion: Only 20% of level 3 NICU have LMA available in the unit. LMAs are only available in 12% of all NICUs surveyed but 38% of respondents would consider using LMA in difficult intubations. All respondents not previously trained to use LMA would welcome training in its use.

Neonatal tumors: 11 years review

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To review 28 days in the Hospital Universitario Reina ≥ the tumors diagnosed in newborns (Sofía de Córdoba from January 98 to January 07 and to analize their histologic and clinic features. To know the percentage of tumors with prenatal diagnostic. It must be pointed out that the Unit of Oncology was opened in our hospital on June’ 03.

Methods: The medical records of patient with neonatal tumors diagnosed in the previous 11 years in our hospital were retrospectively reviewed. The variables analyzed were: sex, number of cases/year, percentage of tumors with prenatal diagnosis, age at clinical diagnosis, sign/sintome at diagnosis, type of tumor (histologic diagnosis and localization). We also analyzed the clinic, terapeutic and evo-lution of neuroblasms.

Results: Of the 22 tumors diagnosed in newborns, 68.18% were male with a mean age at diagnosis of 9.7 days. Ten neonates had a prenatal diagnosis. The most frequent finding on physical exam was the identification of a mass up to 68%. The most frequent tumors were neuroblstoms (27.27%, 6 patients).

Conclusions: Due to the wide use of prenatal ultraso-nography the diagnosis of neonatal tumors is performed...
PP-327
Reasons for caregivers' non-compliance with RSV prophylaxis: global physicians' perspectives
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RSV causes significant morbidity in preterm children and those with CHD. Palivizumab prevents serious RSV disease resulting in hospitalization in high-risk infants. However, lack of knowledge and misunderstanding of RSV and prophylaxis may hinder compliance.

To describe physicians' perspectives for caregiver refusal of palivizumab prophylaxis, possible hindrances in providing information, and physicians' primary recommendation to increase compliance.

Methods: Globally, 453 paediatricians were invited to participate in an internet-based survey containing 29 questions to assess patient demographics, physician practice habits and perceptions of compliance barriers.

Results: Hundred physicians from 29 countries completed the survey. When physicians were asked what the top three reasons were for caregivers' refusal of palivizumab prophylaxis, the most common reasons were incomplete knowledge of RSV (45\%) and caregivers' personal "anti-vaccine" beliefs (40\%). 86\% of physicians indicated that caregivers are provided with information on RSV and prophylaxis. Information is generally provided orally (90\%) and/or written (59\%). Written material is often not in the caregiver's native language (33\%) and only 71\% of physicians utilize an interpreter. 63\% of physicians do not require caregivers to repeat information to demonstrate comprehension. Furthermore, physicians (68\%) indicated that caregivers perceive palivizumab prophylaxis to be a vaccine. 58\% of physicians recommend the provision of additional educational materials on RSV as a primary intervention to improve compliance.

Conclusion: Globally, physicians recognize several obstacles to compliance. Results suggest that more concerted efforts targeted at providing sustainable educational materials, including multiple formats and languages, may improve the understanding of RSV and compliance with prophylaxis.

Keywords: RSV, Compliance, Palivizumab Prophylaxis

PP-328
Annual mortality rate in the Okmeydani Training and Research Hospital neonatal intensive care unit
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Perinatal and neonatal mortality rate is a determinative index that shows the quality of medical care. By the data of WHO 2003, the mortality rate of childhood under age of 5 is about 0.43 percent and by the uncertain data of WHO 2006 0.38–0.40 percent in our country. Our purpose was to determine mortality rates according to gestational ages and birth weights for infants who were followed up in our neonatal intensive care unit. We retrospectively evaluated the mortality rates of 834 patients who were hospitalized in our neonatal intensive care unit between January and December 2007. Out of 834 patients 804 patients survived, thirty patients, 18 prematures and 12 matures, died. The overall mortality rate was 3.7\%, which was identified as 5.6\% in preterms and 2.3\% in terms. 64\% of our patients were transported from an outward medical center and 73.5\% of patients who couldn't survive were admitted from other primary centers. 185 infants received antibiotic therapy and 35(17.8\%) of them had positive hemocultures, which were consistent of 18.2\% MRSA and 54.5\% MSSA. Our neonatal mortality rate is 3.7\% and it is predominantly related with prematurity and its complications. The higher mortality rate in preterms transported from outward centers suggests that it is of vital importance that interventions must be done at the time of birth at the delivery room and continued at the neonatal intensive care unit in the same center especially in premature or high risk labor.

PP-329
Proposal for cut-off levels for faecal calprotectin as a marker of digestive distress in preterm neonates
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Digestive complications leading to stop in enteral feeding or even necrotizing enterocolitis remain one of the major
unsolved problems of perinatal care. Diagnosis which is currently based on clinical data and radiological data, would benefit from a non invasive biological marker.

Methods: A retrospective multicentric study enrolled 126 preterm infants (75 boys and 51 girls) born at a median gestational age of 33 weeks (range: 25.7–35 weeks) with a median birth weight of 1780 g (750–2750 g). In each neonate faecal samples were collected weekly from the end of the first week of life until the end of the first month and/or at the occurrence of any gastrointestinal events. Samples were immediately stored at -80°C and calprotectin was measured using ELISA (Calprest® Eurospital, Italy).

Results: Three hundred and twelve samples were analyzed. Median calprotectin value was 206 µg/g (16–1240), 395 µg/g (52–996) and 832 µg/g (168–4775) in samples from healthy neonates (252 samples), from neonates with mild digestive symptoms (abdominal distension, bouts of gastrointestinal bleeding or digestive symptoms leading to stop in enteral feeding, 42 samples) and from those with NEC Bell’s stage II and III (18 samples), respectively. ROC curves analysis gave a cut-off value of 363 µg/g (sensitivity 0.65, specificity 0.82) for the development of digestive symptoms and a cut-off of 636 µg/g (sensitivity 0.72, specificity 0.95) for the development of severe symptoms.

Discussion/conclusion: This study confirms that, despite high inter-individual variability in preterm neonates, faecal calprotectin can be used as a marker of digestive distress during the first month of life with level correlating to activity of the disease. A prospective multicentric study is in progress to confirm its clinical utility.

**PP-330**

Bilateral adrenal abscess due to *Proteus mirabilis*: complication of adrenal hemorrhage in a newborn with perinatal asphyxia

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Adrenal abscess is a rare disease in the neonatal period. In this article a newborn with bilateral adrenal abscess as a complication of adrenal hemorrhage is reported. A 36 day-old male infant weighing 5200 g, was admitted for evaluation of anemia, severe hyperbilirubinemia and bilateral suprarenal mass. The pregnancy was normal, the baby was full-term and had large fetal size (3920 g). He was delivered with cesarean section because of fetal distress and underwent resuscitation in delivery room for depressed respiration. He suffered from perinatal asphyxia and profound jaundice, suprarenal hematoma and as its complication adrenal abscess should be kept in mind. The early and accurate diagnosis and appropriate clinical management of an adrenal abscess may be life saving.
PP-331

Caffeine treatment and its effects on neurovegetative functions in premature infants

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Caffeine treatment is often administrated to premature infants in order to prevent apneas which represent the most important disorder in the breathing control at this age. Caffeine increases breathing frequency, decreases the numbers of apneic spells and duration of mechanical ventilation. Although the localization of the site of action and elucidation of the mechanism of caffeine induced genesis and control of respiratory rhythm have not yet been clearly defined, respiratory mechanisms of caffeine action are supposed to include central and peripheral effects. The respiratory responses to gaseous challenges have been studied on various models including newborn rats (\textit{in vitro} on brainstem spinal-cord preparations and \textit{in vivo}) and human premature neonates, treated or not by caffeine or exposed to maternal caffeine consumption. The peripheral chemoreceptor activity in preterm neonates, assessed by the immediate fall in ventilation to hyperoxia, was greater in neonates treated by caffeine, suggesting depressed responsiveness to a hypoxic stimulus. In rats, the typical biphasic response during hypoxia (early increased ventilation and later hypoventilation) was flattened. In brainstem spinal-cord preparations isolated from newborn rats, hypoxic respiratory depression was emphasized after in utero caffeine exposure. Despite the complexity of the hypoxic response (reflecting a balance between increased neural inputs from peripheral chemoreceptors and central nervous system inhibition), these results on newborn humans and rats indicate that caffeine alters both peripheral and central chemoreceptor activity. These results support the hypothesis that in utero and neonatal caffeine exposure exerts a depressive action on the mechanisms involved in respiratory response to gaseous challenges.

Keywords: Caffeine, Preterm, chemoreceptor, hyperoxia

Figure 1 Typical face presentation of case.
head circumference 29 cm (3 the percentile). Anterior fontanel was wide. He had abnormal craniofacial features including microptalmia, bilateral cataract, low ear, marker cheeks, thin and hood nose, slender lip, natal teeth and micrognathia. The thoracic anatomy revealed narrow and downsized the upper/lower segment proportion was Body. Trichosis was searcy; the scalp, eyebrows and eyelashes were sparse and thin. In the laboratory examination; two dimensional cranial graph calvarium was observed to be thin. ECHO cardiographic examination showed a patent foremen ovale. Abdominal ultrasonography was normal. Transfontanel ultrasonography showed moderate enlarged lateral ventricles, and bilateral ventricles hemorrhage. The patient was hospitalized with the diagnosis premature and Respiratory Distress Syndrome, but the typical facial appearance of the baby brought to our mind Hallermann Streiff Syndrome. After all these procedures and applications, the subject was discharged from the clinic with the recommendation of cataract operation.

Keyword: Hallermann-Streiff newborn

PP-335
Comparison of temporal artery, mid-forehead skin and axillary temperature recordings in preterm infants <1500 g of birth weight
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Preterm infants are prone to temperature maintenance problems due to immature thermoregulatory mechanism and small body size. The objective of this study is to compare axillary temperature taken with mercury-in-glass thermometer recordings with those of the temporal artery and mid-forehead skin using infrared technology in preterm infants on incubator care in terms of pain profile.

Methods: A comparative prospective study comprised 34 preterm infants <1500 g of birth weight nursed in an incubator. Temperature recording from mid-forehead, temporary artery and axilla were recorded, six times daily, beginning from the end of first week of life for 7 days. For pain assessment, the premature infants pain profile (PIPP) was used.

Results: A total of 1360 temperature measurements were recorded. The mean mid-forehead, temporary artery and axillary temperatures were 36.72 ± 0.08, 36.81 ± 0.09, and 36.71 ± 0.07°C respectively. No statistically significant difference was noted between the means of mid-forehead and axillary temperatures. The mean mid-forehead temperatures was higher than the means mid-forehead and axillary temperatures statistically. The PIPP scores of mid-forehead, temporary artery and axillary temperatures measurements were 5.07 ± 0.36, 5.18 ± 0.43, and 7.59 ± 0.84°C respectively. The mean PIPP score of axillary temperatures measurements was higher than the means PIPP score of mid-forehead and temporary artery temperatures measurements statistically.

Conclusions: The infrared skin thermometer applied to the mid-forehead is an useful and valid device for easy and less painful measurement of the skin temperature in preterm infants <1500 g of birth weight.

Keywords: preterm infant, temperature measurement, infrared skin thermometer, PIPP score
**PP-336**

**Analysis of risk factors and rate of retinopathy of prematurity**

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Retinopathy of Prematurity is a disease of the immature retina, which causes severe vision defects in prematurely born babies.

The goal of this 2 years study was to analyze the frequency, risk factors and treatment of ROP in children hospitalized at the Center for Neonatology of the Pediatric Clinic in Kragujevac, Serbia.

Method: ROP screening was done for all newborn children with birth weight smaller than 2000 g or gestational shorter than 37 weeks. The following risk factors were considered: BW, GA, gender, application and duration of MV, duration of Oxygen therapy, degree of perinatal asphyxia, sepsis, eritropoetin therapy and intracranial hemorrhage.

Results: Screening was performed on 232 children. ROP was found in 28%, while 11.6% suffered from severe form of ROP. Laser therapy was 91.5% successful. A 1.7% of children exhibited V stadium of ROP while blindness occurred in 2.6% of children. Children with severe ROP exhibited BW of 1361.92 ± 395 and GA 29.61 ± 2.55, while other cases of ROP had BW of 1625.78 ± 330 and GA 31.28 ± 2.59. Children with severe ROP were exposed to mechanical ventilation more frequently and had longer oxygen therapy. Children with eritropoetin therapy have developed a more severe case of ROP as well as children with intracranial hemorrhage.

Conclusion: In our study, short GA and small BW, as well as mechanical ventilation, duration of oxygen therapy, intraventricular hemorrhage and eritropoetin therapy have been found to be statistically significant factors for occurrence of ROP.

**PP-337**

**Aortic thrombosis due to primary antiphospholipid syndrome in a newborn mimicking coarctation of the aorta**

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Antiphospholipid syndrome (APS) has been reported quite rarely in children. Here, we describe a newborn with aortic thrombosis due to primary APS, mimicking coarctation of the aorta with clinical presentation.

Case Report: A term, 11-day-old female infant was referred because of sepsis and renal failure. On physical examination bilateral femoral and tibial pulses were not palpated and blood pressures on upper extremities were found higher than lower extremities and the infant diagnosed as coarctation of the aorta and sepsis. Urgent echocardiography was reported as normal. Lower extremity doppler USG revealed no arterial blood flow on lower extremities and CT angiography scan revealed total occlusion in abdominal aorta from the level of left renal artery. Investigations for coagulopathies showed no evidence of ATIII, Protein S, or C deficiency. Laboratory examinations for APS revealed positive anticardiolipin antibodies (ACAs) in two plasma samples taken 6 weeks apart with negative lupus anticoagulant, antinuclear antibody and anti-dsDNA and the diagnosis of thrombosis of abdominal aorta due to APS was established.

Discussion: Thrombosis of aorta in APS is very rare. Our case is unique that no other risk factors could be identified to explain the aortic thrombosis, and that APA were found in the offspring of healthy mother. Thromboembolic aortic occlusion should be ruled out in any infant who presents with signs of coarctation of the aorta, and mother and infant should be tested for presence of ACAs, even when the mother seems healthy.

Keywords: antiphospholipid syndrome, newborn Coarctation of the aorta

**PP-338**

**Capillary leak syndrome secondary to sepsis at preterm case**

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Capillary leak syndrome, which presents with recurrent episodes of hypovolaemic shock due to leakage of the plasma, is a rare disease with high mortality and morbidity. It was first described at 1960 by Clarkson and associates. Clinically, this syndrome presents with a characteristic triad of hypotension, hemococoncentration, and hypoalbuminemia, often with an associated monoclonal gammopathy. The reason of the capillary leak which causes the disease, is unknown. There is no evidence of the histological defect of the capillary endotel on these patients’ autopsies, muscle and skin biopsies researched by the electron microscope. Diuretic agents, inotropic agents, IV hydration, antiinflamatuar agents, pentoksifilin, plasmapheresis, immunosuppressive drugs, aminophylline, prostaicynl, terbutaline, gingko biloba extracts have been used for the therapy. There is no curative treatment of disease.
Decrease on the severity and frequency of episodes is shown when theophylline and terbutaline are used at the time of the episodes.

Case: have been undergone caesarean section with the indication of fetal distress at the 28th week of gestation. His birth weight was 950 g and then followed up at the control of premature service. The case was diagnosed as very low birth weight, respiratory distress, hyperbilirubinemia and sepsis. He had hypotension, hypoalbuminemia, thrombocytopenia and uremia attacks besides recurrent upper gastrointestinal system bleeding and feeding intolerance. He was diagnosed as capillary leak syndrome at the 42th day of hospitalization with the clinical and laboratory findings. Edema, hypoalbuminemia and uremia findings were regressed with a 4 days period of dexamethasone cure. At the 52th day of hospitalization, 7 days long intravenous aminophylline treatment were given because of recurrence of hypoalbuminemia. Clinical and laboratory findings were corrected with the treatment and no recurrence were observed after discontinuation of treatment. Our case is now 5 months old with no problems at polyclinic follow up. We have represented this patient because he was the youngest case secondary to sepsis who was cured with aminophylline.

**PP-339**

**A rare syndrome, duplication of 7p: case report**

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We describe a male born at 38 weeks with normal pregnancy, vaginal delivery and antropometric parameters. Congenital anomalies included: low-set ears, small philtrum, hypertelorism, abnormally large anterior fontanel. In the second day we observed a systolic bruit 2/6. After born frequent episodes of ocular retrovulsion associated to hypotonia with a rapid spontaneous resolution. In the third day moderate tremors associated at hypocalcemia so it's started efficacious oral supplementation with Ca-aminophylline. Serological tests resulted into normal limits, EEG was normal, while cerebral ultrasounds evidenced a “cavum vergae” and hearth ultrasound examination an interatrial defect with moderate shunt left-right. In all cells cytogenetic analysis revealed a de novo duplication of fragment q21.3q32 of one chromosome 7 and showed that originated from paternal material of chromosome 7, data confirmed by molecular analysis. The 7p duplication determines a rare syndrome (prevalence of 1:1,000,000), associated to different phenotypes. The typical feature include congenital abnormalities, specially craniofacial with large anterior fontanel, mental and physical retardation, skull anomalies, generalized hypotonia, joint dislocation and contraction, genital defects and cardiovascular anomalies, as interatrial and interventricular defects. Recognition of the clinical spectrum in patients with a duplication of 7p and the assignment of this critical region should valuable for accurate counselling, prediction of outcome and further gene mapping.

Keywords: duplication, 7p syndrome

**PP-340**

**Triad of congenital hypothyroidism, neonatal respiratory distress and neurological deficits**

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Background and aim: An increasing number of reports in recent literature describe the occurrence of a triad of defects in thyroid, respiratory and neurological functions. These deficits mainly manifest as congenital hypothyroidism, neonatal respiratory distress or frequent severe pulmonary infections and neurological abnormalities including movement disorders, hypotonia, and mental retardation. An association with the NKX2-1 gene has been identified. It is believed that this gene on chromosome 14q13 plays an important part in embryogenetic development of thyroid gland, lungs and ventral forebrain. Thus, it can be hypothesized that mutations in this gene could result in a complex disease affecting all three organs.

Case discussion: We present a pair of premature dichorionic, diamniotic twin boys who suffered similar symptoms. Both had initial respiratory distress followed by a prolonged need for ventilatory support. They had primary hypothyroidism, requiring thyroxine replacements. They were noted to be hypotonic with abnormal jerky, tremulous movements. These dystonic movements were associated with tonic posturing and severe oropharyngeal dysphagia. The twins were microcephalic with similar facial dysmorphism. The first twin also had a posterior cleft palate. Investigations have produced normal findings. The NKX2-1 gene deletion is still outstanding.

Conclusion: It is important to begin recognising the NKX2-1 deletion syndrome. This syndrome can occur as a random mutation, or inherited as an autosomal dominant disorder. In the latter instance, the family would benefit from genetic counseling. This diagnosis can also help explain cases where children with congenital hypothyroidism develop neurological deficits despite treatment, thus allaying concerns regarding inadequate therapy or non-compliance.
PP-341

Pain management in neonatal intensive care units: a European policy survey

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Background and aim: Despite evidence of adverse effects of untreated neonatal pain, little is known on current policies in Neonatal Intensive Care Units (NICUs). This study, supported by the European Science Foundation, was aimed at exploring policies and practices in European countries.

Methods: Two hundred and eighty-four NICUs (response rate 78%) in eight countries (Belgium, Denmark, France, Italy, Netherlands, UK, Spain and Sweden) answered a structured mail questionnaire. For purposes of international comparison, only Units with at least 50 annual admissions of very low birthweight infants (i.e. <1500 g) were considered (n. 175).

Results: General pharmacological analgesia is used routinely (i.e. over 90% of events) by the majority of NICUs during insertion of chest drainage (70% of units) and elective endotracheal intubation (62%). There are differences between countries: for instance, administration of analgesic drugs during elective intubation ranges from 100% of Scandinavian Units to less than 40% in the Italian and Spanish ones. During mechanical ventilation, the most frequently used analgesic drugs are morphine (particularly in the UK, Netherlands and Scandinavian countries), fentanyl (In Italy and Spain), and midazolam. Non-pharmacological analgesia (such as pacifier, oral glucose or sucrose, and swaddling) is utilized more often during lumbar puncture, peripheral intravenous line placement, and chest drainage.

Conclusions: Most Units apply some measures to prevent or treat pain; such measures, however, are most often and consistently applied in Sweden and Denmark, and less often in Italy and Spain.

PP-342

Bacterial profile of sepsis in neonatal unit of a maternity hospital in Kashan, Iran

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Background and aim: Neonatal sepsis is one of the most common reasons for admission to neonatal units. To investigate the spectrum of organisms causing neonatal sepsis this study was conducted.

Methods: Blood were taken and cultured from neonates admitted to the neonatal unit of Shabihkhani Maternity Hospital with a clinical diagnosis of sepsis during a 2 years period.

Results: During the study period 104 neonates had positive blood cultures. The most common pathogens were gram negative organism as follows: Flavobacterium meningosepticum (43.3%), Pseudomonas aeruginosa (33.3%), Escherichia coli (3.8%), Enterobacter (3.8%), Klebsiella (2%) and others (13.8%). The most common clinical findings was respiratory distress. The incidence of sepsis was more common in male and full term infants. As the study was conducted in a maternity hospital the pattern of sepsis was as early onset (first 7 days of life) one. There was no mortality. All the newborns recovered by appropriate antibiotic therapy.

Conclusion: In this study, Flavobacterium was the major cause of neonatal sepsis. As the spectrum of organisms that cause sepsis changes over time and varies from region to region routine bacterial surveillance and choosing appropriate antibiotic policy must be an essential component of neonatal care.

Keywords: gram negative organisms, Flavobacterium, newborn, sepsis

PP-343

Wiskott-Aldrich syndrome in a newborn patient

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Wiskott-Aldrich syndrome (WAS) is a rare congenital X-linked primary immunodeficiency characterized by frequent infections, thrombocytopenia with small platelets and eczema. In addition, patients with WAS have increased risk for malignancies, including lymphoma - leukemia and other autoimmune diseases. X-linked thrombocytopenia (XLT) is a mild form of WAS with isolated thrombocytopenia. Both phenotypes are caused by mutations in an intracellular protein, Wiskott-Aldrich syndrome protein (WASP). Antimicrobial therapy, prophylactic use of immunoglobulin replacement therapy and bone marrow transplantation have significantly improved the life expectancy of patients with WAS. In this study we report a newborn with thrombocytopenia and small platelets who has petechiae, rectal bleeding, eczema during follow up. Thrombocyt replacement, antimicrobial therapy was administered the newborn and followed for infection and bleeding. The diagnosis of WAS is confirmed by the presence of a mutation within the WASP gene.
PP-344

A study of mature infants admitted to the neonatal intensive care unit: causes and outcomes in a district general hospital

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Background and aim: Problems at admission and follow up outcomes at 5 years of age in mature (>36 weeks) newborns admitted to Neonatal intensive care unit (NICU) during 2002 were studied.

Methods: Retrospective case note analysis was conducted on all mature newborns admitted to NICU during the study period. Data from intensive care, follow up clinics and inpatient activity was collected. Appropriate statistical tests were used.

Results: Significant numbers of newborns admitted to NICU were mature (161 out of 328). The average gestation and birth weight was 39 weeks and 3110 g respectively. 34% newborns needed resuscitation at birth and required oxygen after admission. One third of newborns with birth asphyxia had developmental delay in their follow up. Newborns with neonatal abstinence syndrome showed an association with developmental delay and respiratory problems during the follow up period.

Conclusion: Significant numbers of mature newborns are admitted to NICU with diverse problems. Some of them have prolonged stay in NICU and have adverse long-term outcomes. This has a major impact on the limited resources available. Alternative places of management e.g. transitional units may enable some of these infants to be managed elsewhere. Prospective study may identify preventive strategies to improve outcomes in this group.

PP-345

Audit of the management of neonates born to group B Streptococcus positive mothers

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Background and aim: Maternal Group B Streptococcus (GBS) colonisation is a risk factor for infection in neonates. A protocol has been established in our Department for the management of neonates born to GBS positive mothers.

Methods: We reviewed the records of neonates born to GBS positive mothers from September 2007 to January 2008 and evaluated their management.

Results: GBS was detected in forty mothers. In six cases maternal GBS had been detected during a previous pregnancy. Antibiotics were given to 25 mothers less than 4 hours before delivery. Partial septic screening was performed in 50 neonates involving full blood count, CRP and blood cultures. Chest X-rays were performed in four neonates, while no lumbar puncture was performed in any of the cases. Benzylpenicillin and gentamicin were administered to 19 neonates. In 13 neonates, antibiotics were discontinued around 48 hours (range 36–72 hours), while in six cases antibiotics were administered for 5–7 days due to increased CRP. In one case blood cultures were positive after 48 hours of incubation. Thirty one (31) neonates were discharged after 48 hours (range 36–84 hours) observation on the ward, while nine neonates were admitted to the Intensive Care Unit for more than 5 days. No complication or transfer to a tertiary centre occurred. In 36 out of 40 cases the management followed the protocol of our Department.

Conclusions: This audit suggests that it may not be necessary for so many neonates to receive a partial septic screen or antibiotics.

Keywords: Group B Streptococcus, maternal GBS, septic screening audit

PP-346

Usefulness of octreotide in management of refractory congenital chylothorax in a newborn with terminal deletion of chromosome 7q

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Congenital chylothorax is extremely uncommon. There is a known association with genetic syndromes like Noonan’s, Turner’s or Down’s. Of all cases with terminal deletion of chromosome 7q reported, only one author has described a case presenting with non-immune hydrops and truncus arteriosus. Regardless of its aetiology, management of neonatal chylothoraces can be difficult. Presently, the mainstay of management is prolonged thoracostomy drainage or surgical intervention. More recently, octreotide has been used successfully in a few case series. We report a term neonate presenting at 36 weeks gestation with hydrops and bilateral symmetrical hydrothoraces. In utero drainage of bilateral hydrothoraces was performed. After delivery, he required intubation and supportive ventilation. Examination revealed a hydropic baby with no obvious dysmorphic features. Echocardiogram only detected a patent ductus arteriosus. Intrauterine infection screen was normal. Karyotyping revealed terminal deletion of chromosome 7q34. Chest radiograph showed significant residual hydrothoraces, for which bilateral thoracostomy tubes were inserted. Pleural fluid analysis suggested a
Chylous effusion. He had persistent large pleural losses, up to 280 ml/kg/day, with resultant hypotension, hypoaalbuminaemia and lymphopenia. This was managed conservatively with supplementation of fluid loss and inotropic support. On day 4, octreotide infusion was commenced and gradually increased to 10 mcg/kg/h with good effect. No adverse effects were seen. Octreotide was gradually weaned off after one month of therapy. He was discharged well on day 57. Octreotide is safe and effective for treatment of persistent neonatal chylothorax. Thus, we recommend that octreotide should be considered for management of refractory chylothorax.

**PP-347**

Neonatal cerebral infarction: case presentation and review of literature

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Background and aim: Perinatal cerebral infarction is the second commonest cause of neonatal seizures. It affects 1:2,300-4,000 liveborn fullterm neonates. Our aim is to present a neonate with perinatal stroke and to review the literature.

Case presentation: Fullterm male neonate was born by cesarean section due to abnormal presentation. Apgar score 81, 95. The second day of life he presented with focal seizures on the left arm. Full infection screen and metabolic profile were negative. MRI showed a small infarction in right middle cerebral artery, affecting the parietal area (abnormal high signal intensity in T2 sequence, water restriction in diffusion weighted images). Brain ultrasound was normal. Cerebral function monitoring (aEEG) revealed single episodes of subclinical seizures. Seizures were controlled with treatment with phenobarbitone. Thrombophilic profile was normal. EEG at 2 months of age had normal background activity with no focal abnormalities. Neurological evaluation at birth showed mild hypotonia. At follow-up examination, at 2 months of age, the infant was generally well with mild hypertonia in the left lower leg.

Discussion: Perinatal stroke mainly affects fullterm neonates. Aetiology is usually unknown. Hypoxia at birth, instrumental delivery, congenital heart disease, thrombophilia, inborn errors of metabolism are considered high risk factors. Clinical presentation varies from focal seizures to mild symptoms such as hypotonia, feeding difficulties, episodes of apnea. Diagnosis maybe delayed after 6 months of age, when signs of hemiplegia might develop.

Conclusions: Focal seizures in neonates require investigation with MRI (included DW images) to exclude perinatal stroke even if head scan is normal.

**PP-348**

The macroscopic newborns: 3 years review

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Aim: To assess the incidence and perinatal outcome of the macroscopic infants weighing over 4000 g.

Methods: This was a retrospective analysis of all macroscopic deliveries in our hospital and of those admitted to our Neonatology Unit between 2005 to 2007. The medical records of Obstetrics Department and Neonatology Unit were reviewed retrospectively. The admission rate, indications for hospitalization and outcome were analysed. Sex, mother’s age and mode of delivery were compared statistically with the normal weight control group.

Result: A total of 11,655 deliveries occurred during the study period. The rate of all macroscopic deliveries was 7.11% and of the deliveries ≥4500 g was 1.39%, and of the extreme macroscopic infants (≥5000 g) was 0.21%. There were (66.3%) males, (33.7%) females and Male/female = 1.97. Statistical analysis with the macroscopic and control group revealed significant difference (p=0.0001). The overall cesarean section rate was 37.3% for the study group and 25.8% for the normal controls. The mean birthweight was 4299.87 ± 275.56 g (range: 4005–6100 g). The comparison of the birthweight and the mode of delivery, between macrosomics and the normal control group revealed a statistically significant increase for the cesarean section deliveries (P = 0.0001). The mean mother age of the study group was 28.29 ± 5.6 years (range: 17–53 years). The comparison of the ages of the mothers and the birthweight of the newborns between the macroscopic and normal weight control group revealed, a statistically significant difference (P = 0.0001). The mothers of macroscopic infants were older. Among those macroscopic infants, 75 cases (9.11%) were accepted into Neonatology Department for different indications. Birth injuries were found in 26 (34.7%) infants. Six clavicular fractures (8%), 2 plexus brachialis paralysis (2.7%), 4 cephalhematics (5.3%), 1 facial paralysis (1.3%), 15 cases with ecchymosis (17.4%) were found. There were 20 infants (26.6%) of diabetic mothers, 24 (32%) newborns had polycythemia, 38 (50.7%) had hypoglycemia, 8 (10.7%) asphyxia, and 14 (18.6%) had congenital abnormality. There were 2 exitus (2.7%).
Conclusion: The rate of macrosomic deliveries was 7.11% in our hospital. The macrosomic infants are at increased risk for birth trauma and asphyxia. It is important to emphasize the significance of proper diagnosis of fetal macrosomia and management of macrosomic births.

Keywords: macrosomic infants, macrosomic deliveries, birthweight, newborns

PP-349
Evaluation of clinical and paraclinical parameters in diagnosis of UTI in jaundiced neonates
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Background and aim: Each year 60% of term newborns become clinically jaundiced. 7.5–8% of jaundiced newborn have urinary tract infection (UTI) without any other clinical signs in favor of UTI. In present study we evaluated clinical and Para clinical data that help to rapid and early diagnosis of UTI in apparently healthy jaundiced newborns.

Methods: Fifty-one apparently healthy full term newborns with jaundice and UTI that admitted for management of jaundice in Motahary hospital, Jahrom, between February 2006 till August 2006 were studied and compared with 56 jaundiced neonates without UTI during that time. All of neonates had no other symptoms like fever or lethargy. At time of admission, total and direct bilirubin, coombs test, mother and neonate blood group, urinalysis and urine culture were requested for all neonates.

Results: There was no significant difference of gestational age, birth weight, age of admission, age of jaundice starting and total serum bilirubin between two groups. There was significant difference of direct bilirubin level, mean of decrease serum bilirubin after 24 hours, gender and blood groups. Male neonate gender with mean of decrease bilirubin less than 2.2 mg/day after 24 hours phototherapy and direct bilirubin more than 1.6 mg/day, during first 2 weeks of neonatal period, has about 7 times more risk of UTI. The presence of those three above mentioned factors had only 30% sensitivity and more than 94% specificity for suspicious of UTI in asymptomatic jaundiced neonates.

Comparison of characteristics of neonates with and without UTI

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<th>Without UTI</th>
<th>With UTI</th>
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<tr>
<td>Gestationa</td>
<td>39.6 ± 0.73</td>
<td>39.5 ± 0.8</td>
<td>0.28</td>
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Conclusion: Jaundice may be only presenting sign of UTI in newborns, so according to high specificity of the presence of three below factors simultaneously, it seems better to evaluate newborns for UTI if they have high level of direct bilirubin (<1.6 mh/day), slow decrease in serum bilirubin level with phototherapy (>2.2 mg/day) especially in male newborn with blood group B.

Keywords: jaundice, newborn, urinary tract infection, parameters

PP-350
Endoscopic treatment of vesicoureteral reflux: 11 year experience
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Background and aim: Endoscopic treatment for vesicoureteral reflux (VUR) has become an alternative to antibiotic prophylaxis and ureteral reimplantation. Endoscopic treatment is minimally invasive, performed on an outpatient basis and has low complication rate. We present our experience using this procedure to treat children with VUR.

Methods: We retrospectively reviewed the medical records of 191 children (252 refluxing units) who underwent endoscopic treatment for VUR (grades I to V) from 1996 to 2007. Grade I VUR was treated only when associated with contralateral higher grade VUR. Polytetrafluoroethylene, polidimetilsiloxane and dextranomer/hyaluronic acid were used as injectable materials. A follow-up voiding cystourethrogram was scheduled at three months. Repeated injection was offered to patients with persistent VUR. Continuous variables were compared using either the t test or the Mann–Whitney test. Categorical variables were examined by Chi-square or Fisher’s exact test. Multivariate logistic regression was performed with variables that resulted significant with a P < 0.1 to identify factors that could predicted reflux resolution.

Results: 57 (29.8%) were male and 134 (70.2%) were female. Median age was 6.2 years (q1 3.5 and q3 8.9 years), range 4 months to 15 years. 59 (30.9%) had bilateral reflux.

Grades of VUR (refluxing units) were: 12 (4.8%) grade I, 89 (35.3%) grade II, 113 (44.8%) grade III, 18 (7.1%) grade IV and 20 (7.9%) grade V. 212 (84.1%) underwent a first injection, 35 (15.9%) had a second and 5 (2%) had a third treatment. Reflux was resolved in 64.6% of refluxing units.

A significant decrease of resolution rate was apparent as basal VUR increased: grade I (81.7%), grade II (72.6%), grade III (62.6%), grade IV (62.5%) and grade V (31.6%); p for trend <0.001. Age of patients were associated with resolution, older patient had better outcome (P < 0.001). Younger patients had higher reflux (p for trend <0.001). All other variables (material, number of injection, unilateral versus bilateral, duplex system, dysfunctional voiding, presence of renal scars, previous diagnosis, sex, etc) were not significative. On multivariate analysis age of injection
(OR 1.14 CI 1.1–1.24, p 0.001) and grade of VUR (OR 0.7 CI 0.5–0.9; p 0.03) continued significant.

Conclusions: Endoscopic treatment of VUR may be considered as alternative option. Multivariate analysis of our data showed that age of patients and grade of reflux were associated with outcome.

Keywords: vesicoureteral reflux, endoscopic injection, pediatric, multivariate analysis

PP-351
Evaluation of syndrome of inappropriate secretion of antidiuretic hormone (SIADH) prevalence in patients with meningitis
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Background and aim: According to high prevalence of SIADH and descrepances about it and its complications we evaluated the prevalence of SIADH in patients with meningitis who were hospitalized in pediatric wards in Kashan 1995–2005.

Methods: In this descriptive study, we selected all of children afflicted to meningitis who have hospitalized in pediatric wards in Kashan in 1996–2005. informations such as age, sex, type of meningitis, serum sodium and potassium, urine specific gravity, blood sugar, blood urea nitrogen, creatinin and condition of hydration collected from their records and completed questionnaire and then acted statistical analysis.

Results: In this study we evaluated 206 children with meningitis. There was 33.5% SIADH. It was more frequent in 1–2 year old children, boys (34.7%) and in bacterial meningitis (39.1%). Research showed that SIADH was in 57% of 121 children with hyponateremia, 58.7% of 167 children with USG >1004, 74% of 93 children with sosm <280 mosm/L and in 100% of children with BUN <10 mg/dL.

Conclusion: We recommend to restrict fluid therapy in all of children with meningitis and monitore serum sodium and urine specific gravity and other criteria for diagnosing of SIADH in these patients.

Keywords: SIADH, meningitis

PP-352
An analysis of terminology knowledge of children taking hemodialysis treatment and education of terminology
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Background and aim: This study was designed to provide children with elementary information about the disease based on the basic terminology of hemodialysis by utilizing “who is who” and “what is what” questions and visual materials accompanied with simple explanations.

Methods: The study sample consisted of 38 children who are recently being treated in hemodialysis units of two university hospitals and a children’s hospital in Izmir. During the initial interview, the children were given a Patient Information Form and a Data Collection Form which was followed by the terminology education comprised of three sessions by using flashcards developed by the researcher. One week after the subsequent sessions, the Data Collection Form was applied once again. The items in the form were marked as “she knows” or “she doesn’t know” and each correct definition was given “one” point and each wrong one “zero”. The least known terms by the children were recorded as artificial kidney, dialysate, creatinin, nephrologist, calorie and graft while the most popularly known terms were heparin, hemodialysis unit, kidney failure, kidney, diet, hemodialysis nurse, hemodialysis technician and dialysis machines.

Results: The meaningful difference between the average scores of the children before and after the education was also noted (P = 0.000).

Conclusion: The results of our study have proved that visual education accompanied with simple explanations can provide the elementary information about the disease and the treatment procedures for children besides facilitating the children’s apprehension of the disease.

Keywords: Hemodialysis, children, nephrology

PP-353
A case of Gitelman’s syndrome presenting with cramping in the legs
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Background and aim: Gitelman Syndrome (GS) is an autosomal recessive disorder, characterized by hypokalemic alkalosis in combination with significant hipomagnesemia and low urinary calcium. Affected individuals tend to present weakness, cramping and tetany in childhood or young adulthood.

Case report results: A twelve-year old boy was admitted to hospital with nausea, weakness, intermittent cramping in his both legs. There was no family history of renal disease. His parents are cousins of each other. Physical examination was remarkable for: height 131.5cm (3th %), weight 29 kg (3–10 th %), blood pressure 108/70, pulse 90. Initial electrolytes revealed sodium (Na) 140 mEq/L, potassium (K) 2.8 mEq/L, chloride (Cl) 97mEq/L, blood Ph 7.49, HCO3 31.1.mmol/L, Calcium (Ca) 9.1 mg/dL, magnesium (Mg) 1.1 mg/dL, serum creatinine 0.5 mg/dL and BUN 16 mg/dL. The patient’s plasma renin activity, aldosterone, and random urine electrolytes were normal.
Initial urine calcium/creatinine ratio (Ca/Cr) 0.8 and twenty-four-hour fractional excretion of Mg was 11% mg (1–8% normal). A clinical diagnosis of GS was made and treatment consisting of oral supplementation with potassium chloride, magnesium citrate and spironolactone was initiated. As the replacement therapy continued, the complaints of the patient disappeared.

Conclusion: We presented a patient with Gitelman syndrome, a rarely seen disease. Most of patients have a good outcome. But further research is needed to define risk factors for complication.

Keywords: Gitelman syndrome, children

PP-354

Children with first urinary tract infection

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Aim: This study was conducted to evaluate the demographic and clinical features, radiologic findings of children aged 0–14 years with first urinary tract infection (UTI).

Methods: Our study included 97 children admitted to our emergency and outpatient clinics, between 01/02/2004 to 03/06/2004. The cases were classified as group 1 (1–12 months), group 2 (13–60 months) and group 3 (>60 months).

Results: Female/male ratio was 3.21. Mean age was 53.5 ± 39.5 months (range 1–145 months). While patients in group 1 presented mostly with nonspecific symptoms like fever (62.5%) and irritability, older children presented with more specific symptoms like abdominal pain, polyuria, dysuria. In group 1 fever was found with a frequency of 41.7%. E. coli was the leading etiologic agent (78.4%) in all patients. The most common pathogen was found to be E. coli in group I, II and III with a frequency of 45.8%, 88.9% and 89.1% respectively. Under 1 years of age Klebsiella (20.8%) was the second most common etiologic agent. There was a statistically significant difference between two groups (P < 0.0001). Abnormal USG imaging were encountered in 62%, 52% and 50% of cases in group 1, 2 and 3. Any statistical relation wasn’t found between presence of fever and renal parenchymal damage or vesicoureteral reflux in voiding cystoureterography.

Conclusion: Early detection and treatment of UTI is important due to high morbidity. Since infants 1–12 months of age with UTI present mostly with fever, UTI should always be ruled out in infants with fever. It should be emphasized that every child <1 year of age with first UTI should have an urinary USG.

Keywords: urinary tract infection, voiding cystoureterography, ultrasound, childhood

PP-355

Recurrence of the primary disease in transplanted kidney: case report

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Renal transplantation is the optimal mode of treatment for end-stage renal disease in the pediatric population. Compared with dialysis, transplantation offers children with chronic renal failure the best chance for obtaining normal growth and neurophysiologic development. We present a case of 13-year-old girl who had clinical and laboratory symptoms of nephrotic syndrome since 1994. She had renal biopsy which showed hystopathology of glomerulosclerosis focalis segmentalis. The therapy with steroids, cyclosporin and cyclophosphamid did not show any results for getting remission of the disease. In 1999 she went in terminal renal insufficiency and had peritoneal dialysis for 2.5 years. In 2002 live donor renal transplantation has been done. The recurrence of the primary disease (FSGS) started one year after transplantation with high proteinuria, creatinin and urea and hypertension. Treatment of recurrent FSGS has included pulse corticosteroid therapy and immunoabsorption. Recurrence of onset of the novo disease in the renal allograft are important causes of allograft dysfunction. The patient had a rapid loss of renal function and progression to ESRD. We started APD (automatic peritoneal dialysis) and the future is second transplantation.

PP-356

Distal renal tubular acidosis-a neglected case

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Primary distal renal tubular acidosis (dRTA) is characterized by the inability of the distal tubule to lower the urine pH < 5.50 during systemic acidosis. We report a 5.5 year old female who was referred for investigation as hypophosphatemic rickets (serum Pi 0.5 mmol/L). On exam she was found to be malnourished and dehydrated due to polyuria. There was severe growth retardation and rachitic changes on the thorax and extremities. Laboratory investigations revealed hyperchloremic metabolic acidosis (pH 7.23, HCO3 13.6, BE -12.6) and high urinary pH 6.77. There was hypokalemia (2.6.0 mmol/L). Ultrasound examination of the kidneys revealed incipient nephrocalcinosis and a single cortical cyst measuring 10 mm. On audiometry there was no hearing loss. Additional laboratory studies showed indices for proximal tubular dysfunction (low
molecular weight proteinuria, generalized hyperamino-aciduria, hypophosphatemia with hyperphosphaturia and hypouricemia with hyperuricosuria). She was found to have hypocitraturia and transitory hyperoxaluria. Under potassium and alkali therapy there was correction of the acidosis and hypokalaemia and improvement of proximal tubular abnormalities. She improved her appetite, gained weight and muscle mass and her polyuria decreased. In conclusion: In neglected cases distal renal tubular acidosis may be confused with Fanconi syndrome; appropriate treatment and follow up are mandatory to establish a correct diagnosis.

PP-357
Cyclosporine A treatment and renal function in children with focal and segmentary glomerulosclerosis
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Methods: Twenty five children aged 1.5–16 years with idiopathic biopsy-proven steroid-resistant focal and segmentary glomerulosclerosis (FSGS) were treated with Cyclosporine A (CsA) 3.2–7.6 mg/kg as initial dosage, oral prednisolone 1.5 mg/kg every other day tapered to the 12th month and methylprednisolone pulses (MP) 20–30 mg/kg every other day for the first 2–4 weeks in 17 of patients. MP pulses were not used in eight of patients because of less severe disease or contraindications. Serum creatinine level was controlled once a month.

Results: After 6 months of CsA treatment complete or partial remission of proteinuria was in 15 (60%) of children, no effect – in 10 (40%). Serum creatinine level increased in 14% on an average in the group remission of proteinuria. In the group of non responded patients the creatinine elevation was significant same -15%. After one year of CsA treatment complete or partial remission observed in 18 (72%), no effect- in 7(28%). The serum creatinine level in children with remission was 15.5% (without significant difference compared to 6-month’s CsA treatment). Increasing of the creatinine level more than 30% in two patients led to double tapering CsA dose resulted in normalization of serum creatinine level. In the group of non responded children the significant increasing of serum creatinine level (35%) was revealed (compared to 6 month’s CsA treatment). In 3 cases the elevation of creatinine level was more than 50% and these patients turned into ESRD eventually. In all of non-responders CsA was discontinued.

Conclusion: We concluded that serum creatinine level in CsA responders was stable without significant levation during the first year of treatment. CsA therapy for 1 year without any effect influenced on renal function decreasing in children with FSGS. Therefore, careful monitoring of serum creatinine level in patients with FSGS treated with CsA is observed for achievement of remission savely.

PP-358
Intravenously treated steroid resistant nephrotic syndrome
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More than 80% children suffering from idiopathic nephrotic syndrome respond after 4 weeks of oral treatment with prednisone, and long-term evolution, concerning renal function, is good. The remaining patients present a serious dilemma regarding their treatment, because, although one-third can later go into remission, another one-third develops end-stage renal failure on a varying timescale. We describe a case with steroid resistant nephrotic syndrome. A boy developed nephrotic syndrome at the age of 2 years and was treated with corticosteroids in accordance with the International Study of Kidney Disease in Children scheme for 6 weeks with no significant improvement in proteinuria. A renal biopsy showed diffuse proliferative mesangiocapillary glomerulonephritis with focal segmental character on the 6th week. The steroid dose was 60 mg/m2 for 6 weeks. Oral Cyclophosphamide (2 mg/bw/day) was introduced with alternate steroids (30 mg/m2/2nd days). On the 10th week intravenous cyclophosphamide (3 mg/bw/day) and intravenous methylprednisol (60 mg/m2) were introduced unchanged symptoms of nephrotic syndrome. After 5 days of parenteral therapy clinical and laboratory symptoms of nephrotic syndrome dramatically decreased, and the proteinuria ceased to exist. On the 12th week he was send home with oral cyclophosphamide and alternate steroids. The cyclophosphamide treatment time was 12 week. He has been asymptomatic for 6 months after finishing cyclophosphamide therapy.

Keywords: steroid resistant nephrotic syndrome, cyclophosphamide therapy

PP-359
Dent disease diagnosed in an infant with fever and proteinuria
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Dent disease is characterized by low molecular weight proteinuria, hypercalciuria, nephrolithiasis, nephrocalcinosis-
sis and in some patients progression to renal insufficiency. The disease is inherited in X recessive manner. Herein we present a 22 month old male infant who was found to have significant proteinuria during febrile illness. Since proteinuria has persisted after resolution of the infection, urinary protein fractions have been analysed using SDS-PAGE electrophoresis, which showed complete tubular proteinuria. The further work-up revealed presence of hypercalciuria and increased levels of aspartate aminotransferase, lactico-dehydrogenase and creatine phosphokinase. There was moderate generalized hyperaminoaciduria. With these clinical and biochemical findings the phenotype of Dent disease was diagnosed. The both kidneys had normal appearance on ultrasound scanning without evidence for nephrocalcinosis or nephrolithiasis. The family history was negative for nephrolithiasis, nephrocalcinosis and chronic renal failure. Continuous follow up of the patient is mandatory in order to prevent complications of the disease. Molecular diagnosis is in progress.

**PP-360**

**Secondary distal renal tubular acidosis in association with vesicoureteral reflux: case report**

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Renal tubuler acidosis (RTA) is a rare form of hyperchloremic metabolic acidosis due to impared acid excretion by the kidney. It occurs when the renal damage primarily affects tubular function . There are three types of RTA; type 1 (distal RTA), type 2 (proximal RTA), and type 4 RTA secondary to true or apperent hypoaldosteronism. Here we report an infant who had distal RTA with vesicoureteral reflux (VUR). A 2-month-old girl was admitted to emergency department with failure to thrive and irritation. On physical examination subcutaneous fat tissue and turgor were decreased. In laboratory investigations; hypopotasemia, metabolic acidosis, normal serum anion gap were noted. In urine analysis; positive urine anyon gap and high urine pH even in the presence of sistemic acidosis were defined. Renal ultrasound showed severe increase in left kidney size and on Voiding sistrouretogram grade 3 VUR was revealed. Both alkali and potassium replacement for distal RTA and antibiotic prophylaxis for VUR were started. There are several risk factors for RTA and VUR is one of them. VUR may start during intrauterin period and can be presented by multiple clinical variations. Early diagnosis will prevent severe complications.

Keywords: renal tubuler acidosis vesicoureteral reflux

**PP-361**

**Analysis of urinary proteins in children during the stress tolerance test**

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Background and aim: Proteinuria is an important marker for evaluation patients with renal diseases and their progression. In order to analyze quantitative and qualitative variability of urinary protein (UP) excretion related to physical activity we used standardized stress tolerance test and SDS-PAGE.

Methods: Urine samples were obtained from each patient at rest, ordinary daily activity and after physical stress. Determination of total protein was performed using Muelman’s classic method with sulphosalycilic acid. UP were separated by ultrathin horizontal gradient SDS-PAGE according to Görg.

Results: There were 192 patients; 60 with poststreptococcal glomerulonephritis (PSGN), 16 with diabetes mellitus (DM), 26 with chronic pyelonephritis and 90 for investigation of asymptomatic proteinuria. In 52 subjects functional proteinuria was established; they manifested maximal UP excretion during the stress and showed presence of apolipoprotein A1 on SDS-PAGE electropherograms. Children with PSGN did not show significant increase of UP during the stress. Some children with DM and chronic pyelonephritis displayed microproteinuria or overt proteinuria after the stress.

Conclusion: The use of stress tolerance test and SDS-PAGE enables quantitative and qualitative analysis of UP excretion in children with various renal diseases and selection of those patients with higher risk for disease progression.

**PP-362**

**Retrospective analysis of the outcome of pediatric lupus nephritis, single center study**

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Aim: We report our experience the clinical and histopathological features, treatment methods, and outcome of lupus patients.
Methods: A retrospective cohort study of patients who were diagnosed and treated between 1986–2006. 37 children were diagnosed with lupus at a single center.

Results: The mean age at onset was 13 ± 2.2 years. The mean follow up was 20.7 ± 34.4 months. The kidney was affected in 26(70.2%) of the studied children. The mean age at the time of diagnosis of LN was 13.37 ± 2.48 years. At the time of the initial biopsy, proteinuria was observed 15(57.7%) patients, and it was in the nephrotic range in 4(15.3%). 11(42.3%) patients had hematuria, 7(26.9%) had hypertension, and 6(23%) had impaired renal function.

The most frequent histopathological finding was class II(42.3%), followed by class IV (30.7%), class III(15.3%) and class I(11.7%). All patients with class IVLN had a significant tendency for developing hypertension ($P = 0.006$) and nephrotic range proteinuria ($P = 0.004$). The different treatment regimens used according to the initial histopathology and disease activity. Class I and Class II patients had symptomatic and/or steroid therapy. Class III and Class IV patients were required additional immunosuppressive therapy. All SLE patients without evidence of LN achieved remission, whereas 57% of patients with LN achieved remission, 30% of them still had active disease.

Conclusion: The prognosis of children with LN depends primarily on the severity of histopathological lesions. The treatment of LN in the pediatric age group requires a balance between aggressive early therapy directed toward controlling the disease and effective long-term maintenance therapy.

PP-363

**Most frequent causes of urinary tract infections at obstructive uropathy**

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Aim: Purpose is to present cases with obstructive uropathy, types of obstructive uropathy associated with the urinary tract infections and the most frequent causes of urinary tract infections at obstructive uropathy.

Methods: In this study are involved the children with complicated urinary tract infections. In all cases microbiologic examination of the urine, identification of the urinary tract obstruction with ultrasound and radiology examination are done.

Results of the study: Total number of children with urinary tract infection was 130, of all group-ages. Microbiologic examination of the urine shows that in 13.6% of the cases the urine specimen was sterile, while in 86.2% of cases urine specimen was positive. From the pathogens isolated E. coli was the most frequent cause of the urinary tract infections (53.8%), followed by Klebsiella (19.2%), Proteus (15.0%), Citrobacter (1.54%) and Pseudomonas (0.77%). Microbiologic results show that at newborn group-age Klebsiella was isolated in 50% of the cases, followed by E. coli with 25%. At the other group -ages E. coli was isolated most frequently. Regarding the type of the obstructive uropathy the results of microbiologic examination has shown that at the pyeloureteric stenosis E. coli is mostly frequently isolated (65.1%), followed by Klebsiella (14%). At obstructive uropathy caused by calculi in 45% of cases the urine specimen was sterile, while at 40% E. coli was isolated. From 16 patients with megalueter at 50% of cases Klebsiella was isolated, at 37.5% E. coli and 6.35% Proteus. At ureter duplex in 58.3% of cases is isolated E. coli. In 16.7% Klebsiella was isolated and in 25.0% Proteus. At ureterocela in 50% of the case E. coli is isolated, while in 25% Klebsiella and in 25% Proteus.

Conclusion: The study has shown the high frequency of E. coli as a cause of the urinary tract infections at the obstructive uropathy of all group ages except at the group of the newborn where the Klebsiella has dominated. Also we have noticed that at all types of obstructive uropathy has dominated the E. coli, but there are other agents isolated as well. We conclude that obstructive uropathy is usually diagnosed with urinary tract infection symptoms and diagnosing them is most important then the cause itself.

Keyword: obstructive uropathy

PP-364

**Etiology of urinary tract infections and drugs sensitivity: a study conducted on a population of children hospitalized in the department of pediatrics [SP1]**

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Background and aim: All diagnoses of urinary tract infections (UTI) in children are based on positive results of bacteriological tests. The selection of an antimicrobial drug for empirical treatment and prophylaxis of UTI is determined by the sensitivity of bacterial strains isolated from urine cultures to this drug. Aim is determination of etiology of urinary tract infections and pathogen drug sensitivity in hospitalized children.

Materials and methods: We performed quantitative analyzes of 2522 urine cultures from children admitted to the Department of Pediatrics at Warsaw Bielanski Hospital from 01.01.2004 to 31.12.2006.

Results: Escherichia coli was the most frequently isolated pathogen (70–74%). We noted that the frequency of isolation of Klebsiella grew from 6 to 10%, whereas that of Proteus mirabilis fell from 10 to 2%. In the years under study,
A beneficial effect of acacia gum in a patient with nephropathic cystinosis and chronic renal failure

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Background and aim: Cystinosis is a rare disease presented initially with renal Fanconi syndrome, and renal glomerular failure develops later in childhood. Without cysteamine treatment, patients affected with cystinosis uniformly died during childhood in the absence of renal replacement therapy (RRT). Cysteamine is not available here and in some other areas of the world. The aim of this paper is to describe a beneficial effect of acacia gum in a patient with cystinosis and chronic renal failure.

Methods: 9 years old girl with cystinosis presented with symptomatic uremia as she didn’t receive cysteamine. Serum creatinine 7.4 mg/dL, blood urea 200 mg/dL. The girl was hospitalized and vomiting controlled with intravenous fluid and pyridoxine. Chronic dialysis was not available for her and the parents refused treatment with intermittent acute peritoneal dialysis. The girl was treated with a new therapeutic regimen (Therapy 2006;3:321) combining the traditional conservative management of CRF (dietary and pharmacologic) with addition of Acacia gum (AG) 25 g/day as a urea lowering agent aiming at improving her condition without dialysis.

Results: Treatment was associated with amelioration of the uremic symptoms and improved general well being. After 2 weeks of treatment Serum creatinine 1.9 mg/dL, blood urea 69 mg/dL. During 4 months of follow-up she continued in experiencing improved well being and urea levels was kept below 70 mg/dL. without dialysis.

Conclusion: It was possible to improve the health of patient with cystinosis despite the non-availability of cysteamine and the appropriate RRT.

The incidence of ocular abnormalities in childhood chronic renal failure

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Background and aim: Few literatures reported the incidence of ocular abnormalities in chronic renal failure (CRF). The aim of this paper is to determine the incidence of ocular abnormalities in childhood CRF.

Methods: From January 1993 to December 2005, 80 patients with CRF (At the University Hospital in Al Kadhimiya) were examined to determine the presence of ocular abnormalities. Fifty patients were males (62.5%) and 30 (37%) were female. Their age at referral ranged from 2 months to 18 years (Mean 9 years). They were followed for a period ranged from 5 days to 9 years.

Results: Corneal cystine crystals were the most common ocular abnormalities associated with childhood CRF observed in six patients with Nephropathic cystinosis (7.5%). Congenital cataract & glaucoma were observed in three patients (3.75%) with Oculo-cerebro-renal syndrome (OCRS). Congenital cataract & chorioretinal hypoplasia were present in one patient with OCRS. Hypertensive retinopathy occurred in two patients. Acquired cataracts occurred in one patient with Hinman syndrome in association with hypocalcaemia and non-compliance with calcium and one-alphacalciferol supplementation. Retinitis pigmentosa in one patient with Laurence Moon Biedle syndrome. Bilateral optic atrophy in one patient with familial nephropathy associated with club feet. Proptosis in one patient with membranoproliferative glomerulonephritis.

Conclusion: Ocular abnormalities are relatively common in childhood CRF occurring in approximately 19%.
providing patients with ESRD dialysis freedom [Pediatr Nephrol 2004; 19:1156-1159]. Three patients were treated with this new approach. One patient complied with protocol for only 10 days and died after 6 months despite, intermittent peritoneal dialysis (IPD). Two patients completed one year on this without needing dialysis. Both patients maintained serum creatinine and urea levels not previously achieved without dialysis. The other three patients were managed with IPD, all died with in <6 months. Of the two surviving patients on AG supplementation, one patient stopped AG supplementation after 1 year and died with 1 month despite IPD. The other patient continued to be treated with this novel therapy and continued to experience improved wellbeing and dialysis freedom during four completed years. The aim of this paper is to report the achievement of 6-year dialysis freedom in this patient. During 6 years of therapy the girl continued in experiencing improved well-being and good participation in outdoor activities. Mild uremic symptoms occurred during periods of non-compliance. Periods of decreased compliance with were associated with anemia and renal osteoatrophy

PP-368
Vesico-cutaneous fistula complicating non-neurogenic neuropathic bladder dysfunction
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Background and aim: To report the rare occurrence of vesico-cutaneous fistula as a complication of non-neurogenic neuropathic bladder dysfunction.

Methods: A 12-year old boy with chronic renal failure caused by severe functional intra-vesical obstruction associated with chronic retention not associated with any neurologic disorder. Anatomic obstruction was excluded by cystoscopy. The boy had anorectal malformation (high imperforated anus with vesico-ureteral fistula), operated early in life and colostomy repaired during the 6th year of life.

Results: The boy was experiencing recurrent urinary tract infections and was treated with chronic catheterization. Non-compliance with chronic catheterization resulted in the development of vesico-cutaneous fistula. There was an opening in the abdominal wall with leaking of urine Renal ultrasound showed that the bladder was connected to the skin through a cutaneous sinus of about 1.3–2.8 cm. Urethrogram showed that the contrast was leaking outside the bladder through the abdominal wall.

Conclusion: Vesico-cutaneous fistula is a rare complication of non-neurogenic neuropathic bladder dysfunction.

PP-369
The importance of antibiotic prophylaxis in management of VUR
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Vesicoureteral reflux (VUR) cause urinary tract infection (UTI) and renal scarring is a common condition in children. The detection and treatment of VUR before renal scarring is vital. Recently, it has been reported that antibiotics prophylaxis should not been continued at long term in low grades VUR, especially. The aim was to explore the kidney outcome in a cohort of patients with VUR. The patients were divided into five subgroups according to VUR grades. All VUR patients were treated with prophylactic antibiotics until the resolution of VUR either spontaneously or surgically. Urine culture was repeated monthly. After detection of VUR, control MSUG and DMSA was planed on the sixth month of follow-up. There were 218 patients (307 renal units); 154 (70.6%) female and 64 (29.4%) male who had followed-up for 52.49 ± 46.7 (median: 36) months. Age at onset ranged from 1-145 (median: 56) months. Of these 307 renal units, grade I-V reflux occurred in 18.6%, 29.6%, 29.6%, 13.4%, 8.8% respectively. Of these 307 renal units (218 patients) were recovered from VUR with medical (192 kidney units, 62.5%) and surgical (115 kidney units, 37.5%) treatments. In 159 kidney units (45.3%), baseline DMSA showed parenchymal tracer uptake defects. Thirty of the 139 kidney units with abnormal baseline DMSA presented normalization of tracer uptake in the final DMSA as well as 109 (35.5%) had renal scars of the final DMSA. Majority of patients with varying degrees of reflux nephropathy may be managed conservatively with regular monitoring and low dose prophylactic antibiotic therapy. It is not feasible that no antimicrobial prophylaxis for mild grades VUR. The antibiotic prophylaxis protects pyelonephritic damage and UTI recurrence risk in all grades of VUR.

Keywords: VUR, childhood, antibiotic prophylaxis, renal scarring

PP-370
A study on the effect of baby walker on mean age acquisition of motor skills in infants
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Background and aim: Development is a complex process completing in time, through the maturation of the
nervous system. It is affected by the genetic, ethnic, nutritional, social, and economic backgrounds. One of the environmental factors affecting motor skills of the infants is the use of baby walker. Since the use of this device is very common in our country, we have conducted this study to evaluate its effects on motor skills of the infants.

Methods: This longitudinal study carried on 300 infants referring to Primary Health Care Centers of Kashan district in 1384. They were allocated to two groups of 150 babies. Case group used baby walker, and control group didn’t use it. All of the babies were followed for two years, and the age of acquisition of motor skills were depicted by direct or telephone interview with the parents. Data analyzed with t-test and Chi Square tests.

Findings: 175 babies (58.33%) were male. The mean age of acquisition of all motor skills including rolling, crawling, moving on hands and feet, sitting without and with help, standing and walking dependently and independently was delayed in infants using baby walkers. This difference was statistically significant ($P < 0.001$).

Conclusion: Considering the results of this study we do not recommend the use of baby walkers in infants.

Keywords: baby walker, motor skills, infants

PP-371
Primary angiitis of the central nervous system
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Primary angiitis of the central nervous system/PACNS/ is a rare disorder involving the small and medium-sized blood vessels, but there are very few cases with PACNS in childhood. Diagnostic criteria are: headache and multifocal neurological deficit present for at least 6 months; cerebral angiography demonstrating segmental arterial narrowing; exclusion of systemic inflammation or infection; leptomeningeal or brain parenchymal biopsy. Reporting a case of PACNS in a boy admitted in the UCI of the University Children’s Hospital, Sofia for intermit- tent neurological deficit for three months. A computed tomographic scan of the brain had shown diffuse ischemic infarcts in brain hemispheres. The cerebral angiography had shown diffuse findings involving the internal carotid artery specific vasculitis of the medium-sized blood vessels. Serological tests for systemic vasculitis are negative. The treatment started with steroids and immuno-suppressant but after the 3rd day of admission the child died. Pathological examination had confirmed the diagnosis: Primary angiitis of CNS.

PP-372
A case of absence epilepsy presenting with attention deficit
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Absence seizures are defined as paroxysmal attacks of transient loss of consciousness without conspicuous convulsions. Absence epilepsy that characterized by absence seizures, generally having its onset in childhood or adolescence. The onset of seizures is usually abrupt. The child suddenly develops an estimated 20 or more attacks each day. The characteristic attack is a brief arrest of consciousness, usually lasting 5-10 seconds. Absence seizures are relatively uncommon. When attacks are frequent, the child’s intellectual processes are slowed. A case of a 6-year-old boy was seen in the child psychiatry outpatient clinic with the complaints of attention deficit and deterioration in schoolwork. Before making a psychiatric diagnosis, a pediatric neurology consultation was requested and the patient was evaluated in the neuropediatric outpatient clinic. His neurological examination and mental development was considered normal. A video-electroencephalogram was requested. EEG revealed generalised spike-and-wave complexes at 3-3.5 Hz accompanied by disruption of ongoing activity in keeping with absence seizures. The duration of seizures ranged from 3 to
10 seconds. Valproate (15 mg/kg/day) was prescribed. His seizures responded well to medication. Four weeks later, the teacher explained that the school performance of the patient was better. At the third month of the treatment, the epilepsy disappeared and the EEG normalized. In conclusion, we presented this case with the aim to emphasize that, in the differential diagnosis of attention deficit and deterioration in schoolwork, the possibility of underlying absence epilepsy should be taken into consideration. Treatment of children with absence epilepsy will improve the intellectual processes and behaviors.

PP-373
Mathematical modelling of flow rates at Willis Circle level in children using Quemada model

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Cerebral blood flow at Willis Circle level is important. It varies during childhood and has direct involvement in collateral cerebral compensation. Direct determination of cerebral flow rates is difficult. Mathematical modelling is the best alternative in order to determine these parameters. The aim of this study was to determine flow rates in each artery component of Willis Circle using a validated model.

Methods: Mathematical modelling by using Quemada model, which is an extension of Casson rheological model. We used morphometric parameters for children’s and the case of alpha = 1 and for q three values of 0.5, 0 and 0.5.

Results: The highest resistance was obtained for the anterior cerebral artery (ACA) A2 segment, followed by P2 segment of posterior cerebral artery (PCA). For the case of alpha = 1 and q = -0.5 the highest flow rates were obtained for internal carotid arteries 2.94 cm³/s followed by basilar artery with 2.72 cm³/s. In the efferent arteries the highest values were obtained for MCA bilateral of 1.92 cm³/s, followed by PCA P2 segment of 1.42 cm³/s. In the P1 segment of PCA flow rates were 1.36 cm³/s. Flow rate in ACoA was 0.

Conclusions: The Quemada model was validated. For the case of alpha = 1, q = -0.5 the highest values were for internal carotid artery. For the case of alpha = 1, q = 0 flow rates in the afferent arteries were lower as well in the basilar artery.

Keywords: Willis Circle, cerebral blood flow, flow rate, mathematical modelling, communicating arteries

PP-375
The limited value of neuroimaging studies in pediatric headache

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Aim: Objective of this study is assessing the value of neuroimaging in a series of children with chronic headaches.

Methods: A retrospective chart review was conducted of all children referred to the pediatric outpatient clinic for evaluation of headache over a 3-year period. The charts were reviewed for headache characteristics, neuroimaging indications, and imaging results. Special attention was paid to evidence of space-occupying lesions.

Results: A total of 160 sequential records were studied, with subjects ranging in age from 4 to 14 years. Most patients were diagnosed as having migraine headaches (60%) or chronic tension headaches (29.5%). Other diagnoses were post-traumatic (6%) and unclassified (4%). Sixty-six patients (41%) had computed tomography imaging performed. In most cases, brain imaging studies were performed because of clinical data (41%) like atypical pattern, sleep-related headache or increase of headache, because of the parents’ concerns about brain lesions (38%) and because of an age <5 years (14%). Structural changes were found on brain imaging in 4
patients, but none indicated the presence of a treatable space-occupying lesion and all were deemed unrelated to the headache. Our findings of no relevant abnormalities in a series of 66 neuroimaging studies indicate that the maximal rate at which such abnormalities might appear in this population is 4.4%.

Conclusions: These results indicate that neuroimaging studies have very limited value in the clinical evaluation of pediatric patients with chronic headache and should be reserved for those patients with clinical evidence suggestive of underlying structural lesion.

PP-376
Global developmental delay in Tunisian young children

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Background and aim: Developmental delay is a common pediatric problem, having a great number of underlying causal factors. Etiologic diagnosis is important for providing information about pathogenesis, prognosis, recurrence risk and specific medical interventions. The aim of this study was to determine etiology and spectrum of a consecutive cohort of global developmentally delayed children.

Methods: This retrospective study included all children younger than 5 years of age with global developmental delay referred to departments of pediatrics of military hospital for initial evaluation over a period of 17 years, from 1990 to 2006. Diagnostic studies consisted of history, physical examination, electroencephalography and selected investigations including neuroimaging, screening for metabolic disease, karyotype.

Results: In the study 170 patients (91 males) with a mean age at initial evaluation was 16.7 ± 13 months. Consanguinity was found in 42.4% of the cases. The psychomotor delay was noted by the parents in 65% of the cases. A microcephaly and dysmorphic features noted respectively 34% and 19% of cases. The karyotype is practiced in 50% of cases and metabolic tests in 60% of cases. Etiologic diagnosis was determined in 80.6% of the patients, classified under the following categories: perinatal complications (26.4%), cerebral dysgenesis (19.4%), genetic/dysmorphic syndromes (7%), genetic disorders (8%), epileptic syndrome (10%), hypothyroidism (2.4%), neurocutaneous syndromes (1.7%) Etiology was unknown in 19.4% of the patients. Neuroimaging and laboratory test together with the history and physical examination were most helpful in determining the etiologic diagnosis.

Conclusion: This study suggests that neuroimaging and laboratory test together with the history and physical examination were most helpful in determining the etiologic diagnosis.

PP-377
Widespread subarachnoidal pneumocephalus development as a complication of influenza: a case report

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Pneumocephalus named as the air collection into cranium. In influenza, it is hypothesized that the replicated viruses at the nasopharyngeal epithelium disrupt the olfactory mucosa and air access to the brain via the olfactory nerve system. High intracranial pressure may create a microfistula between the sinuses and the brain and air transport into cranium through this way. Pneumocephalus are presented with mental and motor disturbances and even cerebral herniation. Diagnosis was made by identification of air collections on cranial CT or MRI. Fistulas may close spontaneously and surgery does not require.

Case Report: After a grippe season, a nine-year-old boy with mentally disordered patient was admitted to hospital. He had fever, throat pain, nausea, vomiting, cephalalgia, coughing, nasal congestion, high fever (40°C) and sleepiness before two weeks. Lately, after a massive and clear running nose, he suddenly had mental changes, delirium and convulsions followed by unconsciousness. On neurologic examination, he had a blood pressure of 90/60 mmHg, a pulse rate of 150/min, a respiratory rate of 15–20/min and temperature of 41°C. He looked severely psychomotor retardation, lethargic and intermittent seizure attacks. There were no signs of meningeal irritation. Cranial CT revealed widespread subarachnoidal pneumocephalus especially at the parietal regions [figure]. The next day, the laboratory examination revealed mild changes of blood and biochemical parameters: white blood cell (WBC) count 8,500/mL, platelet count 1,360,000/µL and C-reactive protein (CRP) 7.2 mg/dL and blood sugar 174 mg/dL. Hepatic and renal function tests were normal. The third day of the admission, the patient was mildly lethargic, but oriented and cooperated. The cerebrospinal fluid (CSF) was determined sterile and negative for pleocytosis. CSF cultures were negative. Complete disappearance of symptoms occurred progressively over 10 days and CT showed no major evidence of pneumocephalus. Cranial CT of the third week of treatment was nearly normal. The patient was normal after six months.

Discussion: Pneumocephalus development has not been frequently reported in influenza epidemics, it is possible that this complication could not be understand previously. In our opinion, pneumocephalus may be considered as a developing complication in such cases. We present a widespread pneumocephalus case as an unreported complication of influenza infection.

Keywords: Pneumocephalus, influenza
Juvenile Parkinsonism disease with affective symptoms: a case report

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Incidence of parkinsonism prior age 40 is observed in only 5% of total number of patients, under age of 20 it’s very rare. Most of these display predominantly rigid, akinetic forms of the disease, 50% have no tremor on initial presentation and 50% never have tremor. We presented a case with juvenile parkinsonism, a mild akinetic-rigid parkinsonism.

Case: A 17-year-old girl was hospitalized at neurology clinic regarding having sadness, social withdrawal, learning difficulties, lack of concentration, hands tremor and impaired balance. Affective symptoms started slowly three years before hospitalisation. There was no history of similar disease in patient’s family. During neurological examination signs extrapyramidal lesion were found (tremor, Cogwheel type of rigor, postural difficulties). Eye movements were normal, and cognition was intact. Basic laboratory findings including serum ceruloplasmin and cooper level were normal. Neuroradiological investigations were without pathological signs. Psychiatric examination suggested depressive mood, including negative thoughts about her illness, mental control and memory difficulties. Juvenile form of parkinsonism with akinetic-rigid forms was diagnosed. Pharmacological approach with direct dopamine agonist (pramipeksol) 750 mg daily was started and significant reduction of symptoms was observed.

Conclusion: In affective symptoms at younger population differential diagnosis rare form of juvenile parkinsonism should be considered.

Keywords: juvenile parkinsonism, adolescent affective symptoms, neurology

Hashimoto’s encephalopathy in children and adolescents

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Background and aim: Hashimoto’s encephalopathy is an underdiagnosed, steroid-responsive, progressive or relapsing encephalopathy associated with high titers of serum antithyroid antibodies. Although Hashimoto’s encephalopathy has been described mainly in adults, it has rarely been described in children and adolescents.

Methods: We report here the clinical and laboratory findings of four children and adolescents with Hashimoto’s encephalopathy.
Results: The clinical features of two patients at presentation included epileptic seizures and confusion. One patient presented with breath-holding spells and behavioral problems, another patient presented with psychosis, and a third patient presented with ataxia. Electroencephalographic recordings showed slowing of background rhythms in three patients; the results of that same test were normal in one patient. The results of brain magnetic resonance imaging were normal in all patients. At presentation, three patients had normal thyroid functioning and one had hyperthyroidism. All patients had elevated antithyroid antibodies. Two patients received steroids as intravenous methylprednisolone (20 mg/kg/day) for 3 days, continuing with prednisone 1 mg/kg daily tapered at 3 months; the rest of the patients received steroids as oral prednisone 1 mg/kg daily (max, 60 mg/day) tapered at 3 months. Two children were given valproate for epileptic seizures, and one patient with overt hyperthyroidism was treated with propylthiouracil.

Conclusions: We suggest that serum antithyroid antibodies should be measured in children and adolescents with unexplained neuropsychiatric features even when the results of thyroid function tests are normal.

Keywords: Hashimoto’s encephalopathy, children and adolescents

PP-380

Hemorrhagic infarct presented with headache in pregnancy

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Hemorrhagic infarction can be defined as an ischemic infarct in which an area of bleeding exists within ischemic cerebral tissue. Cerebral hemorrhagic infarct at young people is an uncommon disease with variable signs and symptoms. Similarly in cerebral infarction patient usually presents with sudden onset of stroke with lateralizing neurological deficit (hemiparesis, aphasia, homonymous hemianopia) with or without clinically detectable risk factors (hypertension, atrial fibrillation, rheumatic heart disease, recent myocardial infarction). We describe a patient presented with headache in 37 weeks pregnancy woman with hemorrhagic infarct.

Case: A 18-year-old pregnancy woman complained of a progressive headache which had occurred 3 days before admission. She had no medical history of head trauma, infection, vasculopathy, or hypertension. She was well throughout her pregnancy and in particular was normotensive, without edema, proteinuria, seizures. A neurological examination showed no significant neurological abnormalities. Brain magnetic resonance imaging (MRI) revealed a subacute hemorrhagic infarct in the right posteriorioparietal region (Figure). She underwent several tests with negative results: blood test (antithrombin III, protein C or S, autoantibodies), transthoracic and transesophageal echocardiography, extracranial and intracranial Doppler sonography, MRI angiography and venography which was not performed in our patient. Her etiology was not found. She was empirically treated with heparin, and had a successful perinatal outcome. She immediately recovered without any neurological deficit. With the proper management she delivered a healthy baby.

Conclusion: Hemorrhagic infarct may only present with headaches during pregnancy. Brain MRI very important to detected differential diagnosis in the presence of pregnancy headache.

Keywords: pregnancy, infarction, brain MRI

PP-381

Elevated CK-MB mass and plasma BNP concentrations following convulsive seizures in children and adolescents: possible evidence

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Background and aim: Sudden unexpected death in epilepsy (SUDEP) is a significant cause of mortality in patients...
with epilepsy. Myocardial ischemia has been proposed as a possible cause of SUDEP; however, there is paucity of research regarding this condition in pediatric patients.

We aimed to evaluate the presence of myocardial injury during convulsive seizures by determining serum concentrations of cardiac troponin I (cTnI), CK-MB mass, and brain-type natriuretic peptide (BNP).

Method: Thirty-one children (20 boys, 11 girls; age range, 0.9–16 years; median age, 4 ± 5.54 years) who were admitted to Baskent University Hospital with febrile or afebrile tonic-clonic seizures and 50 healthy children with a similar age distribution were enrolled. Serum cTnI, CK-MB mass, and BNP concentrations were analyzed 12 h after the seizure and repeated 7 days thereafter in the patient group. cTnI, CK-MB mass, and BNP concentrations were obtained one time in the control group.

Results: There were no statistically significant differences between serum concentrations of cTnI obtained 12 h and 7 days after the seizure. cTnI levels 12 h postictal and those in control subjects also were not significantly different. Serum concentrations of CK-MB mass at the 12th h were significantly higher than those obtained on the 7th day ($P < 0.05$). Similarly, plasma concentrations of BNP were significantly higher 12 h postictal compared with those obtained 7 days postictal ($P < 0.001$). A comparison of CK-MB mass and BNP levels 12 h after the seizure and those in the control group revealed increased levels of CK-MB mass and BNP in children with seizures ($P < 0.05$ and $P < 0.001$, respectively). The mean plasma concentrations of BNP were significantly higher at 12 h postictal in patients with nonprolonged convulsions than they were those patients with nonprolonged convulsions. The results of electrocardiogram recordings, which were analyzed at 12 h of seizure, were completely normal in patients with seizure.

Conclusions: Normal cTnI levels are not indicative of overt myocardial necrosis in patients with convulsive seizures. However, markedly elevated BNP concentrations together with elevated CK-MB mass levels do suggest subtle cardiac dysfunction in patients with seizure. Further large-scale studies are warranted to explain the postseizure elevation of both BNP and CK-MB mass levels.

Keywords: myocardial ischemia, seizure sudden unexpected death in epilepsy, children adolescents

PP-382

Dramatic effect of single dose nandrolone decanoate on the motor development in cerebral palsy

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Background and aim: Cerebral palsy (CP) is the most common motor disability of childhood. There is no specific intervention used to improve the motor development in CP. The aim of this paper is to report the effect of single dose of nandrolone decanoate on motor development in a child with CP.

Method: A 14-month-old boy with CP caused by birth asphyxia. Presented with delayed motor development associated with mild spasticity and hyperreflexia. During the neonatal period he had poor feeding. Head control was not achieved until one year of age. On presentation he was unable to turn from the supine to the sitting position alone and was not able to maintain sitting position when he was put in the sitting position. He was not crawling but he was occasionally rolling to the sides. His language was delayed and he was not saying any word with meaning. He has three other health siblings aged 3, 4, and 6 years and there was no family history of any neurological disorders. The patient received nandrolone decanoate 12.5 mg intramuscular injection. Estimation of the bone age was made using radiographs of the left wrist before the injection and 2 weeks after.

Results: The use of a single injection of ND was associated with dramatic effect on the motor development. After one week the child was able to sit alone and trying to stand without the occurrence of any adverse effects.

Conclusion: The possible role of anabolic agents in CP should investigated in more studies.
of allergologic pathology in the group surveyed is about 50%. Operational noise in the heart drawn from 15%. 11.7% of children suffered from chronic constipation. Inspection throat - chronic tonsillitis seen in 27%. Seven children in this group had increased adenoids 1–2 degrees. Do more than half of children 58.3%, identified various forms of violations posture, from very light to medium - denominated, which include muscle tension belts and shoulder blades asymmetry, which may be relevant to the motor skills. In this group were 36.7% children have a Speech problem for violating the pronunciation of sounds (dislaliya). 14% of this children over the year before attending school Speech Garden in connection with the production of the diagnosis - alaliya. Regarding neurological diagnoses, the syndrome minimal brain dysfunction detected in 45% of the surveyed children, neurotic reactions were observed in 25%, other neurological abnormality in 15% of cases.

Conclusions: Thus children, born prematurely, to be under the constant supervision of doctors until at least the age of 8–10 years old for rehabilitation, improve their quality of life.

PP-384
Clinical presentation of the child with argininosuccinic aciduria - case report
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Background and aim: Argininosuccinic aciduria - ASLD (Mc Kusick 207900) is an autosomal recessive inborn error of urea cycle. It is due to argininosuccinate lyase (ASL) deficiency catalysing fourth step in urea cycle. Human ASL gene was mapped to chromosome 7cen-q11.2. We present 8 year history and clinical outcome of the child with argininosuccinic aciduria.

Case report: A full-term female neonate born to normal pregnancy and delivery with birth weight – 3000 g was admitted to the hospital at the age 5 days because of severe distress with hypotonia, poor feeding, vomiting, lethargy and deepening coma. Infection was excluded. Hyperammonemia, hypertransaminasemia, respiratory alkalosis, low serum urea concentration indicated urea cycle disorder which was established based on metabolic profile of amino acids, organic acid profile and orotic acid in urine. Initial treatment using with haemofiltration, protein restriction, high glucose infusion, arginine hydrochloride, sodium benzoate was effective. The girl is 8 years-old now. Long-term treatment consists of low protein diet, arginine supplementation and sodium phenylbutyrate. Her mental development is near to normal. Despite good metabolic control without hyperammonemic episodes she presents hepatomegaly and chronic hepatic dysfunction.

Conclusions: (i) Clinical presentation of patient with ASLD is mild for mental retardation. (ii) Progressive liver damage is observed despite good metabolic control.(iii) Liver transplantation in the future is considered.

PP-385
Increase in incidence of overweight and obese children at school clinic at medical centre in Gornji Milanovac
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Background and aim: Overweightness and obesity are caused by imbalance between intake and consumption of energy. Obesity in young increases risk of development of other health disorders such as hypertension, diabetes, psychological disorders, and also represents a significant risk of obesity and associated health disorders in adults. In Serbia, incidence of obesity reaches 15% and becomes more important in the structure of morbidity of young population.

Aim of this study is to establish increase in incidence of overweight and obese children, born in 1996 and 1998, at School clinic.

Method: Analysis of health records of third grade pupils whose body weight and height were measured at regular check-ups on basis of which their body mass index-BMI was calculated. Values of BMI are specific for chronological age and sex of examined children.

Results: Out of 475 children born in 1996, 94.2%-were processed, 217/-48.4% boys and 231/-51.5% girls. 11.6% are overweight, 29/-6.4% boys and 23 -/5.1% girls. 16 are obese, 7/-1.5% boys and 9/-2% girls. Out of 416 children born in 1998, 87.4% were processed, 184/-44.2% boys and 180/-43.2% girls. 64 - are overweight, 36/-9.8% boys and 28/-7.6% girls. 7.1% are obese, 18/-4.9% boys and 8/-2.1% girls.

Conclusion: Comparing the groups, we found out that in children born in 1998 there were more overweight and obese children than in relation to the same age children born in 1996. Concerning the fact that obesity is taking an epidemic character, has unfavourable forecast and unsatisfactory therapeutic possibilities, solving of this modern disorder requires a long-term program of multidiscipline activities.

PP-386
Adolescent obesity– screening and management
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Peripubertal obesity is associated with great problems, with impact on children health and socio-psychological development.
The aim of this article is to document the frequency of obesity and evaluate the metabolic state at obese adolescents.

Methods: Population-based study, medical team realized screening intervention among teenagers at five second schools. Measurement anthropometric data according to BMI (Body Mass Index), detected over weight children (BMI > 85th, perc.) obese (BMI > 90 perc.) At extreme obese (BMI > 95th) realized clinical research (coronary, renal and hepatic function) and evaluate metabolic change, hormonal and biochemical excess. Analysed data of biomedical parameters, lipid status (TC, HDL, LDL, index, Tg), fasting and postprandial glucose level, fasting insulin increase, resistance IR, HbA1c, HOMA I, HOMA II, hormonal changes - diurnal cortisol secretion, thyroid function (TSH, FT4).

Results: At the sample of 2490 adolescents (13–15 age), found 6% obese (95F, 59M). At 2% extreme obese (26F, 18M), 40% dyslipidemic (10F > 7M), elevated lipid index; at 20% (5F, 4M) HOMA I poz 6, IR; 12% (2F < 3M) alteration HbA1c > 7%, with no change fasting and postprandial gly. Cortisol profile irregular at 8% (2F/1M), thyroid function-subclinical hypothyroidism at 12% (5F > 2M), with lipid excess 9% (3F/1M) and autoimmune 6% (2F/1M).

Conclusion: Obese adolescent are frequently girls, and have more other endocrine disorders. Therapy treatment suggest diet and physical activity for only BMI high, strict diet for only lipid exces, low shugar diet with slow glycemic index food intake, and permanent 30–40 min walking a day. After for weeks regular sleeping time, adequate diet and including sports, regimen cortisol and IR improved. After 12 weeks, BMI lower in F < Metformin. statins, rare-therapy: Medicament disorders. metabolic reverse.

PP-387
The French national networks for prevention and treatment of childhood obesity (REPOP): description of a multidisciplinary approach

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Objective is to describe an innovative, multidisciplinary approach based on general practitioners and pediatricians to fight against childhood obesity.

Method: Since 2004, regional networks for prevention and treatment of childhood obesity have been developed in three pilot areas in France to optimize coordination between all relevant actors faced with at risk or overweight children. This includes health professionals and non health actors. Local teams are in charge of administrative coordination, training and assistance. A national coordination has also been created to optimize evaluation, communication and development.

Health professionals were trained by local teams. children received personalized objectives designed to improve dietary intakes or behavior, increase physical activity and reduce sedentary activities: a quantitative goal for BMI was also determined.

Results: Within the first 3 years of the program 3233 overweight/obese children were included, (mean age: 9.9 years; 60% of girls) overweight started early (4.5 year) and had an early adiposity rebound (3.26 years). Compared to obese children, overweight children had a better dietary score (4.8 versus 5.2 P < 0.05) and spent less time watching TV or playing videogames (1.8 versus 2.2 h/d, P < 0.05). compared to boys, girls had better dietary score, were less active but spent less screen time. Three out of four children claimed to be motivated to participate in the program at inclusion.

Conclusions: The REPOP obesity treatment program aims at promoting a societal response to childhood obesity, with health professionals as key actors. Evaluation of the clinical efficacy of such a strategy is currently being performed.

PP-388
Prevalence and determinants of obesity in a rural sample of Greek adolescents

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Childhood obesity is an emerging health problem worldwide, with important implications in terms of cardiovascular health. The aim of our study was to examine the prevalence of obesity in relation to the nutritional and physical activity status of school-aged adolescents.

Methods: We examined 385 students (189 boys) with mean age 14.54 ± 0.8 years old, from a rural Greek region. The study included anthropometric measurements (i.e. weight, height, Body Mass Index-BMI) and assessment of dietary and physical activity patterns through interview and the completion of an anonymous questionnaire.

Results: Two hundred eighty students (72.7%) had normal weight, 74 (19.2%) were overweight and 31 (8.1%) were obese. The prevalence of overweight did not differ between boys and girls (19.5% versus 18.7% respectively, P = 0.94), whilst obesity was more common in boys (11.5% versus 4.8% respectively, P = 0.03). In multiple regression analysis with BMI as dependent variable, and with age, gender, food categories (fish, meat, legumes, fruits, vegetables, milk, snacks) and reported physical activity as
independent variables, only age (b = 0.46 ± 0.18, P = 0.01) and milk consumption (b = 0.35 ± 0.11, P = 0.001) correlated positively and negatively, respectively, with BMI.

Conclusions: Prevalence of overweight and obesity was found high in the study population. BMI increased with age, due, at least in part, to a more intensive adoption of adverse lifestyle habits in higher age groups. Moreover, milk consumption was associated with a decreased BMI, reflecting probably the fact that milk is replaced by sweetened, energy-dense beverages in overweight/obese children.

**PP-389**

**Clinical markers of metabolic syndrome in children with obesity**

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To determine the prevalence and character of relationships between metabolic disorders (dyslipidemia, hyperglycemia, hyperuricemia and others) and different degrees of obesity in children.

Subjects: We studied 98 obese patients aged 6–17 years old with varying degrees of obesity (I-IV).

Methods: All subjects were evaluated for anthropometric measurements (height, weight, waist circumference (WC), and body mass index (BMI)), blood pressure level and biochemical data (lipid profiles, fasting glucose and its level after oral glucose tolerance test, serum uric acid). Obesity was defined by using percent overweight. The estimate of findings was carried out with the help of pediatric percentile tables.

Results: The prevalence of the components was 76.5% for increased value of WC, 29.6% for increased cholesterol level, 20.4% for high triglyceride level, 17.3% for impaired glucose homeostasis, 22.4% for persistent hypertension and 18.3% for hyperuricemia. We found that amount of these components increased with increasing of degree of obesity. Nearly 30% of the children studied had three and more components which are risk factors of metabolic syndrome.

Conclusion: The frequency of cardiovascular disease risk factors increases with severity of obesity. To date the rate of children who are severely obese is on the increase, therefore it is a necessity of early identification and examination such children to primary prevent of multiple cardiovascular disease risk factors.

Keywords: obesity, metabolic syndrome, cardiovascular disease, risk factors

**PP-390**

**Inborn errors of metabolism in University Children Hospital of Damascus**

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Hereditary inborn errors of metabolism (HIEM) are numerous in SYR. till now swe don't have any Newborn screening programm in Syria. Aim of the study: define hereditary inborn errors of metabolism (HIEM) diagnosed in university Children hospital of Damascus that we suggest to be screened.

Method: All patient diagnosed university Children hospital referanced to -The archive of university children hospital of Damascus: final diagnosis classification (arc.UCH) -The archive of laboratory of biochemistry section of amino acids chromatography. *(arc.AAC) -Studies of children hospital.

Results: Congenital adrenal hyperplasia 46 cases/year, Congenital hypothyroidism: 14 cases/year, Cystic fibrosis: 37.2 cases/year, Galactosemia: 8 cases/year, amino acid disorders: 34.7 case/year (PKU, MSUD, TYR, HOM, NKH), Organic acid disorders: 61 case/year, Fatty acid oxidation defect: 7.5 cases/year.

Conclusion: Neonatal screening program in Syria must includes aminoacidopaties and organic aciduria in the addition to Congenital adrenal hyperplasia, Congenital hypothyroidism, Cystic fibrosis, and Galactosemia. We suggest TMMS tecnic for the metabolic diseases screening.

**PP-391**

**Osteo-articular pain in children: interest in knowing about the myofascial pain syndrome, report of three cases**

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Myofascial pain syndromes are too often under-diagnosed in paediatric practice yet, they should be taken into consideration in cases of osteo-articular pain. Even though their approach is mainly clinical, clinicians tend to use biological or radiological means to exclude other affections like rheumatisms, cancer or orthopaedic diseases. Once the diagnosis of myofascial pain syndrome established, it is important to explain to the patient the origin of his pain. Certain books (ex. from authors such as J. Travell) and pictures can be very helpful to give the patient re-assurance and to "de-dramatisé" the situation. It is also important to avoid phrases like "it's nothing, it's only muscular". Treatment should be of an individual approach, taking into consideration the description, localisation, intensity and duration of the pain, as well as the psychological and emotional status of the child and his/her familiar background. We report the cases of 3 children who were successfully treated at the paediatric pain unit of Robert Debré Hospital, Paris, France.

Keywords: child osteo-articular pain, myofascial pain syndrome
**PP-392**

Frequency of anamnestic and clinical signs for diagnosis of Prader-Willi syndrome in an Italian population

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Prader-Willi syndrome (PWS) is characterized by hypotonia and feeding problems in the neonatal period, hyperphagia and rapid weight gain after the first year of life, mental retardation, behavioural problems and hypogenitalism. For diagnosis, anamnestic and clinical criteria were established by consensus in 1993 (Holm and Cassidy). After this, definitive genetic analysis became available. Then, revised criteria according to age were established in order to raise diagnostic suspicion, prompt genetic tests and avoid the expense of testing unnecessarily. The aim of our study was to analyze a wide, Italian PWS population for frequency of anamnestic and clinical features according to age, sex and type of genetic abnormalities. We evaluated 147 patients (67 m, 80 f), aged 0.9–34.6 years (13.6 ± 6 years) with genetically confirmed diagnosis of PWS using the consensus diagnostic criteria. The frequency of features changed with age and sex. The prevalence of some major clinical signs, such as neonatal hypotonia and learning problems, ranged from 96% to 100% in both sexes. Cryptorchidism was present in 100% of cases, while female genital hypoplasia ranged from 50% to 75%, without difference between ages. Hyperphagia and excessive weight gain increased with age in both sexes, reaching 100% after 13 years. The prevalence of some minor and supportive criteria changed significantly with age. It is notable that some clinical signs, such as acromicria and behavioural problems, scoliosis and/or kyphosis, considered minor or supportive by Holm and Cassidy, were more frequent than some major criteria. Hypopigmentation and acromicria were more frequent in subjects with deletion. Osteoporosis was more frequent in patients with UPD. This study demonstrates that some clinical characteristics are particularly frequent at specific ages and therefore confirms the necessity for classification of criteria according to age.

Keywords: Prader-Willi syndrome, clinical features, diagnostic criteria, genetic obesity

**PP-393**

Sweat test results in children with primary protein energy malnutrition

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In underdeveloped and developing countries where protein energy malnutrition (PEM) is common, it is sometimes difficult to exclude the diagnosis of cystic fibrosis (CF) in malnourished children because primary PEM and CF share similar features and elevated sweat test results. This study was performed to investigate sweat test results in children with primary PEM.

Methods: A total of 27 children with PEM and 21 healthy children (between 3 months – 4 years) were included in our study. PEM was classified according to criteria defined by Gomez. Sweat tests were performed using the Gibson & Cooke Test (the quantitative pilocarpine iontophoretic sweat test).

Results: Patient age and gender did not affect the test results ($P > 0.05$). The mean sweat Cl concentration of patients with PEM was higher than that of controls ($P < 0.01$). Inverse correlations between sweat Cl concentration and weight for age were detected ($P < 0.01$). Only 2 patients with third degree PEM had sweat Cl concentration higher than 60 mmol/L that normalized after nutritional management.

Conclusion: We concluded that an elevated sweat test results is not an important problem in first and second degree PEM, but sweat Cl levels might be detected as high as in CF among children with severe malnutrition.

Keywords: sweat test, protein energy malnutrition, cystic fibrosis

**PP-394**

Medical maintenance of schoolchildren in Russia: state, issues and ways of decision

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Medical maintenance of schoolchildren in Russia: state, issues and ways of decision Kuchma V. Research Institute of Hygiene and Health Care of Children and Adolescents, State Institution, Russian Academy of Medicine, Moscow

There are 114 thousand educational institutions in Russia including 45,000 preschool educational institutions, more than 62,000 schools and 6,500 professional colleges. They cover about 16 million children.

Medical service of students is carried out by medical staff (pediatricians and nurses) of the departments of medical care in educational institutions of child hospitals. Difficulties in preventive and sanitary programs in educational institutions are mainly connected with their insufficient financing. 67% of schools in the Russian Federation have no equipment for preventive examinations and health improvement of children with health disorders. Only 51% of schools have rooms and equipment in accordance with sanitary standards. Departments of medical care for children and adolescents in educational institutions have an insufficient completeness: - 62.7% of doctors, 32.2% of them are part-time workers; - 72.3% of middle medical staff, 22/4% of them are part-time workers. It is planned to realize “The program on medical promotion of children and adolescents in educational institutions” (“school public health”) in the development of prioritized national project “Education”.

The concept of the program includes the following: i) equipment of medical rooms in educational institutions
with modern facilities to observe the growth and development, health state of children, to carry out sanitary and preventive measures; ii) putting a regular number of departments of medical care for children and adolescents in accordance with the standards of the Ministry of Public Health in Russia; o payment of medical staff of departments: district physicians and nurses; iii) teaching modern technologies on health improvement and development of healthy lifestyle of children and adolescents.

**PP-395**

**Reproductive health according to indicators of menstrual function in schoolgirls**

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According to populated studies in modern urban girls the average age of menarche is 13 years 3 months. The first year of menstrual age can be characterized by instability of menstruation. The formation of menstruation is being completed during the first year after the beginning of menses only in 30% of girls. In other girls this process is being completed during the second, third and more years of menstrual age. About 18% of 17–23 aged girls have an unformed menstruation.

Design: The role of some school-related and behavioral risk factors in formation of reproductive health has been studied. It has been found that the number of schoolgirls with unformed menstruation during the second and more years is significantly more (40% and more) in schools with deep learning subjects, there is an essential rise of these disorders in grade 11. It is also connected with the growth of intellectual and emotional loads. If in grade 9 the prevalence of disorders of menstrual function in girls is 24.1%, in grade 10–23.2%, but in grade 11–41.1%. Smoking, drinking and drug use also contribute for disorders of formation of reproductive health in girls.

Conclusion: It has been determined statistically a reliable prevalence of disorders of menstrual function in girls in 2–4 times. Toxic tobacco effect causes hypoxia and hypocapnia, leads to decrease of general reactivity of body, disorders of vegeto-adaptational mechanisms and system of regulation of menstruation.

**PP-396**

**Changes of morbidity indicators in adolescents aged 15–18 during the final stage of general and primary vocational training**

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The evaluation of health state indicators of students is necessary to carry out preventive and sanitary work in educational institutions. In Russia the adolescents of 15–18 years old are examined every year.

To study morbidity indicators and determine the dynamics of pathologic processes in students during the final stage of general and primary vocational training.

Methods: Five adolescents (256 boys and 254 girls) from senior classes in schools and colleges were being observed for 3 years. They got professions of automechanicians, seamstresses, accountants, operators of electronic technics. Specialists from our institute participated in the annual examinations: pediatricians, a neurologist, an otolaryngologist, an oculist, an orthopedic surgeon, an instrumental-laboratorial examination was also conducted.

Results: It was determined that schoolchildren’s morbidity had increased by 17.9% among boys from grade 9 to grade 11; among girls - by 38%. In the group of vocational colleges the indicators had increased by 11.7% and 15.4%, respectively. The prevalence of functional disorders of cardio-vascular system and vision, neurotic disorders, diseases of alimentary and musculoskeletal systems were increased among adolescents. Only 15–17% of boys and 25%–30% of girls have favourable course of health disorders. It was revealed the worsening of pathologic processes in 36–44% of cases. More than 60% of students need for a regular observation of medical specialists, drug therapy and physiotherapeutic procedures.

Conclusions: The obtained data show the necessity of correction of educational programs and improving students’ nutrition. Sanitary work should be conducted in educational institutions.

**PP-397**

**Longitudinal studies of physical development of schoolchildren in Moscow**

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Methods: Series of longitudinal studies of physical development in schoolchildren were carried out from 1960 to 1969 and from 1982 to 1991 in Moscow and they were renewed in 2003 (464 students).

Results: In 2006, according to the results of studies, Moscow schoolchildren had an increase of body length in comparison with their peers of 1980–1990 (P < 0.05). Body length of 11-aged boys was 141.1 ± 0.4 cm in 1963, 142.1 ± 0.6 in 1985, 145.3 ± 0.7 in 2006; 11-aged girls – 142.9 ± 0.6, 144.1 ± 0.5, 145.3 ± 0.7, respectively. Body mass of 11-aged boys was – 35.5 ± 0.5 kg, 35.9 ± 0.6 kg, 39.9 ± 1.1; 11-aged girls – 36.4 ± 0.6, 36.7 ± 0.6, 38.7 ± 1.0, respectively. Chest circumference of 11-aged boys in 1963 was 68.7 ± 0.4 cm, in 1985 – 66.8 ± 0.4 cm, in 2006 – 70.0 ± 0.8 cm; in girls – 67.8 ± 0.4 cm, 64.6 ± 0.5 cm, 69.1 ± 0.8 cm respectively. We can suppose that there is an activity of acceleration in population of Moscow schoolchildren and it is associated with positive changes of socioeconomic situation in megalopolis. Our studies show that
80.4% of students are brought up in full families, 93.7% of students have parents with a high educational level and 85.0% of students have advantaged families.

Conclusion: The study shows the increasing number of overweight children among Moscow students. For example, 10-aged boys have an increase of body mass by 12.7%. This is a new tend appeared in conditions of megalopolis which has never shown his worth for the last 10–15 years.

PP-398

Health state and functional abilities of children with muscular-skeletal disorders

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Prevalence and high social significance of muscular-skeletal disorders among children determine the need for a search of effective ways of their prevention and correction. These ways must take into account features of a health's state and functional abilities of such children.

Purpose of research is to expose peculiarities in health's state and functional status of children with muscular-skeletal disorders.

Methods: The health's state was estimated on the data from cards of development of the child and the results of parents' questioning. Functional abilities were estimated on parameters of dynamometry and spirometry.

Results: The analysis of the results of preventive medical surveys has shown, that prevalence of a chronic pathology among children with muscular-skeletal disorders was higher in 2.1 times, than among children without muscular-skeletal disorders (1089.1% and 527.4%, accordingly). Prevalence of functional disorders among children of both groups had no essential distinctions (1275.3% and 1425.6%, accordingly). Questioning of parents has shown that conducting places among children with muscular-skeletal disorders occupied by complaints on the part of nervous (87.1%), respiratory (68.6%) and digestive (57.1%) systems. The average figures of hands' muscular force and vital pulmonary volume were lower for certain for these children than for healthy children.

Conclusion: Thus, our investigation has shown that children with muscular-skeletal disorders have a chronic pathology and reduced functional abilities more often.

PP-399

Lifestyle and health of 8–11 aged schoolchildren

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Child's lifestyle is one of the factors of health formation. Reconstruction of dynamic stereotype at the beginning of learning at school can lead reduction of adaptations possibilities. Lifestyle and adaptation potential of 8–11 aged schoolchildren's were studied.

Methods: Six hundred and forty one parents of 8–11 aged schoolchildren's completed questionnaires. Students' adaptation potential was evaluated by the results of complex examinations.

Results: Study revealed that 66.9–80.3% of 8–11 aged children have less 10 h sleep a night. One third of students spend 3–6 h on homework. Practically every second child watches TV 2–4 h per day, 17.9% of children work at the computer daily. Half of students constantly spend an hour at the display, 12.2% – 2–4 h per day. Level of motive activity is lowered: every third child does not do physical training, 90% of children insufficient stay out of doors, 5.2% - do not go for a walk. The data analysis defining the adaptation of children it showed that children's working at the computer, watching TV 2–4 h a day, a low sleep at night, had a disorders of adaptation more often, than their peers who did not work at the computer, watching TV an hour, sleep a night for 10 h.

Conclusions: The data show that the length of sleeping and going out of doors over are lowering, static loads prevail over dynamic ones. Adaptation of children to school is significantly determined by the conditions of living in family and it is necessary to take it into consideration during the preventive measures.

PP-400

Attention deficit hyperactivity disorder with pachgyria: case report

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Neuronal migration disorders are a group of brain malformations which primarily affect development of the cerebral cortex. Lissencephaly (agyria-pachgyria spectrum) are well-known causes of mental retardation and epilepsy(1). Also in attention-deficit hyperactivity disorder (ADHD) there are anatomical and functional disturbances consisting of the prefrontal, temporal, and parietal cortices(2). A girl having pachgyria and ADHD symptoms treated successfully with methylphenidate is presented.

Case: Seven years old female child admitted outpatient clinic, complaints with inattention- hyperactivity, difficulty in learning, difficulty in peer relationships, bad temper, self mutilation. Parents divorced 2 years ago. She is living with her mother's family, her mother was used antidepresants due to a depression episode. In psychiatric examination inattention, hyperactivity, impulsivite, talking too much, mild mental retardation (IQ: 60) were found. Routine labouratuary and EEG findings were normal. In MRI bilat-
Eur fronto temporaparietal incomplete lissencephaly (pachygyria) was found. She diagnosed as attention deficit hyperactivity disorder with migration anomalia. 10-15 mg/day. Methylphenidate prescribed and her ADHD symptoms improved 80% in 6 months.

Conclusion: Lissencephaly (LIS) and agyria-pachygyria are the terms used to describe brains with absent or poor sulcation anatomically and also in ADHD there were regionally specific effects in the fronto-parietal areas, cin-gulate cortex, parietal lobe, temporal cortices, and the cerebellum (2). Neuronal migration disorders have different types and clinical manifestations of severe mental retardation and infantile spasms which are usually resistant to treatment (1). This case was treated successfully with methylphenidate despite of its epileptogenic potential.


Keywords: ADHD, migration anomalia, methylpheni-date, pachygyria child

PP-401

Elaboration and validation of EVENDOL, a behavioral pain scale for young children in the accident and emergency department

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EVENDOL, a new five items behavioral scale (complaints, grimace, movements, posture, interaction with surroundings) has been developed to assess young children’s (under 6) pain in the emergency department.

Methods: The choice of the items was conducted by pediatric pain specialists and emergency staff members. Each item is scored from zero to three, depending on the intensity and the duration of the symptom during the observation time.

Methodology of validation: The scale was tested first, at rest, without any painful or stressful stimulation, and secondly during mobilization of the painful area, and then, after analgesic administration. Various aspects of construct validity and inter-rater reliability were studied. Parent’s consents were obtained. Children were assessed simultaneoulsy by the triage nurse and the searcher. Pain assessments by VAS were carried out by the nurse, one of the parents and the searcher. Pain was also assessed with other scales (CHEOPS, TPPPS, FLACC, EDIN). Anxiety and asthenia levels were assessed. Self-assessment score (FPS-R, VAS), were obtained from children above 4 years of age.

Results: 297 children aged 1 month to 6 years were included. Construct validity testing: i) Scores before and after nalbuphine: scores varied from 8.14 to 3.62 at rest (P < 0.0001), and from 11.87 to 6.65 at mobilization (P = 0.0011). ii) Correlations between VAS and EVEN-DOL scores as assessed by nurses and the researcher varied between 0.79 to 0.92 at all different times (P < 0.0001). iii) Correlations between FPS-R and EVENDOL scores in 4- to 6-year-old children varied between 0.64 and 0.7. Correlations between EVENDOL scores and anxiety and asthenia levels are weak (0.15–0.34). Content validity and internal consistency were tested by determining the Cronbach coefficient which varied from 0.83 to 0.92. Interrater reliability was tested by comparing nurses’ score and researcher’s score: correlation varied from 0.87 to 0.98. Face validity is good, the scale is easy to fill out and well accepted by nurses in the A and E department. Treatment threshold is 4/15, corresponding to the median EVENDOL score for a VAS score between 5 and 4/10.

Conclusion: This study validates EVENDOL, a new five items’ scale to assess young children’s pain in the emer-gency departments. EVENDOL has excellent validation criteria, is independent of the age, and of the level of asthenia or anxiety, and can be used to assess pain.

PP-402

Partial albinism (piebaldism) -a case report

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Partial albinism (Piebaldism) is a very uncommon dom-inantly inherited disorder of pigmentation that presents at birth and is characterized by congenital patterned areas of depigmentation and with a white lock of hair above the forehead in 85 to 90% of affected individuals. It is sometimes associated with neurological disorders and syndromes. We present a case of a 17-month-old boy, who was admitted to our department due to fever of unknown origin. On examination he had normal growth and development. His appearance was otherwise normal, apart from one large hypopigmented patch of the anterior portion of the abdo-men and another one on each of the anterior surfaces of his tibia. His father had a white lock of hair above his forehead and a hypomelanotic patch on tibia as well. The electron
The change in infant deaths in Bulgaria – 1988–2006
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Results: The rate of the infant death in Bulgaria changed from 13.8% during 1988 to 17.5%(1997) and 9.7% (2006). Urban infant death increased from 12.4% (1988) to 15.7% (1997) and decreased to 8.6% (2006). Infant death in village increased from 16.3% (1988) to 22.0% (1997) and decreased to 13.1% (2006). In this period are observed more significantly decrease in postneonatal death(31%) than in neonatal death(27%). The three main causes (diseases in perinatal period, congenital anomalies, disease of respiratory system) which determinate infant death are without change but relative part of these main causes decreased from 88.4%(1988) to 67.7%(2005). In this period is observed significant decreasing the rate of death determined by congenital anomalies and respiratory diseases. The rate of death, determined by perinatal causes decreased not a lot. It is very interesting, that the relative share of cardiovascular diseases in infant death increased from 3% to 7%.

Conclusion: The positive trend of the decrease of infant death started from 2002 and continues to this moment. The biggest increase of the rate of infant death was observed in 1997 when in Bulgaria socio-economic crisis was most intensive. This fact proved once more that socioeconomic conditions are most significant reason for infant death.

Keywords: Infant death, Bulgaria trends

Immunological aspects and autoantibodies to glutamate receptors in children with epilepsy
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Glutamate is the major excitatory neurotransmitter also triggering neurodegeneration as a result of excessive stimulation of postsynaptic receptors in epilepsy, brain ischemia.

Smoking is one of the addiction diseases and now a days represents the most spread toxicomania and a serious social problem. Although it is considered to be less dangerous than other addiction diseases, the harmful consequences were the contemporary medicine and public health, the young population increasingly becoming a part of it. The survey among high school students in Pancevo in the school year 2007/2008 showed that the smoking prevalence among the first and the third year high school students in Pancevo in the school year 2007/08. The questionnaire: “Are you a smoker?” was used on a direct contact with surveyants. 380 (23.7%) of the first and 420 (30.8%) of the third year students were questioned form the total numbers of 2971 (100%) students: 1606 (54%) 1st year and 1365 (46%) 3rd year students there were 152 (40%) of the 1st year and 180 (42.9%) of the 3rd year students with a positive answer.

Conclusion: Based on the performed survey we have come to a conclusion that the smoking is very widely spread among the young population. It is proved that the majority of the chronic non-contagious disease were closely related to the way of life, the European Medical Community believe that the great deal of various diseases such as heart diseases, strokes, diabetes mellitus and cancer could be avoided if the risk factors were eliminated from everyday life. Clinical signs of the majority of the chronic non-contagious diseases are connected with the way of life and behavior disorder and the children are more and more frequently the victims with no obvious risk factors. Instead of becoming the resource of the society, the young population increasingly becoming a problem which should be solved. The battle is unfortunately already lost in the childhood. One should fight against the denial of the smoking issue.

Keywords: The young population, smoking, nicotine, carbon-monoxide
and CNS trauma. This process was hypothesized as the major cause for the neuronal loss, chronic inflammatory changes in neurological patients and may leads to the autoantibodies (aAB) to glutamate receptors (GluRs) synthesis. Clinical and experimental data support the role of immune mechanisms in epilepsy pathogenesis. Is the correlation in immunological parameters and autoimmunity existing?

Method: Serum level of lymphocyte subpopulations using immunocytochemical methods and serum level of GluRs-aAB (ELISA, synthetic peptides-analogues of GluR1 (AMPA) and NR2A (NMDA) subunits were used as antigens) was estimated in pediatric patients with epilepsy (Epi), mild brain trauma (BT), mitochondrial diseases (MD) and in 20 children of control group (CG).

Result: In Epi (n = 60) GluRs-aAB level was significantly higher versus CG (GluR1±1179 ± 15.3 c.u., NR2A1 ±161.4 ± 14c.u.) \((P < 0.05)\). In acute period of BT (n = 20) the GluRs-aAB were high \((P < 0.05)\). In 6–12 months prospective studies GluR1aAB level was significantly elevated in children with repeated BT and post-traumatic epilepsy. In patients with MD (n = 15), even without seizures, the GluRs-aAB were high. We have found the significant increase of CD8⁺ lymphocytes, in activation markers CD122⁺, CD16⁺56⁺ and decrease in CD19⁺ in Epi patients (n = 20), high CD122⁺, low CD19⁺ in MD patients (n = 5), and decreasing in T-lymphocytes subpopulations, increasing of CD122⁺ in children with BT (n = 7). The most immunological deteriorations were related to the temporal lobe focus. No correlation between the immunological changes and the GluRs-aAB levels.

Conclusion: Data obtained show that in Epi glutamate receptors are damaged as a result of excitotoxicity. Changes in immunological parameters in pediatric patients with epilepsies not correlated with the glutamate-mediated autoimmunity.

Keywords: Epilepsy, glutamate receptors, immunophenotype CNS, trauma brain ischemia

PP-406

Decades experience: scabies in pediatrics practice in Bosnia and Herzegovina

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It is highly contagious infection caused by the itch mite Sarcopes scabiei. Scabies spreads rapidly under crowded, bad conditions where children have frequent skin to skin contact. Clinical symptoms of scabies infestation can appear up to two months after exposure.

Methods: Authors used a retrospective cohort study where kids were reviewed to determine the prevalence of and factors associated with scabies infectious disease. Bosnian pediatrics practices used frequently diagnostics physical-clinical examinations, where burrow is pathognomonic and presents in only 25 % cases.

Results: Every eleventh child in pediatrics offices with skin disease has had scabies comparing after the war (every seventh child), and before the war (every fifteenth kid). Results of epidemiologic studies at children in Sarajevo, Bosnia and Herzegovina, provide strong evidence that exposure of children to bad non-hygienic crowded conditions during and after the Bosnian war where scabies is associated with increased rates in kids.

Discussion: Because of their ease of use and high efficacy, oral antiscabies medications are useful option, especially for recalcitrant or severe scabies infestations. Topical

Figure 1 Scabies in children.
Antiscabies medications continue to be quite effective, and so far, there is little evidence of resistance.

### TABLE 3

<table>
<thead>
<tr>
<th>YEAR</th>
<th>DERMATOLOGY DISEASES IN %</th>
<th>PERCENT CABS IN</th>
<th>TOGETHER ALL YEARS IN PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DERMATOLOGY DISEASES IN</td>
<td>Pediatrics</td>
<td>PATIENT</td>
</tr>
<tr>
<td></td>
<td>PEDIATRIC OFFICE</td>
<td></td>
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<tr>
<td>BEFORE</td>
<td>1993</td>
<td>5.23 %</td>
<td>6.11 %</td>
</tr>
<tr>
<td>BEFORE</td>
<td>1994</td>
<td>5.27 %</td>
<td>6.54 %</td>
</tr>
<tr>
<td>BEFORE</td>
<td>1995</td>
<td>5.01 %</td>
<td>7.77 %</td>
</tr>
<tr>
<td>WAR</td>
<td>1993</td>
<td>4.31 %</td>
<td>7.96 %</td>
</tr>
<tr>
<td>WAR</td>
<td>1994</td>
<td>5.99 %</td>
<td>11.31 %</td>
</tr>
<tr>
<td>WAR</td>
<td>1995</td>
<td>5.64 %</td>
<td>13.19 %</td>
</tr>
<tr>
<td>AFTER</td>
<td>1993</td>
<td>5.99 %</td>
<td>10.48 %</td>
</tr>
<tr>
<td>AFTER</td>
<td>1994</td>
<td>5.64 %</td>
<td>8.54 %</td>
</tr>
<tr>
<td>AFTER</td>
<td>1995</td>
<td>4.08 %</td>
<td>7.69 %</td>
</tr>
</tbody>
</table>

*Scabies in Bosnia (war, before and after)*

Conclusions: Children living in the same apartment or room should be treated concomitantly, even if they are asymptomatic. Higher Bosnian rates during and after the war are history now, but rates in children stay too high comparing other European countries. All topical treatments must be properly applied to include the head area, the edges of all body orifices, and under the fingernails.

Keywords: Children, Bosnia, scabies management

### PP-407

**Immunoprophylaxis with intravenous immunoglobulin in young child with VACTERL association**

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We report a 22-month-old child, born at term and small for gestational age having almost full spectrum of VACTERL association (Vertebral, Anorectal, Cardiac, Tracheoesophageal, Renal and Limb Defect) The aetiology of these associations of anomalies, due to defect in mesodermal differentiation, is largely unknown and is like to be multifactorial. Our patient has tetralogy of Fallot, pulmonary artery stenosis, vertebral and ventral ribs defects, anal atresia, solitary kidney and microcephaly with ex vacuo hydrocephalus. The anal atresia was surgical treated at birth. At 1 month of age our patient undergo to surgical correction of tetralogy of Fallot with the implant of on request pace-maker. A further clinical worsening was due to a long-term intubation severe tracheal stenosis. The child also has an important ponderal and stature growth deficiency so that an enteric nutrition by transcutaneous gastrostomy was performed. This complex conditions often become critical because of recurrent respiratory infections requiring continuous hospitalization. At 12 months of age he was submitted to a monthly prophylaxis with intravenous immunoglobulin (i.v. IgG 400 mg/kg) followed by a dramatically reduction of infections, improvement of the respiratory conditions and body growth. It was possible to discharge the child who lives at home since 10 months.

Conclusions: In children younger than 24 months with significant congenital diseases and moreover with risk factors such as malnutrition or alterations of the respiratory system the immunoprophylaxis with i.v. IgG could be an effective and safe strategy.

Keywords: Immunoglobulin, malformations, infections

### PP-408

**Early ontogeny factors’ influence on early school age children’s physical development**

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Early ontogeny period disturbances are responsible for immature morph-functional condition and disintegration of basic functional systems; difficulties in genetic program expression in children during postnatal period, normal physical development. At the beginning they led to adjacent to pathology deviation in health condition and then establishment of chronic pathological forms.

Material: Aim of study was early ontogeny factors’ influence estimation on early school age children’s physical developmental parameters and on health condition. Randomly chosen early school aged 110 children (7 years old) were included in study group. Mother’s and child’s health conditions during the different ontogeny periods were evaluated. Children’s weight–length parameters were analyzed as well as early school age children’s physical development and somatic health were studied.

Results: Weight – length parameter was statistically low in newborns, whose mothers were suffering with different pathology during pregnancy in comparison with control group without pathology in pregnancy period. In girls whose mothers were with different illnesses during pregnancy, revealed growth-development statistically significant changes during both, neonatal period and during 7 years old age. In addition, mother’s illness during pregnancy was correlated with frequency of child’s health condition disturbances by all studied parameters and especially in girls.

Conclusion: One of the important reasons for worsening in children’s healthy condition may be pregnant women growing illnesses, translation of which takes place mostly in females.
**PP-409**

**A neuropsychological assessment in Prader–Willi syndrome: a study of cognitive profile**

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Prader-Willi syndrome (PWS) is a neurogenetic disease characterized by hypotonia, retarded mental and motor development, dysmorphic facial features, hypogonadism, progressive behavioural problems and obesity, due to the loss of 15q11–q13 genes. The studies on cognitive functioning and achievement in PWS show mild to moderate mental retardation, learning disabilities, weaknesses in memory, mathematical skills, reading skills, attention to visual detail, visual-motor coordination, perceptual planning and spatial organization. The purpose of the study is to analyze the cognitive performances of PWS patients assuming that several neuropsychological impairments characterize the cognitive profile of individuals with PWS.

Methods: We studied 30 individuals (16F, mean mental age 7.3 ± 1.6 years) with genetic diagnosis of PWS compared with 30 normal controls, matched for gender and Mental Age (MA). To assess intellectual capacity, the Stanford-Binet Intelligence Scale was used, while to analyze the cognitive functions, a number of different neuropsychological tests were administered, which were grouped into five cognitive functions: linguistic abilities, visuo-perceptive and visual-motor integration abilities, working memory abilities, long-term memory abilities and visual sustained attention ability.

Results: PWS subjects showed visuo-perceptive and visual-motor integration abilities and linguistic abilities similar to that of MA normal controls. In contrast, PWS individuals showed a reduced learning rate in the three long-term memory tasks, in tests of verbal, visuo-perceptual and visuo-spatial working memory and in morpho-syntactic production and comprehension tasks.

Conclusions: These findings are relevant for knowledge about the qualitative aspects of the anomalous cognitive development in mentally retarded people and the neurobiological substrate underlying this development.

**PP-410**

**A novel legumain DNA vaccine effectively eradicates neuroblastoma and induces long-term survival in a preclinical neuroblastoma mouse model**

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Despite multi-modality treatment the 5-year survival rate especially of neuroblastoma (NB) stage four patients remains poor. A promising approach could be active immunotherapy with legumain DNA vaccines. Legumain is highly expressed in most human solid tumors including neuroblastoma and is known to promote cell migration, tissue invasion and metastasis. We therefore hypothesized that novel legumain DNA vaccines can break self-tolerance of the immune system and induce an anti-NB immune response. In order to test this, we generated two novel DNA vaccines: one encoding for the whole cDNA of murine legumain (mLGMN) while the other vaccine consisted of 3 mLGMN derived epitopes with high predicted binding affinity to MHC class I representing a so called minigene vaccine. Both constructs were cloned into an ubiquitin expression vector. Efficacy of the vaccines, both in prophylactic and therapeutic setting, was tested in a syngeneic NB mouse model in which subcutaneous primary tumor growth is followed by spontaneous metastasis of secondary organs. Both vaccines significantly suppressed primary tumor growth and metastasis compared to empty vector controls. Moreover, the LGMN-minigene markedly induced long term survival in vaccinated mice. *In vitro* results further indicate that the anti-tumor effect is mediated by cytotoxic T cells. In conclusion, we could show for the first time that active immunotherapy with legumain encoding DNA vaccines is highly effective in our preclinical NB mouse model. This finding opens a new perspective for developing an adjuvant vaccination strategy for one of the most challenging childhood tumors.

Keywords: Neuroblastoma, legumain DNA vaccination, immunotherapy

**PP-411**

**Lactobacillus GG (LGG) added to an extensively hydrolyzed formula supplemented with DHA and ARA is safe and supports adequate growth**

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*Lactobacillus* gg (LGG) added to an extensively hydrolyzed formula has potential benefits on allergic manifestations. This study evaluated growth and tolerance of extensively and partially hydrolyzed formulas with added LGG.
Methods: In this multi-center, double-blind, parallel-designed, prospective study 286 infants were randomized to and consumed one of the following formulas: extensively hydrolyzed casein formula with docosahexaenoic acid/arachidonic acid (DHA/ARA) (Nutramigen®, LIPIL®, Mead Johnson Nutritional, Evansville, IN) (Control, n = 94), same formula with LGG (EH-LGG, n = 94), or partially hydrolyzed whey:casein formula with DHA/ARA and LGG (PH-LGG, n = 98). Formulas were fed from 14 to 120 days of age. Anthropometrics were assessed at 14, 30, 60, 90, and 120 days of age. Adverse events (AE) were recorded.

Results: Groups were similar in demographic characteristics and birth and study entry anthropometrics. No significant differences were observed among groups for weight, length, or head circumference (HC) growth rates or achieved values, except that weight gain for EH-LGG was significantly lower than Control at 60 and 90 days (LS Mean (SE) = 29.8 (1.06) and 28.0 (0.87) g/day; \( P = 0.031 \) and \( P = 0.048 \), respectively). These differences were not considered to be clinically relevant as the mean achieved weight, length, and HC for all groups plotted within the 25th and 75th percentiles of the CDC growth charts (see Fig. 1). Significant differences were detected for excessive crying [0 in Control and EH-LGG versus 4 (4%) in PH-LGG group, \( P \geq 0.056 \)].

Conclusion: Extensively hydrolyzed casein and partially hydrolyzed whey:casein formulas with DHA/ARA and added LGG provide adequate growth and are safe.

PP-412
The effects of the environmental changes as a consequence of NATO aggression on the frequency of asthmatic attacks in school children
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Considering the facts that NATO aggression (bombing, the number of sorties, effects of explosions, and the burnings of bomb sites) made a great impact to the ecological habitat of the whole of Serbia, and especially the city of Pancevo which contains an oil refinery and a factory for producing artificial fertilizer "Azotara" and "Petrohemija" that were the most frequent targets of the aggression, we examined the effect of altered ecological habitat for the frequency of asthmatic seizures in school going age group. In the period from 1998 to 2001. By bombing of the industrial complex of the city of Pancevo a cloud containing: vinyl-chlorid-monomer (VCM), ethylene dichloride (EDC), chlorine, fosgen, ammonia nitric oxide, smoke, soot, carbon monoxide, sulphur and nitric oxides and polycyclic aromatic carbohydrogens was created, and in times of rain nitric acid, ammonium hydroxide, and hydrochloric acid.

Methods: The examination was undertaken at school Dispensary of Pancevo health center. The examination considered the distribution of frequency of asthmatic seizures in children developing. Asthma prior, during and after NATO aggression. The data is grouped by years (1998–2001).

Results: The study showed that the frequency of acute asthmatic attacks across the years shows a tendency to raise in asthmatics children. However the consequences of the attack for the environment are doubt less by far more complex and the effects will definitely rise over present level.

PP-413
The use of nitrofuran drugs in multicenter pilot trial of Helicobacter pylori eradication
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The major etiological factor for stomach and duodenum diseases is *Helicobacter pylori* infection. The main reason for antibacterial therapy inefficiency is considered to be the increase of *H.pylori* resistance to antibacterial drugs. *Helicobacter pylori* has no resistance to nitrofuran drugs. The efficiency of nitrofuran drugs for the rescue therapy is poorly investigated.

Aim: The aim of this pilot study was to determine the effect of a triple eradication therapy with nifuroxazide in children.

Methods: Thirty *H.pilory* positive children (5–15 years ages: 7 girls and 23 boys), median age 12.6 ± 2.3. The infection was verified when at least two tests were positive. Children underwent upper endoscopy, histology, rapid urease test, polymerase chain reaction of biopsy material. First discovered changes: esophagitis-30%, gastritis-20%, duodenitis-23%, duodenal ulcer-13 %, recidivations: esophagitis-20%, gastritis-70%, duodenitis-46%, duodenal...
Patients were administered omeprazole 40 mg/day, clarithromycin 500 mg/day, nifuroxazide 400 mg/day, twice a day. Efficiency and tolerance were tested by clinical and endoscopic data dynamics. Upper endoscopy was assessed before treatment and 45–50 days after the end of therapy.

Results: Abdominal pain disappeared on the 1–3 day in 55%, 4–6 day in 31 %, 5–7 day in 13%. Dyspepsia was removed on the 1–3 day in 51 %, 4–6 day in 20.7 %, 5–7 day in 17.2%. Duodenal ulcer epithelization was reported in three among four children, stomach ulcer healing was noted in nine among ten children, duodenal erosion full healing was marked in all four children. Side effect (vomiting) was reported in one children, the therapy was suspended. Other patients felt sick. No severe adverse events were observed. Eradications rates were 65.5 %.

Conclusion: In this pilot study we found that a trial eradication therapy with nifuroxazide is efficient. However, a large randomized trial is now required to confirm these findings.

PP-414

Results of multicenter open randomized trial of *Helicobacter pylori* eradication: nitrofuran-based triple therapy versus metronidazole-based therapy

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4. Gastroenterology, Perm Regional Scientific Research Institute, Russia
5. Gastroenterology, Saint-Petersburg State Pediatric Medicine Academy, Russia

Nowadays the main reason for antibacterial therapy inefficiency is considered to be the increase of *H. pylori* resistance to antibacterial drugs of standard triple therapy.

Methods: Aim of the study was to compare the efficacy and tolerability of two dosage different first-line nifuroxazid-, metronidazole-based schemes for eradication of *H. pylori* infection in pediatrics. We enrolled 161 children (7–17 years aged: 77 girls and 84 boys) with stomach and duodenum *H pylori* infections. Patients underwent 13C urea breath test, upper endoscopy, histology, rapid urease test. Upper endoscopy was assessed before treatment and 8 weeks after the end of therapy. Patients were randomized into group A: lansoprazole 60 mg/day, clarithromycin 500 mg/day (ages 7–12 years), 1000 mg/day (ages 12–17 years), enterofuril suspension 400 mg/day (ages 7–12 years) and 800 mg/day (ages 12–17 years) and group B: lansoprazole 60 mg/day, clarithromycin 500 mg/day (ages 7–12 years), 1000 mg/day (ages 12–17 years), metronidazole 500 mg/day (ages 7–12 years), 1000 mg/day (ages 12–17 years), each administered twice a day.

Results: All 161 patients finished anti-Hp therapy in both groups. Eradications rates were: group A – 70%, P = 0.036 (enterofuril 400 mg/day – 66%, P = 0.067, 800mg/day – 87.5%, P = 0.047), group B – 46%, P = 0.064. Mild side effects (nausea, diarrhea, allergic eruption) were reported in 12 patients. More side effects were in group B than A (group A: 4pts, group B: 3pts). No severe adverse events were observed. Epithelization of stomach ulcer and erosion was reported in eight among nine patients in group B.

Conclusion: Nitrofuran-based triple therapy is more effective than metronidazole-based triple therapy for the eradication of *H. pylori* in children.

PP-415

*Neonatal Milroy disease: case report*

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Milroy disease, known as primary congenital lymphedema, is a rare autosomal dominant disorder characterized by hypoplasia or aplasia of the lymphatic vessels. Inadequate lymphatic drainage results swelling of the extremities. It affects girls more than boys and edema at the lower extremities presents at birth. Etiology is unknown, and usually associated with other genetic disease. A male infant had admitted to our neonatal unit with swollen right foot noted soon after birth. Postnatal second day the edema was noticed at the left foot too. In the family history, he had nonrelated healthy parents without known any metabolic disorder and the other siblings were healthy. On the examination especially the right foot was edematous. At the laboratory findings; urine analysis was normal, proteinuria was absent, complete blood count and biochemical findings including protein were all normal. There was no pathological abnormality on the cranial ultrasound, no vascular formation was found on renal doppler ultrasound, only subcutaneous edema was present. Lymphangiography was performed and bilateral lymphedema was confirmed. Lymphedema occurs by the obstruction of lymphatic vessels causes swelling at the lower extremities. Clinical manifestations are mostly significant for diagnosis. The complications of lymphedema include recurrent cellulitis and/or lymphangitis, deep venous thrombosis, severe functional impairment, and cosmetic embarrassment. In conclusion when edema presents in neonatal period, Milroy disease should be considered in differential diagnosis.
PP-416

Hemorrhagic bullous lesions and necrosis in Henoch-Schoenlein vasculitis: a rare case

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Henoch-Schönlein purpura (HSP) is, also known as anaphylactoid purpura, the most common form of acute vasculitis primarily affecting children. It mostly affects skin, joints, kidney and gastrointestinal tract. Skin manifestations typically present as palpable purpura over the buttock and the lower extremities, but bullous lesions are particularly rare in children. We describe a 3-year-old girl with abdominal pain and generalized purpuric rashes including face, edema on the surface of legs and forehead and hemorrhagic bullous lesions leading to tissue necrosis. Seven days before admission, his mother noticed a few pruritic rashes were concentrated on face, buttocks and extremities. After 4 days of antibiotic use, the patient presented with hemorrhagic bullous lesions and abdominal pain. After admission the skin lesions worsened. On the first day melena had occurred. Apart from a few palpable purpuric lesions, tender tense vesicles and bullae with necrosis has formed. On laboratory tests, complete blood count, clotting profile, renal and liver functions tests were normal. Urinalysis was normal, but stool findings had four positive blood. The patient was treated with methylprednisolone and treated empirically for secondary skin infection with intravenous sefazoline. The skin biopsy was performed. The bullous lesions and abdominal pain resolved in the first week and did not occur. The patient presented here manifested unusual clinical features of HSP. In differential diagnosis purpura fulminans had been considered, because of the hemorrhagic bullous lesions and necrosis but laboratory findings didn’t match. Hemorrhagic purpuric lesions and necrosis could be presenting symptoms for purpura fulminans and Henoch Schöenlein vasculitis.

PP-417

Assessment of life quality in schoolchildren with allergic rhinitis

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Methods: There were studied 98 patients of 0–14 age (56 boys and 42 girls). Diagnosis of allergic rhinitis was further confirmed on the basis of anamnesis. Level of eosinophils in nose tests and IgE in blood serum was provided by means of ELISA method.

Results: On the basis of study results there was stated rhinorea in 12.3% cases and nasal obstruction in 13.1%, 45.2% of the patients stated seasonal character of the disease, in 54.8% of cases there was stated intermissive and 45.2% – persistent allergic rhinitis, basically, with heavy (49.4%) and medium (50.6%) course. According to the results of allergens study, sensibilization to the domestic dust (67%) prevailed (D. Farinae and D. Pteronyssinus) (P < 0.05). In 25% of cases there was stated sensibilization with cat and dog epidemic allergens in the all age groups. Significant share had Sensibilization to the pollen (86%). Before commencement of treatment (Plixonaze 50 mg, one dose to each nostril 2 times per day and Telfast 120 mg 2 times per day, for 30 days), 68 of 98 patients had strongly prominent symptoms and 29 had light ones. After administration of the preparations the symptoms disappeared in following sequence: sneezing – in 6 days, nose itch – in 8 days, rhinorea in 10 days, nasal obstruction – in 12 days, from the 15th day of treatment the headache disappeared and the sense of smell restored. 97% of patients returned to normal life quality and 3% stated decrease of sense of smell.

None of the patients required change of the preparations.

Keywords: Rhinitis, Children Life style, IgE research

PP-418

Wobenzym in treatment of recurrent obstructive bronchitis in children

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Methods: There were studied 28 children of age from 5 to 15 with the recurrent obstructive bronchitis (three episodes of obstructive bronchitis during 1 year). On the basis of cohort study the patients were divided into two groups: basic group – 18 patients and the control group – 10 patients. The patients were tested for presence of antibodies IgE in the blood serum through ELISA techniques. Upon full clinical study and determination of the function of external respiration, to the patients of the basic group there was prescribed the preparation Wobenzym (Mucos Pharma GmbH & Co, Geterstreid, Germany), dosage one tablet per 6 kg of weight for 3 months, together with the standard treatment. The patients of the second group underwent only to standard treatment. Effectiveness of treatment was assessed by means of the special questionnaire specifying presence of the major symptoms. There was conducted assessment of spirometric parameters (FVC, FEV1, PEF, MW).

Results: Analysis of the above data revealed decrease of the daily symptom number and increase of the days free of the symptoms and improvement of spirometric parameters.

Conclusion: As a result of conducted studied it could be concluded that the preparation Wobenzym should be in-
inclued in the complex treatment of recurrent obstructive bronchitis as an additional medicine.

Keywords: Bronchitis, IgE research

PP-419
Nutritional status of Russian schoolchildren
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The increase of overweight and obesity in children is a serious public health problem in Europe but it is not just the same in Russia because of the increase of underweight children and adolescent. Moreover, neither all the children with overweight have clinical symptoms of obesity nor in every case of underweight malnutrition can be diagnosed.

To assess nutritional status in Russian schoolchildren and compare nutritional status features with some characteristic of there development, health and life style. Design: We have examined 290 boys and 330 girls from 12 to 14 years of age. Anthropometric measures included height, weight, arm, hip, waist circumferences and biceps, triceps, subscapular, suprailliac and hip skinfold thickness. Body mass index (BMI) was also calculated. To assess total body fat and body fat-free mass we used leg-to-leg contact-electrode BIA system (TBF 662, Tanita Corp., Japan). All the measures were made according to the ELSPAC study design.

Results: High correlations were observed between fat-free mass and height (r = 0.82, P < 0.001), total body fat and BMI (r = 0.86, P < 0.001), hip circumference (r = 0.80, P < 0.001) and skinfold thickness sum (r = 0.76, P < 0.001). It was revealed that underweight children could have as low as normal total body fat and skinfold thickness sum. Some overweight children had high but some normal fat level. Conversely, children with normal weight were as “underfat” as “overfat”. So six nutritional groups were formed and some specific features were determined for every group.

Keywords: Children, nutritional status, overweight, underweight

PP-420
NRP (Neonatal Resuscitation Program) experience in Syria
D Draw

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NRP (Neonatal Resuscitation Program): The NRP basis was formed in 1987 in collaboration of American Heart Association (AHA) & American Academy of Pediatrics (AAP). Since that time the NRP has grown into an international educational program, with revised Edetions & guidelines. In my country Syria the program was started last year with a hesitant shy steps, now the program is becoming more power as being obliged in the University, as part of the teaching program for the residents of pediatrics, Oby-Gyn, midwifes & nurses. In my presentation (if I had the chance) I will present our statistics, and our experience in that field.

PP-421
Ambulatory short-course high-dose oral amoxicillin for treatment of severe pneumonia in children: a randomised equivalency trial
T Hazir

Children Hospital, Pakistan Institute of Medical Sciences, Islamabad, Pakistan

Background and aim: WHO case management guidelines for severe pneumonia involve referral to hospital for treatment with parenteral antibiotics. If equally as effective as parenteral treatment, home-based oral antibiotic treatment could reduce referral, admission, and treatment costs. Our aim was to determine whether home treatment with high-dose oral amoxicillin and inpatient treatment with parenteral ampicillin were equivalent for the treatment of severe pneumonia in children.

Methods: This randomised, open-label equivalency trial was done at seven study sites in Pakistan. 2037 children aged 3–59 months with severe pneumonia were randomly allocated to either initial hospitalisation and parenteral ampicillin (100 mg/kg per day in four doses) for 48 h, followed by 3 days of oral amoxicillin (80–90 mg/kg per day; n = 1012) or to home-based treatment for 5 days with oral amoxicillin (80–90 mg/kg per day in two doses; n = 1025). Follow-up assessments were done at 1, 3, 6, and 14 days after enrolment. The primary outcome was treatment failure (clinical deterioration) by day 6. Analyses were done per protocol and by intention to treat. This trial is registered, ISRCTN95821329.

Results: In the per-protocol population, 36 individuals were excluded from the hospitalised group and 37 from the ambulatory group, mainly because of protocol violations or loss to follow-up. There were 87 (86%) treatment failures in the hospitalised group and 77 (75%) in the ambulatory group (risk difference 11%; 95% CI: 13–35) by day 6. Five (02%) children died within 14 days of enrolment, one in the ambulatory group and four in the hospitalised group. In each case, treatment failure was declared before death and the antibiotic had been changed. None of the deaths were considered to be associated with treatment allocation; there were no serious adverse events reported in the trial.

Conclusion: Home treatment with high-dose oral amoxicillin is equivalent to currently recommended hos-
Gentamicin dosing in neonatology - a series of audits evaluating current guidelines

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Background and aim: Gentamicin is one of the most commonly used drugs used in neonatal wards around the world and is very effective in the treatment of neonatal sepsis. However, elevated levels of gentamicin over 2 mg/L can lead to nephrotoxicity and ototoxicity. This is detrimental to both a child’s health and development so an audit was designed analysing current dosing protocols to ensure best possible practice.

Methods: Three audits have been conducted over a period of 3 years looking at separate UK dosing protocols as suggested by the Northern Neonatal Network, Medicines for Children and the Children’s BNF. Trough results were gathered from a set time period during each protocol along with appropriate clinical information regarding the patient and then analysed. Neonates with troughs greater than 2mg/L were considered toxic level <0.5mg/L being sub therapeutic.

Results: Our initial audit in 2005 of the Northern Neonatal Network protocol showed 32.5% neonates were above this toxic threshold and 7.5% were receiving sub therapeutic doses. In 2007 the Medicines for Children protocol was audited showing a fall in neonatal toxicity to 8.3% and sub therapeutic levels to 0%. Clinical data is currently being collected on the Children’s BNF protocol and will be available at presentation although initial results show 10% toxicity and 0% sub therapeutic troughs.

Conclusions: This series of audits highlights the diversity of opinion on dosing regimes and the drastic potential for improvement. Even 8.3% toxicity rates is far from ideal considering the impact oto and nephrotoxicity can have on development. We are currently working on devising a single protocol for Northern Ireland and hope to lower this toxic range even further. This audit also highlights the need for pharmaceutical companies invest further in neonatal and child research prior to ensure best possible efficacy of medications at minimal risk to the patient.

Keywords: Gentamicin, Audit, Neonatal, Ototoxicity, Nephrotoxicity

Neutrophil elastase in children with chronic lung diseases

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Background and aim: Cystic fibrosis (CF) is a hereditary disease and characterized by chronic purulent bronchitis. Several studies show the role of neutrophil elastase (NE), released by neutrophils, in the pathogenesis of CF. Excessive accumulation of NE results in damage of lung structure and function. This study sought to determine the level of NE accumulation in children with chronic lung diseases.

Methods: Fifty-one children (1–17 of age) were enrolled: 21 with stable CF and 30 with congenital malformations of bronchi (CMB). The NE content was determined by testing the blood enriched by neutrofils. Zinc (Zn) content in plasma was tested by spectral photometer. The study of lung function was done for children over 5 years of age.

Results: The content of NE in CF group has proved to be lower than in CMB: 401.8 ± 110.5 and 782 ± 122.2 mkg/L (P < 0.05). The amount of NE is directly related to the level of Zn: r = +0.73 (P < 0.05) in CMB patients, while in CF such correlation is not verifiable. In CF cases the NE content is reversely correlated with the FEV-1 indicator: r = -0.67 (P < 0.05). The lower NE content in CF patients is reflected in the mucus consistency, which is a protein product. Correlation between NE level and FEV-1 in CF patients suggests that this enzyme can be an indicator of lung damage and respiratory tract obstruction. Zn is found in many enzymes, including NE.

Conclusion: It follows, therefore, that adding Zn to the treatment of children with CF might have a beneficial effect on NE function.

Keywords: cystic fibrosis, neutrophil elastase, children, zinc, lung function
Self-reported dietary product intake and hay fever

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Collaborative TEAM OF THE PROJECT, Department of Paediatrics, PHO Ohrid, Tetovo, Veles, Berovo, Delcevo, Pehcevo, R. Macedonia.

Background and aim: Related to the diet hypothesis in allergic diseases, the study was aimed to examine the effect of different dietary products intake on hay fever in early adolescence.

Methods: The self-reported data of 5507 young adolescents aged 12–16 yrs from seven cities in R. Macedonia, obtained through the ISAAC phase three written questionnaires were analysed. The impact of dietary products intake (meat, seafood, milk, eggs, fast food, butter, fruit, vegetables, cereal, pasta, pulses, rice, potato, margarine, nuts) on allergic rhinitis symptoms ever, current rhinitis symptoms, current rhinoconjunctivitis symptoms, interference of rhinitis symptoms with daily activities and ever-diagnosed hay fever by odds ratios (OR, 95% CI) in binary logistic regression was investigated.

Results: Three or more times weekly, compared to occasionally/1–2 times weekly, intake of fast food significantly increased the risk of rhinitis symptoms ever (OR 1.39, 1.20–1.65 P = 0.000), current rhinitis symptoms (OR 1.52, 1.12–1.57 P = 0.001), rhinoconjunctivitis symptoms (OR 1.49, 1.18–1.88 P = 0.001) and their severity (OR 1.40, 1.16–1.67 P = 0.000). The frequent eggs intake was associated with an increased risk of severe rhinoconjunctivitis symptoms (OR 1.26, 1.03–1.56 P = 0.029) while the frequent vegetables intake with a decreased risk of rhinoconjunctivitis symptoms (OR 0.72, 0.56–0.95 P = 0.013) and their severity (OR 0.69, 0.56–0.84 P = 0.000). A significant association between intake of the other investigated dietary products and hay fever and its symptoms was not found.

Conclusion: The results support the proposed aggravating role of the frequent fast food and eggs intake and the protective role of the frequent vegetables intake on hay fever symptoms and their severity.

Keywords: diet hypothesis, hay fever, epidemiology, adolescence

PP-425
Does overweight influence asthma in childhood?

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Aim: As high body mass index is hypothesized to increase the risk of allergic diseases, the study was aimed to examine the impact of overweight on asthma in childhood. Methods: The self-reported data obtained through the ISAAC phase 3 written questionnaires of 1272 children 12/16 years old from Tetovo were analysed in a project conducted in eight cities of R. Macedonia. The influence of overweight adjusted for confounding factors (sex, current diet, duration of TV watching daily, indoor air-pollution, mother's educational level) on wheeze (W) ever, current W, speech-limiting W, exercise-induced W, dry night cough apart from chest infection and ever-diagnosed asthma was investigated. International cut-off points for overweight by age and sex were used. Overweight was determined in 14.9% of the respondents. Odds ratios (OR, 95% CI) in binary logistic regression for statistic analysis of the data were performed.

Results: It was established that overweight was associated with an increased risk of wheeze ever (OR 2.15, 1.26–3.66 P = 0.005), current exercise-induced W (OR 1.92, 1.04–3.52 P = 0.036) and current dry night cough (OR 1.58, 1.01–2.45 P = 0.045).

Conclusion: The results support the overweight hypothesis in asthma regarding some of its symptoms. If obesity, established in 2.2% only, had had a higher prevalence and had been considered maybe it would significantly increase the risk of other asthma symptoms in childhood.

PP-426
The epidemiological indexes of tuberculosis of Borsod-Abauj-Zemplén county (Hungary) in 5 year interval

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Methods: Authors discuss the main demographical indexes of the county, then analyse the incidence of Tuberculosis in 5 years interval (2002–2006), compared with the average incidence of the whole country, which keeps reducing (20.5%ooo)(149 patients). The incidence of Tuberculosis is under 25%ooo for years, but this rate in
population older than 30 years is 26.7% (138 patients). Below 25% the X-Ray clarification is not required, but due to the epidemic situation of our county it is necessary.

Results: From the new explored patients, 53% was certified as Koch positive. 10 patients had extrapulmonary Tuberculosis. The number of administrated patients was 196 (15.5%ooo) in 2006. The number of resistant patients has not risen. In proportion to the last few years the number of clarified patients keep decreasing. From the introduction of BCG vaccination (1953) the morbidity rate in childhood is very low. In this 5-year interval only seven children got Tuberculosis, one of them had extrapulmonary (lymph node) Tuberculosis.

Conclusion: Tuberculosis is still one of the most mortal illnesses all over the world. However the morbidity rate of Tuberculosis keeps decreasing, we have not got this illness over. Borsod-Abad´j-Zemplén county is out on a limb (unemployment, bad social circumstances, alcoholism, etc.) which is understood to correlate the occurrence of this illness, so fight against Tuberculosis is still a prime-important thing we need to bring off.

Keywords: Tuberculosis, epidemiology

PP-427

Allergic diseases and risk factors in rural and urban environment

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Aim: The aim of the study was to examine the influence of urban environment on asthma, hay fever and eczema in childhood.

Methods: The self-reported data obtained through the ISAAC phase 3 written questionnaires by 5507 children aged 12–16 years from seven cities of The Republic of Macedonia were statistically analysed by chi-square test and odds ratios (OR, 95% CI) in binary logistic regression.

Results: Retrospective analysis of 153 charts, 65 (42%) <5 years and 88 (58%) >5 years, indicated an adequate history in 51 (33%) and adequate physical assessment in 57 (37%). In the prospective of 74 children, 32 (43%) <5 years and 42 (56%) >5 years documentation was excellent as regards symptoms, risk factors for acute asthma admissions in 2003. A prospective analysis was then undertaken for patients admitted in 2006–2007. Children >2 years of age were eligible if they presented to the emergency department with symptoms of acute asthma.

Results: Retrospective analysis of 153 charts, 65 (42%) <5 years and 88 (58%) >5 years, indicated an adequate history in 51 (33%) and adequate physical assessment in 57 (37%). In the prospective of 74 children, 32 (43%) <5 years and 42 (56%) >5 years documentation was excellent as regards symptoms, risk factors for acute asthma admissions in 2003. A prospective analysis was then undertaken for patients admitted in 2006–2007. Children >2 years of age were eligible if they presented to the emergency department with symptoms of acute asthma.

Results: From the new explored patients, 53% was certified as Koch positive. 10 patients had extrapulmonary Tuberculosis. The number of administrated patients was 196 (15.5%ooo) in 2006. The number of resistant patients has not risen. In proportion to the last few years the number of clarified patients keep decreasing. From the introduction of BCG vaccination (1953) the morbidity rate in childhood is very low. In this 5-year interval only seven children got Tuberculosis, one of them had extrapulmonary (lymph node) Tuberculosis.

Conclusion: Tuberculosis is still one of the most mortal illnesses all over the world. However the morbidity rate of Tuberculosis keeps decreasing, we have not got this illness over. Borsod-Abad´j-Zemplén county is out on a limb (unemployment, bad social circumstances, alcoholism, etc.) which is understood to correlate the occurrence of this illness, so fight against Tuberculosis is still a prime-important thing we need to bring off.

Keywords: Tuberculosis, epidemiology

PP-428

Improving acute asthma assessment utilizing an evidence based template

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Background and aim: The recognition and treatment of acute asthma attacks is an essential requirement of paediatric senior house officers (SHO’S). The aim is to evaluate the impact of an evidence based structured template on the documentation of acute asthma attacks in the emergency department by paediatric SHO’S.

Methods: A Pub Med search was performed to identify published papers and guidelines pertaining to acute asthma assessment. Eleven papers and three guidelines were identified from which the asthma assessment inventory (AAI) was developed incorporating asthma symptoms (5), triggers, medication use (both preventer and rescue), risk factors for severe attacks (8), physical examination (15), ancillary assessment tools (2). The quality of acute asthma assessment was evaluated initially by a retrospective analysis of all paediatric acute asthma admissions in 2003. A prospective analysis was then undertaken for patients admitted in 2006–2007.

Children >2 years of age were eligible if they presented to the emergency department with symptoms of acute asthma.

Results: Retrospective analysis of 153 charts, 65 (42%) <5 years and 88 (58%) >5 years, indicated an adequate history in 51 (33%) and adequate physical assessment in 57 (37%). In the prospective of 74 children, 32 (43%) <5 years and 42 (56%) >5 years documentation was excellent as regards symptoms, risk factors for acute attacks and physical assessment. Rescue medication use was documented in 55 (75%) and action plan outlined in 25 (33%).

Conclusion: The template facilities improved documentation of acute asthma episodes. It highlighted both parental belief and behaviours where specific intervention were required and deficiencies in evaluating rescue plans by Paediatric SHO’S.

Keywords: acute asthma, evidence based template
PP-429

The frequency of the infections of respiration tract on the structure of children’s morbidity and mortality in the pediatric clinic

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Aim: The purpose of Work was to present the frequency of inspirational tract infections on the structure of morbidity and mortality among our patient.

Methods: The examined were children of all ages, hospitalized in Pediatric Clinic in Prishtina during one year. We used the protocol and the statistical annual of children treated in our clinic.

Results: During the one year, 3947 children were treated in Pediatric Clinic. The most frequent causes of morbidity were the infections of respiration tract at 757 (19.16%) cases. The most dominant among these were cases of Bronchopneumonia 653 (16.5%), then Tonsillopharyngitis 61 (15.4%) and Bronchitis 43 (10.8%) cases. With obstructive syndrome 245 (6.20%) cases. After the infections of respiratory tract comes acute diarrhea syndrome with 678 (17.1%) cases, while the rarest was the Rheumatic Fever with 13 (0.42%) cases. The most often appearances of the infection of the respiratory tract were between October and April in 537 (70.29%) cases among infants and children of preschool age in 650 (79.92%) cases. The most frequent forms of Bronchopneumonia in clinical aspect was recompensed. Concerning the participation of the infections of the respiratory tract the structure of mortality from 757 cases 8 (14.5%) died. In the first place were malignant illness with 10 (18.18%) cases.

Conclusion: The infections of the respiratory tract are still on the first place of morbidity among children while on the second place on their mortality.

Keywords: infections of respiration tract, frequency

PP-430

Growing up with cystic fibrosis

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Aim: To review some basic parameters concerning cystic fibrosis (CF) patients above 18 years of age growing up with the disease.

Methods: The basic data for sex, current age, age at diagnosis of CF, genotype, current nutritional status (body mass index, BMI), respiratory function (forced expiratory volume in one second, FEV1), presence of *P. aeruginosa* in sputum, CF-related diabetes mellitus, CF-related liver disease and other medical complications, as well as, therapy and mortality rate, have been followed among all CF patients from CF Center Sofia older than 18 years.

Results: A total number of 34 CF young adults (14 male and 20 female) have been checked. The current age for living CF males (n = 12) ranges from 18 to 28 years (median and mean age – 21 years). For living CF females (n = 17), the current age ranges from 18 to 52 years (median 24 years, mean 26 years). Among CF males, the disease is diagnosed during infancy in 4, during preschool age – in 6, and in the remaining four – during school and teen age. The mean age of CF diagnosis among CF females is significantly higher (P < 0.05) – almost half of them are diagnosed during school and teen age and three of them – as young adults. Homozygous for F508 are 57.14% of CF males and 25.0% of CF females, 40.0% of CF females are non F508. BMI ≥ 20 have had only 14.28% of CF males and 40.0% of CF females. FEV1 ≥ 80% of the predicted have shown just two CF females, FEV1 < 50% has been found in almost half of the total group. CF-related diabetes mellitus is registered in 4, CF-related liver disease – in 7.

Conclusion: A national CF register is necessary for complete epidemiologic and demographic data of CF in Bulgaria.

Keywords: cystic fibrosis, respiratory function, BMI, complications

PP-431

Importance of *Mycoplasma pneumoniae* and *Chlamydia pneumoniae* infections in children with asthma

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Aim: In order to evaluate the role of *Mycoplasma pneumoniae* and *Chlamydia pneumoniae* in asthma.

Methods: Sixty eight children aged 4 – 15 years with asthma and 42 age-matched healthy children were studied. Sera for the determination of specific antibody levels by amplified enzyme immunoassay were obtained on admission and after 6 months after treatment. All children with asthma received a standard therapy accordingly asthma heaviness.

Results: *Mycoplasma pneumoniae* and *Chlamydia pneumoniae* infections were detected significantly more often in children with asthma – 38 (55.7%) from 68 patients, than in control – 15 (35.7%) from 42 healthy children (P<0.05). In asthma patients serological markers of *Mycoplasma pneumoniae* infections predominated. Twenty from 38 infected patients with asthma were treated with clarithromycin 15 mg/kg body weight per day for 2008 Foundation Acta Pædiatrica /Acta Pædiatrica 2008, 97 (Suppl. 459), pp. 1–259
14 days (Group 1). In 18 from 38 infected patients with asthma antibiotic therapy not used (Group 2). During the 6-month follow-up period, among Group 1 patients significantly decrease of new wheezing episodes was registered. So percentage predictive mean FEV1% were much higher in Group 1, then Group 2 (86.3±0.87% and 74.2 ± 23.9% respectively (P < 0.001) (Fig.).

Conclusion: Results of our investigation show that clarithromycin-treatment of pediatric patients with asthma, infected Mycoplasma pneumoniae and Chlamydia pneumoniae, appears to be associated with clinical improvement.

Keywords: Mycoplasma pneumoniae, Chlamydia pneumoniae, asthma

FEV1% values in asthma Group 1 and Group 2 patients

PP-432

A rare cause of lower respiratory tract obstruction in infancy: endobronchial hemangioma

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A 3-month-old baby boy admitted to hospital with sudden onset of respiratory distress and dyspnea. He had pneumonia two times before and chest x-ray revealed hyperinflation in the left lung. Multislice computed tomography (CT) was requested with the suspicion of intrabronchial foreign body and resulted as an endobronchial lesion partially obliterating the lumen of the left main bronchus. For the retrieval of foreign body rigid bronchoscopy was performed, but the left main stem bronchus lumen was found to be narrow with a soft tissue like mass. No foreign body was identified and the bronchoscopic findings were uncertain. During the bronchoscopy a left pneumothorax developed and a left chest drain was inserted. Although the patient was clinically stabilized, the left lung did not expand radiologically. Urgent left posterolateral thoracotomy was performed. The anterior surface of the left main stem bronchus was incised and a soft tissue mass adherent to the bronchial lumen was identified. A left main bronchus sleeve resection with end-to-end anastomosis was performed without reduction of lung parenchyma. The pathologic diagnosis was endobronchial capillary hemangioma. Postoperative course was uneventfull and the patient was discharged from the hospital on the 10th postoperative day. Intrabronchial tumors are among the rarest pathologies for lower respiratory tract obstructions in early childhood. Hemangiomas are rarely seen and meticulous effort must be given to diagnose these pathologies. Multislice CT enabled multiplanar high resolution images for the detection of small sized endobronchial lesions and surgery is a successful option for the treatment.

Figure 1

Figure 2
A case of spontaneous hemothorax in a 14 year old boy with hereditary multiple exostoses (HME) is presented. The patient was admitted to the hospital with a 10 day history of cough without fever and a right-sided pleuritic chest pain. There was no history of recent trauma. He had a previous history of excisions of histologically confirmed cartilaginous exostoses. His father also had a history of multiple exostoses. Chest radiography showed right pleural effusion. Thoracocentesis was performed and 500 mL of noncoagulated bloody fluid was removed. No tumour cells were present. Gram stain of the fluid sediment showed no microorganisms, and cultures were negative for bacteria and fungi. Clotting studies produced normal results. Although the exostoses of the 8th and 9th right ribs were not evident on the chest radiograph, 3D-thoracic computed tomography (CT) scan showed not only these exostoses, but also a third one in the 3rd left rib and the penetrative injury to the pleura, the diaphragm and the right lobe of the liver. Surgery was necessary to establish the diagnosis and to prevent further problems in the future. During the operation all the intrathoracic exostoses were resected and the diaphragm was corrected. In the postoperative period, the patient recovered completely and was discharged 7 days after the operation. HME is an autosomal dominant condition, characterized by multiple exostoses, usually seen in the long bones. There are a few reported complications, including popliteal aneurysm, hemarthrosis, central or peripheral nerve compression, and urinary obstruction. Hemothorax is a rare complication and has only been described in a few cases in the English literature. The aetiological mechanisms proposed are the shearing of the pleura or diaphragm by the relatively sharp margins of the intrathoracic exostosis or by nontraumatic rupture of markedly dilated pleural vessels, as a result of long-standing friction between the exostosis and the pleura. All patients with spontaneous hemothorax secondary to HME, were younger than 25 years of age. Hereditary multiple exostosis should be considered in cases of nontraumatic hemothorax, without coagulopathy, especially in young patients.

Keywords: Hemothorax, multiple exostosis thoracocentesis, computed tomography, dilated pleural vessels

Cystic fibrosis gene mutation's influence on the evolution of the disease in children

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Aim: To evaluate the interaction of cystic fibrosis (CF) F508 gene mutation with clinic peculiarity and evolution of the disease in children.

Methods: In this study 32 children with CF were included, ages 2–18 years old. Genetic examination was performed by and dentification with PCR method of five mutations of CFTR gene: F508, R334W, G551D, R553X, R374R. CF gene mutation was confirmed in 21 children (65.6%), F508 mutation was revealed in 19 cases (59.3%), 6 of them being heterozygote and 11 homozygote. Other mutation was identified episodic in two children (R334W, G551D). Clinical diagnosis was confirmed by pulmonary investigations (chest radiology, scintigraphy, spirometry, spiral CT), nutritional state and digestive disturbances evaluation.

Results: Bronchopulmonary disorders in CF children with F508 mutation were presented by bronchiectasis (8 children), diffuse pulmonary fibrosis (9 children), focal fibrosis (5 cases) and chronic bronchitis (10 cases). The disease has been evaluating with severe (9 children) and moderate (2) respiratory insufficiency. In some cases (5) CF was complicated with cardiovascular disorders (pulmonary hypertension and pulmonary heart). All the children with CF F508 mutation have been presenting severe nutritional and growth and development disturbances.

Conclusion: F508 mutation is dominating in gene diversity in children with cystic fibrosis in Moldova and determines a complicated evolution of pulmonary disorders with severe disturbances of growth and development.

Keywords: cystic fibrosis, gene mutation, pulmonary bronchiectasis, fibrosis

Respiratory manifestations in children with gastro-esophageal reflux disease

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Aim: To study the interactions of respiratory symptoms and gastro-esophageal reflux disease (GERD) manifestations in children.

Methods: The study group includes 16 children (3–15 years) with associated GERD symptoms and recurrent respiratory diseases. GERD was suspected by diseases history, suggestive clinical signs and confirmed by eso-
A case of a 16-year-old boy with a chronic suppurative lung disease since age of 3 years that resolved recently after introducing a gluten-free diet

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Chronic suppurative lung disease (CSLD) can be caused by many different conditions like cystic fibrosis, ciliary dyskinesia, immunological disorders, structural abnormalities of airways, recurrent aspiration of stomach content and many others. However the available literature doesn’t list a gluten intolerance as a possible cause of CSLD, neither the CSLD is described as a possible symptom of coeliac disease. We are presenting a case of a 16-year-old boy with a history of chronic suppurative lung disease starting at age of 3 years. He was suffering of a severe, productive cough that didn’t respond to any treatment. He underwent extensive investigations for numerous possible causes of his condition as: sweat test, cystic fibrosis genotyping, nasal brushings for ciliary dyskinesia, neutrophil function test, baseline antibody responses, immunoglobulin levels, T+ B-cell lymphocyte population, flexible fibre optic bronchoscopy, bronchoalveolar lavage, lung perfusion scan, Mantoux test, Mycoplasma pneumoniae antigen. The only abnormality detected was some eosinophilia in bronchoalveolar lavage. All other tests were normal. He was treated with countless number of antibiotic courses, inhalers (steroids, bronchodilators) and nebulisations (including nebulised antibiotics) – all without any improvement of his condition. Because of suspicion that a gastroesophageal reflux and chronic aspiration may be responsible for his symptoms he underwent a fundoplication. This procedure didn’t improve his condition. However during one of reviews by gastroenterologist our patient was subject to a gastroscopy and a routine panel of blood tests that is used in gastroenterology department. Blood screen test for coeliac disease was strongly positive (tissue transglutaminase IgA) and was entirely consistent with the biopsy results giving the diagnosis of coeliac disease. Interestingly patient has never suffered of any gastrointestinal symptoms and he is a well grown boy (weight along 50th centile, height along 25th centile). After he was started with gluten free diet all his respiratory symptoms resolved and he is off any treatment. There is no other description of such a case in the available literature.

Keywords: suppurative lung disease, coeliac disease, recurrent chest infections, cystic fibrosis, ciliary dyskinesia
diagnosis, two as probable diagnosis. One of our patients who were analysed due to presence of a sibling with FMF without any clinical symptom, was found to be homozygous. Homozygous mutation was also found in two patients with nonspecific symptoms like high fever and intermittent abdominal pain. At the time of diagnosis 3 patients with amyloidosis, one of whom died had M694V mutation signifying poor prognosis.

Table 1: MEFV gene analysis

<table>
<thead>
<tr>
<th>Mutation</th>
<th>n</th>
<th>%</th>
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<tbody>
<tr>
<td>M694V/M694</td>
<td>9</td>
<td>24.3</td>
</tr>
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<td>M694V/NM68</td>
<td>8</td>
<td>21.6</td>
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<td>16.2</td>
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<td>E148Q/N</td>
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<td>2</td>
<td>5.4</td>
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<tr>
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<tr>
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</tbody>
</table>

Conclusion: The distribution of MEFV gene mutation, high consanguinity rate and East and Middle Anatolian ethnicity all coincided with the other studies from our country. Although the clinical features don’t support exact diagnosis, in any case of suspicion, FMF should be genetically analysed in a country with high incidence of FMF like Turkey.

Keywords: familial Mediterranean fever, genetic analysis, Turkey, childhood

PP-439
Lower limb arthritis in 3-year-old

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Poststreptococcal reactive arthritis (PSRA) is a type of arthritis that follows streptococcal infection, and its approach is under discussion.

Case: A 3-year-old boy presented 2 episodes of arthritis in his left ankle with poor response to ibuprofen. Before each episode he presented tonsillitis which was treated with an oral antibiotic. His paediatrician carried out tests between the episodes with negative reactants (ASLO, PCR and RF). The patient came back with a new episode of arthritis with a 24-hour evolution that did not improve with NSAIDs.

Physical Examination: Lameness on left leg. Erythematous oropharynx. Phlegosis on left ankle joint and pain on movement.


Discussion: 3-year-old patient with a proven episode of PSRA that does not meet Jones criteria for Rheumatic Fever. Approximately 6% of these patients develop mitral valve disease, for which some authors recommend antibiotic prophylaxis between 1 and 5 years. The patient received prophylaxis with i.m. penicillin every 21 days.

PP-438
Dermatomyositis: a case with chronic immune thrombocytopenic purpura

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Dermatomyositis is a rare multisystem autoimmune disorder of adults and children that primarily affects skin and skeletal system. Dermatomyositis can occur in association with other connective-tissue including overlapping syndromes with lupus erythematosus, scleroderma, Sjögren’s syndrome, rheumatoid arthritis and mixed connective-tissue disease. A 7-year-old girl who was followed with chronic ITP for 2 years by our clinic, attended with muscle weakness, increasing fatigue, violaceous erythema and oedema of eyelids and skin manifestations (Gottron papules on the metacarpal and proximal interphalangeal joints and knees). In her laboratory findings: AST: 123 IU/L, ALT: 140 IU/L, CPK: 212 IU/L, LDH :548 IU/L, ESR: 40 mm/1 h, 60 mm/2 h, C3: 60 mg/dL, ANA: (+), Anti SSA: (-), Anti SM: (+), Anti SCL70 :(-), Anti DS-DNA :(-). X-rays of chest, elbow and knee joints were normal. She had a characteristic electromyographic and a muscle biopsy changes for dermatomyositis. The patient was given methotrexate 10 mg once a week and prednisolone 16 mg per day in divided doses. Within 1 week after the initiation of treatment, the patient showed remarkable improvement. We report this case because the concurrent development of ITP and dermatomyositis has only rarely been reported in the literature.

Keywords: children, immune thrombocytopenic purpura, dermatomyositis
Arthritis improved slowly, and examination was normal one month after initiating treatment.

Conclusions: In differential diagnosis of lower limb arthritis, PSRA should be considered. Even when it doesn’t meet Jones criteria for RF, cardiological complications are associated in 6% of cases.

Keywords: arthritis, poststreptococcal reactive arthritis

Steroid-induced mediastinal lipomatosis in an adolescent girl with lupus nephritis

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Steroid-induced mediastinal lipomatosis (ML) is a generally benign condition characterized by abnormal fat deposition within the mediastinum. This condition occurs in the patients with spontaneous or iatrogenic Cushing Syndrome and improves with decreasing or discontinuing steroid therapy. The appearance of ML on the chest radiography is a symmetric mediastinal widening which may simulate mediastinal masses leading to misdiagnosis. The definite diagnosis is made by computed tomography (CT) or magnetic resonance (MR) imagining. We present a case with mediastinal lipomatosis who received high doses of steroids for lupus nephritis. A 17-year-old girl with lupus nephritis and chronic renal failure was admitted to the outpatient clinic for routine control. She had been receiving steroids for 4 years in association with other immunosuppressive drugs including cyclophosphamide, azathioprin or mycophenolate mofetil. On admission, she was receiving oral prednisolone at a dose of 40 mg and mycophenolate mofetil 1000 mg per day. On her physical examination, she was pale, moon-faced with buffalo hump. She had pedal edema. Her blood pressure was 150/110 mmHg and the heart rate was 84 per minute. There was a 2/6 systolic murmur localized on the mesocardiac area. Respiratory rate was 20 breaths per minute and chest examination was normal. There was no peripheral lymphadenopathy or organomegaly. The chest radiography revealed a bilateral symmetric widening of the mediastinum. Echocardiography showed pericardial effusion (6 mm) and left ventricular hypertrophy resulting from hypertension. A spiral CT (without contrast-media) scans of the thorax showed diffuse fatty accumulation in the mediastinum and cardiomegaly. There was no nodule or adenopathy detected on CT scan. The patient was diagnosed as ML originating from fatty mass secondary to prolonged use of steroids. The steroid dosage was decreased but not discontinued because of active disease. In conclusion, ML should be in mind in the patients with mediastinal widening who has been receiving steroid therapy. In such patients, the diagnosis should be confirmed by CT or MR and steroid must be decreased or discontinued if possible.

Keywords: mediastinal lipomatosis, steroids, lupus nephritis

Pediatric onset SAPHO syndrome presented with backpain: case report

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There are many causes of backpain in pediatric population. One of the rare causes of backpain is SAPHO SYNDROME. It is an acronym that includes synovitis, acne, pustulosis, hyperostosis, and osteitis. This syndrome emphasizes the association between osteoarticular inflammation and different skin abnormalities which are aseptic and filled with neutrophils.

Case: A 15-year-old girl complaining of backpain and right knee pain was admitted to our hospital. She had completely lost her ability of walking because of severe backpain. Her physical examination revealed swelling and blushing at her right knee joint. Every movement affecting the pelvis and dorsolumbar vertebral column was very painful. There were vesicular crusting lesions on her back and umbilicus. Except an increased ESR (112 mm/h), hematological and biochemical investigations were all normal. CT scans of the pelvis showed subcondral sclerosis and right sacroiliitis. On gallium scintigraphy there were abnormal accumulations in the right patella, left hemithorax on the second costa and dorsal 10th vertebra. Also a collapse of dorsal 10th vertebra was determined on vertebral MRI. Trucut biopsy was done immediately and histopathology revealed nonsuppurative osteitis. Pediatric onset SAPHO syndrome was diagnosed, corticosteroid and methotrexat treatment started. After this specific therapy, clinical symptoms and laboratory findings improved rapidly and she began to walk.

Discussion: Backpain can be an early sign for many serious organic diseases in childhood. Careful examination have to be done by considering malignancies and collagen vascular diseases.

Conclusion: SAPHO syndrome should be considered as a rare cause of backpain in the childhood.

Keywords: synovitis, acne, pustulosis, hyperostosis, osteitis
Cardiac tamponade as a first manifestation of systemic lupus erythematosus in a 3-year-old child

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Cardiac tamponade is rare as an initial manifestation of systemic lupus erythematosus (SLE). A 3-year-old girl first presented with massive pericardial effusion requiring pericardiocentesis and finally, with the following diagnostic work-up got the diagnosis of incomplete SLE. She admitted to Pediatric Emergency Department with the difficult breathing, cough and malaise. She had tachycardia, tachypnea and the jugular venous pulse was raised with an absence of diastolic descent. The breath sounds were decreased at the lower zones of the thorax. She had cardiomegaly with muffled heart sounds. Neck veins were distended. There was hepatomegaly of 3 cm under the right costal arch. On complete blood count, Hb:9.8 g/dL, WBC:11,290/mm³; PLT:467000/mm³; CRP:2.3 mg/dL; ESR:23 mm/h. Chest X ray showed lower mediastinal widening, enlarged cardiac silhouette, bilateral obliteration of the costophrenic and cardiophrenic angles. Echocardiography revealed massive pericardial effusion of 3 cm with features of cardiac tamponade. Pericardiocentesis was performed under echocardiographic guidance with procedural sedation/analgesia and 420 mL of hemorrhagic fluid was aspirated. Biochemical analysis of the pericardial fluid were evaluated as transude. Bacterial and mycobacterial cultures were negative. Tuberculin test was non-reactive. Anti nuclear antibodies were 1/320 homogen and 1/1280 granular. Complement levels, pANCA and rheumatoid factor level were normal. With pericardiocentesis and medical treatment pericardial effusion completely resolved. But on outpatient-clinics follow-ups, elevation of acute phase reactants together with recurrence of pericardial effusion without signs of cardiac tamponade was detected. Hydroxychlorokine was added to treatment and pericardial effusion regressed. With ANA positivity and serositis (pericardial effusion), this patient met diagnosis of incomplete SLE.

A reversible posterior leuкоencephalopathy syndrome in a patient with Henoch-Schönlein purpura

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Reversible posterior leuкоencephalopathy syndrome (RPLS) is characterized by an acute encephalopathy affecting predominantly posterior portions of the cerebral white matter. This syndrome may develop in patients who
have renal insufficiencies, vasculitis, hypertension or immunosuppressions. The most common clinical manifestations are headache, vomiting, altered mental status, seizures, cortical blindness and other visual disturbances, and transient motor deficits. Definite diagnosis of the disease is made by computed tomography (CT) or magnetic resonance imaging (MRI). The disease improves with antihypertensive therapy and discontinuing immunosuppressive drugs. The neurologic deficits and abnormalities of imaging resolve within a few weeks. We present here a case of RPLS associated with Henoch-Schönlein purpura (HSP). A 10-year-old girl diagnosed as HSP presented with complaint of headache and acute blindness. Four days ago, she was discharged with methylprednisolone for gastrointestinal involvement of HSP and nifedipine for high blood pressure. On admission, she was receiving methylprednisolone for 12 days but not nifedipine. Physical examination was normal with the exception of hypertension (140/100 mmHg) and increased deep tendon reflexes in lower extremities. Laboratory investigation was unremarkable. MRI showed abnormal signals in left parietal, temporal, occipital lobe and thalamus with cortical involvement related to cytotoxic edema. The MRI findings were compatible with posterior leukoencephalopathy syndrome. Nifedipine and metoprolol were used to control of hypertension. The dose of methylprednisolone was reduced. Clinical symptoms resolved without neurological sequelae with antihypertensive therapy. The abnormal signals previously seen in the brain disappeared on MRI after 13 days. In conclusion, the syndrome should be promptly recognized and aggressively treated to control of hypertension.

Keywords: Henoch-Schönlein purpura, hypertension, prednisolone, reversible, posterior leukoencephalopathy syndrome

**PP-444**

**A case of systemic juvenile idiopathic arthritis complicated with macrophage activation syndrome**

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Macrophage activation syndrome is a life threatening complication seen predominantly in children with systemic onset juvenile idiopathic arthritis. We described a four years old boy with systemic juvenile idiopathic arthritis who developed MAS.

Case: He was admitted with the complaint of fever, vomiting, weakness and skin eruptions. He was pale and weak, and his axillary temperature was 38.5°C. In chest radiography there was bilaterally paracardiac infiltration. First nonspecific antibiotic therapy was started to the patient. But his fever could not be controlled. Tuberculin skin test was applied and consecutive morning gastric aspirates were taken and they were subjected to smear microscopy and culture for acid-fast bacilli. Patient consulted to pediatric rheumatology, because of persistant fever, skin eruption and high sedimentation rate. The patient was assessed as systemic juvenile idiopathic arthritis. Prednisolone therapy was started with dose of 2 mg/kg/day IV. On the third day of therapy general status of patient got worse and patient became paler. Hepatosplenomegaly was profound. Cervical and submandibular lymph nodes were enlarged. Laboratory findings revealed haemoglobin 6.6 g/dL, white blood cell count 4400/mm³, platelets 25000/mm³, fibrinogen: 95 mg/dL, ferritin 29,000 ng/mL, triglyceride 416 mg/dL, serum aminotranspherase 3578 U/L, serum alanine transpherase 641 U/L, lactic dehydrogenase 12,800 U/L. Supportive treatment was done with transfusions of erithrocyte, thrombocyte suspension and fresh frozen plasma. Bone marrow examination showed hemophagocytic syndrome secondary to systemic idiopathic arthritis. Pulse steroid therapy was administered. On the sixth day of therapy, fever resolved. Cyclosporin was added to oral prednisolone therapy with the dose of 5 mg/kg/day.

Conclusion: Macrophage activation syndrome is a rapidly fatal condition without early diagnosis and institution of therapy. When high fever with pancytopenia and multiorgan dysfunction develop in a patient with systemic juvenile idiopathic arthritis, macrophage activation syndrome should be considered.

**PP-445**

**Dermatomyositis accompanying with hypertension diagnosed in infancy**

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Dermatomyositis (DM) is an inflammatory myopathy with characteristic cutaneous findings. We want to report a DM case in infancy accompanying with hypertension.

Case: A 22 month old girl with swelling in her extremities and irritability was admitted to hospital. She had hypertension, proteinuria and edema in her arms and legs, and she had difficulty in rising from a sitting position, walking. Her past medical and family histories were unremarkable. During physical examination she was irritable, pseudoparalytic, had proximal muscle weakness, her vital signs were normal except blood pressure 120/68 mmHg (>97p). She had malar rash, nonspecific macu-
lopopular rash all over her body and nonpitting edema in her arms and legs. Her laboratory findings were as follows; Hgb: 9.3 g/dL, Plt: 75000/mm³, Wbc: 8000/mm³, ESR: 118 mm/h, SGPT:259 U/L, SGOT:1139 U/L, LDH:907 U/L, GGT:391 U/L, cholesterol:346 mg/dL, triglyceride:716 mg/dL, creatine kinase(CK): 1389 U/L, CK-MB:53 U/L. Her urine analysis showed (+) proteinuria, 24 h urine analysis for proteinuria was normal. Markers for infections and connective tissue diseases were normal. Bone marrow aspiration was normal. As she had proximal muscle weakness, myalgia and heliotrope rash and her muscle enzymes were elevated, EMG was performed and muscle involvement was found. Nailfold changes consisting of periungual telangiectases and cuticular changes support the diagnosis of DM. Methylprednisolone (30 mg/kg/day) was given for 3 days and than methotrexate was started. After the immunsupressive treatment, her clinical and laboratory findings were improved including dramatic normalization of her hypertension.

Result: Dermatomyositis is rarely seen during infancy and is rarely accompanied with hypertension. The aim is always to keep the disease under control to prevent long term problems.

**PP-446**

**A case with Henoch-Schonlein purpura concomitant with MTHFR C677T polymorphism**

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Henoch-Schonlein purpura (HSP) is a leukocytoclastic vasculitic syndrome affecting many organs, mainly skin. The impact of a genetic tendency to hypercoagulability and thrombosis with relation to HSP has been studied recently. A case of HSP carrying MTHFR C677T polymorphism was presented, to pull attention to prothrombotic risk factors and importance of prophylactic therapy. An 8-year-old girl was diagnosed as HSP due to typical presentation 15 days ago and ibuprofen was prescribed. She was referred to our clinic for ongoing skin rash, arthralgia, ecchymosis and swelling developed after a bee bite on left thigh. Complete blood count, acute-phase reactants, urinalysis and blood in stool tests were within normal range. Antibiotherapy was given for superinfected soft tissue. Surgical intervention was not needed. She developed bloody stool on 6th day and methyl prednisolone was added to therapy. She had to be operated on because of acute intestinal invagination. Hyperemia and necrosis were observed next day over venopuncture sites. Tendency to thrombosis was evaluated and d-dimer was found to be increased together with homozygous mutation of MTHFR C677T. She had recurrent abdominal pain but no need of surgery. She was treated successively with vitamin B12, pyridoxine and folic acid. All symptoms regressed with this regimen. The patient is well, and still on follow-up with vitamin replacement. Prothrombotic work-up should be assessed in HSP with severe necrotic skin involvement when a facilitating factor, like local trauma is present. Replacement of vitamin B12, pyridoxine and folic acid is useful if MTHFR C677T homozygote positivity is detected.

**PP-447**

**Delayed diagnosis of Kawasaki disease in a 9-year-old boy with prolonged fever**

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Kawasaki disease (KD) is an acute, sometimes fatal vasculitis of childhood. The illness is manifested by prolonged fever, conjunctival injection, enanthem, exanthem, erythema and swelling of the hands and feet, and cervical adenopathy. These acute features of illness are self-limiting, but coronary artery abnormalities occur in 20% of untreated patients. The illness occurs predominantly in young children; 80% of patients are <5 year, and, only occasionally are teenagers. In this article, a 9-year-old boy who had prolonged fever was reported. Fever persisted during 30 days despite oral and parenteral antibiotic treatment when he admitted to the hospital and KD diagnosed, changes in oral cavity and hyperemia in perianal region were present. On the other hand conjunctivitis, servical lymphadenopathy and desquamation of fingertips have been seen by his mother in different times along the first 2 weeks of fever. Laboratory tests revealed trombocytosis, CRP positivity and no sign of any infectious disease. Echocardiogram was normal. He received IVIG 1 g/kg and acetylsalicylic acid. Fever subsided within 24 h of administration of intravenous immunoglobulin and control echocardiogram was normal. This case was of particular interest because of the late age of onset and different presentation times of clinical features. Early recognition and treatment of Kawasaki disease in a patient has prolonged fever even with incomplete criteria is very important, because delay in diagnosis increases the risk for coronary artery abnormalities.

Keywords: Kawasaki disease, prolonged fever, vasculitis
Immunoglobulin light chain levels have good correlation with classical acute phase reactants in chronic inflammatory disorders

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Background and aim: Patients with chronic inflammatory disorders have been shown to have elevated levels of immunoglobulin (Ig) light chains which correlated with disease activity. In this study, we aimed to assess B cell activity by measuring the amount of Ig kappa (κ) and lambda (λ) light chain levels, and to compare Ig light chain levels with other well-known acute phase reactants (APR); namely, erythrocyte sedimentation rate (ESR), serum amyloid A (SAA) and C-reactive protein (CRP).

Methods: We measured κ and λ chains by nephelometric method in sera of 139 patients (55% girls, 45% boys) with chronic inflammatory diseases. Statistical analyses were performed using Pearson correlation and Mann–Whitney U-test.

Results: Forty-four percent (n = 61) of the patients had juvenile chronic arthritis, 25% (n = 35) had familial Mediterranean fever, 16% (n = 22) had spondylarthropathy, 12% (n = 17) had connective tissue disease and 5% (n = 4) had Behcet’s disease. Serum κ and λ chain levels were correlated with ESR, CRP and SAA in entire study group. According to disease activity: Significant correlation between κ and λ chains and ESR-CRP was obtained in acute stage while in remission they only were with ESR.

Conclusion: Our results show that κ and λ chain levels correlated well with ESR, CRP and SAA. Longitudinal studies involving more patients are required to examine whether Ig light chains have discriminating diagnostic value in different disease groups and superiority to well known APR.

Nd:YAG laser in treatment of congenital vascular anomalies in children

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Background and aim: Conservative therapy has become more popular in treatment of congenital vascular anomalies. In case of superficial tumors using of laser systems is the most effective method. Aim of report is to estimate our experience in treatment of vascular anomalies by Nd:YAG laser at children.

Methods: In 2007, in cardiovascular department of Republic Clinical Hospital 200 patients with congenital vascular anomalies were treated. Mean age was 2 years 9 month. Distribution by nosologies: hemangioma – 92 (46%), multiple hemangioma – 11 (5.5%), venous malformation – 52 (26%), capillary malformation – 45 (22.5%). We used Nd:YAG laser with 1064 nm wave-length and intense pulsed light source (IPL) with 560 nm wave-length. Advantage of Nd:YAG laser is in possibility to affect on vascular malformations at the depth of 1 cm and more without any skin lesions. In 148 (74%) cases treatment was made after standard premedication. In 87 (43.5%) cases there was used local anesthesia with Emla ointment. In 7 (3.5%) cases treatment needed general anesthesia (I/V narcosis). Photothermolysis was applied on all formations without distinction of localization and lesions area. Skin regeneration was stimulated with dexpantenol. In case it was needed, we repeated procedures monthly. For the estimation of treatment results there were used series of digital photographs made before and after the treatment.

Results: Recovery was observed in all cases. Vascular malformations elimination was achieved after single procedure in 138 (69%) cases, double procedures – in 37 (18.5%) cases and 3 and more procedures were required in 25 (14.5%). There was no any complication, related to the use of laser radiation.

Conclusion: According to our experience, use of Nd:YAG laser in treatment of vascular anomalies at children is an effective and safe procedure.

Keywords: laser, children, vascular, hemangioma treatment

Vaccine against influenza

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Background and aim: WHO-world health organization has got many laboratories all over the world observing existing types of influenza viruses. Immunization against influenza is done by inactive vaccine against influenza made of whole viruses or SPLIT vaccine which contains parts of the viruses responsible for immunity. SPLIT vaccine containing parts of the viruses responsible for immunity is used for children of age between 6 months and 8 years. The vaccine is given in two doses in time interval of 30 days, within children who are vaccinated for the first time. Children over 8 years can be vaccinated with whole vaccine or SPLIT vaccine, by giving one dose of the vaccine

Abstract withdrawn.
for adults. Indications for using the vaccine against influenza are chronic patients: chronic lung illnesses, asthma, cardiovascular illnesses, metabolise illnesses (diabetes, kidney disfunctions, cerebral palsy, thyroid gland illnesses). The aim of study is to review the number of vaccinated children against influenza within two pediatricians in 2005, 2006 and 2007.

Methods: By retrospective analysis we determined the number of vaccinated children against influenza. We analyzed sex participation, the number of given doses, diagnosis of children being treated.

Results: In period of 3 years, it has been vaccinated 120 children (3.5%) within two pediatricians with 3400 children registered under their competence. It has been vaccinated 68 (56.6%) children under 8 years and 52 (43.4%) children over 8 years. Vaccines were used for children with following chronic illnesses: asthma 94 (78.3%), diabetes 11(9.1%), cardivascular illnesses nine (7.5%), cerebral palsy four (3.5%), thyroid gland illnesses two (1.7%).

Conclusion: The number of vaccinated children in 2005 is nine (7.5%). in 2006 - 52(43%), in 2007 - 59(49.1%), which means that there is an increasing number of children vaccinated against influenza. All children were in a good condition after being vaccinated. During influenza epidemic two children had high temperature with no other symptoms of illness. The vaccination against influenza is very important and it is necessary to vaccinate more children.

Keywords: Influenza, children

Knowledge about the risk factors for cervical cancer and human papillomavirus vaccine among nursing students

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Human papillomavirus (HPV) infection is one of the most common sexually transmitted disease (STD) worldwide. HPV is a critical risk factor for developing cervical cancer.

Objective: The aim of the study was to evaluate nursing students’ knowledge about risk factors for the development of cervical cancer and the prophylactic HPV vaccine.

Methods: Before the HPV vaccine license approval in our country, the students in Ege University Nursing School were asked to complete a self-administered questionnaire evaluating the knowledge of them regarding STDs, cervical cancer and HPV vaccine.

Results: A total of 400 students filled in the questionnaire. The mean age of the students was 21.5 ± 1.7 years. While 98% of the students defined HIV infection as STD, only 37% of them knew that HPV is one of the STDs. Only 35% of the students knew that HPV is a risk factor for the development of cervical cancer. Only 16% of the students have heard of before the presence of HPV vaccine for the prevention of cervical cancer.

Conclusion: From the data in this study, it can be said that nursing students’ knowledge especially on the association of HPV and cervical cancer is not sufficient and, more information on the STDs should be given to them in the curriculum in order to prepare them better for their future role in the education of public and the prevention of diseases.

Keywords: Human, papillomavirus, vaccine, cervical cancer, nursing students
Asthma exacerbations. After the complex examination and detection of rotavirus antigen by enzyme immunoassay. Among ~59,000 evaluable subjects, the efficacy, measured by rate reduction in HCRU, between doses of RotaTeq® against RGE due to rotavirus strains of serotypes G1-G4, or any serotype, was evaluated using the exact binomial method for ratios of Poisson counts in several post-hoc analyses of REST: i) ≥14 days PD1 up to Dose 2 and ≥14 days PD2 up to Dose 3, ii) ≥14 days PD1 up to Dose 2 and immediately following Dose 2 up to Dose 3; and iii) ≥14 days PD1 through 13 days PD 2 and from ≥14 days PD2 through 13 days PD3. In all analyses, case counting started 14 days PD1 to allow time for an immune response to develop after the first dose.

Results: Shown in Table.

The Efficacy (%) Between Doses of RotaTeq

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Dose 1-Dose 2 (95%CI)</th>
<th>Dose 2-Dose 3 (95%CI)</th>
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<tbody>
<tr>
<td></td>
<td>G1-G4</td>
<td>Any</td>
</tr>
<tr>
<td>A</td>
<td>100(72, 100)</td>
<td>82(39, 97)</td>
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<tr>
<td>B</td>
<td>Same as Analysis A</td>
<td>95(78, 99)</td>
</tr>
<tr>
<td>C</td>
<td>100(87, 100)</td>
<td>88(65, 97)</td>
</tr>
</tbody>
</table>

Conclusions: Post-hoc analyses of REST indicate that RotaTeq® provides consistently high protection against RGE-attributable hospitalizations and ED visits between doses, starting ≥14 days PD1. RotaTeq®’s protection against severe RGE may be particularly beneficial to infants vaccinated during rotavirus epidemic seasons.

PP-454

Efficiency and safety of influenza vaccines in children with bronchial asthma

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Background and aim: The increase of quantity of children suffering bronchial asthma and development of new influenza vaccines led to necessity of evaluation of efficiency and safety of influenza vaccination in these children.

Methods: Seventy children 5–18 year, suffering bronchial asthma applied to the Family vaccination center for the influenza vaccination. All children had often viral respiratory tract infectious in anamnesis, which caused asthma exacerbations. After the complex examination (clinical and biochemical blood tests, urine test, immunossay, determination of cytokine status, spirometry, skin allergy tests, ultrasonic examination of different organs) the basic anti-inflammation therapy was prescribed and after 3 months of therapy the influenza vaccination was held.

Results: The strong local and general side effects were not marked during the postvaccinal period. During 1 week after vaccination no asthma exacerbations were registered. After 3 month of the basic anti-inflammation therapy we revealed the significant decreasing of serum levels of IgE, of cytokerins Il 4 and Il 13, the significant increasing of serum levels of INF γ, IL 10, IL 12 in comparison with initial data. We didn’t reveal any influence of vaccination on the cytokine status. We marked the significant decreasing of the frequency and duration of viral respiratory tract infectious, of asthma exacerbations in more than two times.

Conclusion: The influenza vaccination during bronchial asthma doesn’t stimulate the activation of allergic inflammation in respiratory tract and decreases risk of intercurrent infections of upper and/or low respiratory tract.

PP-455

Medical students’ knowledge about human papillomavirus and cervical cancer

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Background and aim: Human papillomavirus (HPV) infection is one of the most common sexually transmitted disease (STD) worldwide. Among other reasons, HPV is a critical risk factor for developing cervical cancer. The aim of the study was to evaluate medical students’ knowledge about HPV and the other risk factors on the development of cervical cancer.

Methods: The medical students were asked to complete a self-administered questionnaire assessing the knowledge regarding STDs and cervical cancer.

Results: A total of 309 Year 1–2 (Group 1) and Year 5–6 (Group 2) medical students filled in the questionnaire. The mean age of the students was 21 ±2 years. Of them, 52% were male and 48% were female. About 20% of students in Group 1 and 94% of the students in Group 2 knew that HPV is one of the STDs. However, only 45% of the students (28% for Group 1 and 72% for Group 2) knew that HPV is a risk factor in the development of cervical cancer. About 66% of the students have not heard of the presence of HPV vaccine in the prevention of cervical cancer.

Conclusion: From the data obtained in this study, it can be said that medical students’ knowledge especially on the association of HPV and cervical cancer is not sufficient and more information on the STDs should be given to them in the medical education program in order to prepare them better for their future role in the education of public and the prevention of diseases.

Keywords: human, papillomavirus, cervical cancer, medical students
**PP-456**

**Doctors’ knowledge about risk factors for cervical cancer**

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Background and aim: Human papillomavirus (HPV) infection is the most important risk factor for cervical cancer among different risk factors such as smoking, Human immunodeficiency virus (HIV) and Chlamydia infections, long-term oral contraceptive use, poor diet, multiple pregnancies, low socioeconomic status and family history of cervical cancer. The aim of the study was to evaluate doctors’ knowledge about HPV and the other risk factors on the development of cervical cancer.

Methods: Before the HPV vaccine license approval in our country, the doctors were asked to complete a self-administered questionnaire regarding cervical cancer and HPV vaccine.

Results: A total of 188 doctors filled in the questionnaire. The mean age of the doctors was 38 ± 10 years. Of them, 59% were male and 41% were female. Eighty per cent of them were pediatricians. HPV infection, early sexual activity, multiple pregnancies, HIV infection and oral contraceptive use were defined as very important risk factors for cervical cancer by 85%, 73%, 21%, 41% and 13% of the doctors, respectively. About 80% of the doctors had heard of the presence of HPV vaccine in the prevention of cervical cancer.

Conclusion: The data in this study showed that doctors’ knowledge especially on the association of HPV and cervical cancer seems to be satisfactory. However, more information on the development and the prevention of cervical cancer should be given to medical doctors.

Keywords: cervical cancer, human papillomavirus, medical doctors

**PP-457**

**Cost-effectiveness of vaccination with Rotarix™ in Portugal**

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Background and aim: Rotavirus (RV) is a major cause of gastroenteritis (GE) in children under 5-years old worldwide; RVGE is associated with substantial financial burden. We evaluate the cost-effectiveness of vaccination with Rotarix™ (GlaxoSmithKline Biologicals), a 2-dose oral live attenuated human rotavirus vaccine, from the perspective of the Portuguese National Health Service (NHS).

Methods: A published Markov model was used, comparing hypothetical vaccinated and unvaccinated birth cohorts, with Portuguese healthcare and resource use published data. The seasonality of infection and protective effect of breastfeeding were captured. Vaccine efficacy came from Phase IIIb European trial (102247); 37% reimbursement by list price/dose for Rotarix™ was assumed. NHS resource use came from published data at 2006 prices updated to 2008 prices. QALYs were calculated using utility estimates from a UK study of physician scores using the EQ-5D questionnaire. Costs and effects were assessed over lifetime, both discounted at 5%.

Results: The model estimated that at 92% coverage, NHS costs of treating RVGE in a birth cohort of 109,457 infants over a 5-year period were reduced from approx. €2.6M to approx. €421,000 (undiscounted) through reductions of 501 hospitalisations, 199 nosocomial hospital infections, 2,384 emergency visits and 15,716 cases seen by 1st line doctor. From an NHS perspective the net cost/year/subject vaccinated was €1.51. The incremental cost/QALY gained was €25,606. Cost-effectiveness estimates were robust in sensitivity analyses.

Conclusions: Infant vaccination with Rotarix™ is a potentially cost-effective strategy in Portugal, with a favourable cost/QALY, presenting an opportunity to considerably reduce RVGE burden and NHS costs.

**PP-458**

**Acute hemorrhagic edema of infancy due to diphtheria-tetanus-pertussis-inactivated polio-haemophilus influenzae vaccine**

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Acute hemorrhagic edema of infancy is a leukocytoclastic vasculitis of children under 2 years of age. It is clinically characterized by fever, extensive erythematous edema and purpuric lesions mainly on the face and extremities. The etiology is unknown, infections, immunizations, medications may all be involved in the pathogenesis. A 4-month old girl developed extensive edema and ecchymosis after the injection of diphtheria-tetanus-pertussis-inactivated polio-Haemophilus influenzae vaccine. Erythematous edema started from the injection site and rapidly progressed to the opposite leg, lips, eyelids and the upper extremities. Purpuric lesions developed all around the body but mainly on the trunk. Mucosal involvement appeared as subconjunctival hemorrhage. Her laboratory findings were all normal and she was well in general. We followed the baby with no treatment and in 10 days all the skin lesions disappeared spontaneously. Today, she is 12-month old with no health problem and
no adverse reactions occurred with subsequent vaccinations. Diphtheria-tetanus-pertussis-inactivated polio-Haemophilus influenzae vaccine is generally well tolerated and universally used in infants. Erythema, induration, palpable nodules at the injection site are the most common adverse effects. More serious effects like erythema multiforme, bullous pemphigoid, acute transverse myelitis are also reported. To our knowledge, our case is the youngest acute hemorrhagic edema related to immunization in the literature.

PP-459
Influenza and pneumococcal vaccination rates in high risk children are largely dependent from the recommendation of the reference centers

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Background and aim: Subjects with chronic conditions at risk for severe complications of infectious diseases should be actively protected with large spectrum of vaccination. However, there is limited information on immunization rates in this vulnerable population. We investigated the rates of influenza and pneumococcal vaccinations in children with HIV infection (HIV), cystic fibrosis (CF), liver transplantation (LTx) and diabetes mellitus type I (DM).

Patients and methods: This study was conducted in Campania region (Italy) during the period January-June 2007. Physicians of the reference centers, primary care pediatrician and caregivers of high risk children were interviewed. Children aged 2–18 years that were identified throughout the lists of the reference centers with the selected high risk conditions were included. For DM, we obtained the list from the three reference centers exiting in our region.

Results: Influenza vaccination had been administered to 72.5% (29/40) HIV-infected patients, 90% (35/39) CF patients, 76% (45/59) LTx patients and 51% (105/205) subjects with DM (for DM vaccination rate was 21%, 52% and 61%, according to the reference center). Twenty-four percent (8/40) HIV patients, 12.8% (5/39) CF patients, 15.2% (9/59) LTx patients and 3.4% (7/205) DM children had received pneumococcal vaccination. According to the responses by both the parents and the physicians, the reference center rather than the primary care pediatrician had a principal role in advising influenza and pneumococcal vaccinations for patients with HIV, CF, LTx compared to DM. The main reason for not being vaccinated against either vaccination was the lack of specific information.

Conclusions: Influenza and pneumococcal vaccinations rates remain low high risk children. A clear vaccination policy regarding the roles and responsibility of physician involved in the care of children with chronic conditions is needed.

Keywords: vaccination, chronic disease, Influenza, pneumococcus, children

PP-460
Familial vesicoureteral reflux with PAX2/EYA1 gene mutation in a Turkish family

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The genetic basis for primary VUR is unclear. Herein, two affected siblings and their father were described for PAX2 and EYA1 gene mutations. Case1. ESRD due to grade2-3VUR was detected in 10 years girl who admitted with growth retardation. Serum creatitine (3.2 mg/dL), urea(182 mg/dL) were elevated with reduced GFRestimated levels(21 ml/dk/1.73m²). VCUG determined left side grade 2-3 VU [Figure 1]. Her father wanted to be a living donor candidate. In father's examination and tests hypertension and hematuria with left atrophic kidney in the USG were determined, respectively. Case2. The third sister had 2 recurrent UTI attacks was found have grade3 VUR [Figure 3] and renal scarring. All family members were analyzed for PAX2and EYA1 gene mutations. The two sisters with VUR and the father found to be carrying 3UTR604C/G heterozygote mutation in PAX2gene while the mother and the little sister were negative for this mutation. There were no mutation in EYA1gene.

Discussion: Although several genes (GDNF, RET, SLIT2, SPRY1, PAX2, EYA1, AGTR2, UPK1A and UPK3A) and loci (1p13 and 20p13 loci) were reported in multi-generational families it is unclear that which factor is the exact reason for VUR. Herein, two girls with VUR and father with atrophic kidney were found to be carrying same mutation.

Figure 1: Left grade III VUR with ESRD in case 1
This mutation on PAX2 gene had never been reported previously. But PAX2 gene is well-known with the renal-coloboma syndrome for years. It is really necessary to find out the exact VUR genetic pathology to predict the prognosis either with spontaneous resolution or progress to renal damage resulting with hypertension or ESRD recently. PAX2 gene must be analyzed completely in multigenerational families which can be used for genetic counselling in the future.

Keywords: VUR, PAX2 gene mutations, EYA1 gene mutations

PP-461
Diagnostic pitfall. Antireflux surgery or gluten-free diet?
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The authors present the history case of a 10-year-old boy with a short review of literature.

The main clinical signs, as well as pH-metry and endoscopy corresponded to gastro-esophageal reflux disease. His symptoms haven’t been disappeared due to the conventional treatment followed for two and half year, thus we were about to prepare him for surgical intervention.

It was the iron deficiency anaemia persisting after healing of esophagitis, that urged us to perform further examinations. The principal cause turned out to be coeliac disease. Having the diagnosis in hand we could find the appropriate treatment. A considerable improvement was observed in his condition and control examinations due to gluten-ree diet.

This case is a good example for differential diagnostical difficulties and how to avoid the inadequate therapy.

PP-462
Combination of a pathological structure of the osteomeatal complex and an allergic rhinitis in a children’s population
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Allergic rhinitis - a condition recently getting the increasing attention due to rapid growth of its prevalence (from 10 up to 40 percent) among the population, especially in children. Modern strategy of treatment of allergic rhinitises in children includes eliminating therapy, use of topical corticosteroids, local and general prophylactics of the immune system. Combination of an allergic rhinitis and a pathological structure of the osteomeatal complex can cause development of purulent complications in sinuses. Most frequently occurring pathological variants of the structure: - conha bullosa 36 % - the curvature of the nasal partition 21 % - paradoxical bent of the middle nasal concha 20 % - Haller-cells 10 % - cellulae ethmoidales anteriores of a ethmoidal labyrinth filled with air 9 % - the deviation of the uncinate process 4 % Conclusions: Anomalies of the structure of the osteomeatal complex are diagnosed on rhinoscopy, computer tomography of the sinuses, endoscopic researches and rhinomanometry. To patients with a proven anomaly of the internal nasal structures who develop an allergic rhinitis surgical correction is recommended to prevent the development of a chronic pathology of the sinuses.
**A dysmorphic with acrocephaly, seizures, long fingers, and cherry red spots: a new association**

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A dysmorphic 10 month old girl with generalized tonic clonic convulsion refractory to valproate, but responded to carbazepine. The mother after 7 pregnancies has only a 14 year old healthy boy and this abnormal girl. The mother experienced intrauterine death of her fetus during one of her pregnancies, 2 of her children who were not dysmorphic but have only ambiguous genitalia died from septicemia during early infancy (congenital adrenal hyperplasia ?). Two children, a girl and boy were similar in appearance to this girl died from recurrent seizures that didn’t respond to sodium valproate during the first year of life. The present girl was born at by term by normal vaginal delivery and was considered to be of average weight. The pregnancy history was negative. The girl has acrocephaly with flat occiput and has epicanthic fold, bilateral mild convergent squint, long spindle fingers, and delayed dentition All of her growth parameters were just below the third centiles for age and sex. The rest of the examination was normal. Fundoscopy examination showed bilateral macular cherry red spots.Cetavlon test for mucopolysachridosis was negative. Abdominal sonography and brain CT scan was normal. Chromosome analysis was normal. Serum and urine chromatography showed no abnormal amino acids. The parents were relatives; the mother was a 35 year –old .

The patient may have a new clinical association or clinical syndrome consisting of acrocephaly, flat occiput, epicanthic fold, cherry red spots. Seizures and long spindle fingers. These features occurred in familial pattern suggesting autosomal recessive inheritance.

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**BCG VACCINE COMPLICATIONS IN INFANTS**

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Introduction: Every newborn if not vital danger immediately after birth at hospital receives a BCG vaccine. Complication of the BCG vaccine is a rare occurence. It is Important that the typical place of application be completely healthy.

Method: Descriptive

Results: We shall describe a case of complications after BCG vaccination in a female child. Female child H. A. born 2007. Second child from second normal pregnancy, birth on time, natural. At birth body weight 4150g; body length 43 cm; as 9. haemangioma regio deltoidei l. sim. The child was given BCG vaccine on the second day after birth at the typical place in the close proximity of haemangioma. Family anamnesis is importance for the stated problem. At the age of two months, the child is crying, using the left arm sparingly, which is warm, swollen, and there is puss in the area around the formed BCG scar tissue, parent bring the child to the pediater (advisory). The child was sent for a consultive check up at the pulmologist and than hospitalised at the pediatric university unity in Belgrade, at the plastic surgery unity. The child was treated conservatively and released under the advice to be bandaged using the bandages. Haemangioma regio deltoidea l. sim. SA post vaccination BCG. Control check up was scheduled in two months. The child is still under observation.

Conclusion: Before administering the BCG vaccine to an infant thoroughly check the newborn and apply the vaccine to a safe place on the body.

Keywords: Haemangon BCH vaccine ulceracion