A sporadic case of visceral leishmaniasis
from Kocaeli, Turkey

Case report

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Visceral and cutaneous leishmaniasis are endemic in the western and southeastern parts of Turkey. We report a sporadic case of visceral leishmaniasis from Kocaeli, which is not an endemic area. The patient, a 10-month-old male infant, had since birth never been outside the city. He was referred to our hospital with a one-month history of fever. Antibiotics were administered but fever persisted. There were Leishman bodies in the bone marrow aspirate, both in macrophages and in clusters among other cells. Immunofluorescence antibody test (IFAT) detected no antibodies in the mother. Liposomal amphotericin B was administered. Visceral leishmaniasis should be considered in the differential diagnosis of patients with persistent fever, hepatosplenomegaly and cytopenia, even in nonendemic areas.

Key words: Visceral leishmaniasis; pancytopenia.

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CLINICAL HISTORY

Visceral leishmaniasis (VL), known as kala-azar, is a chronic disease caused by species of Leishmania, which is an intracellular parasite (1).

A 10-month-old male infant was referred to our hospital with a one-month history of fever. He was born in Kocaeli and since birth has never been outside the city. There was no history of transfusion, hospitalization, or contact with a sick person. Antibiotics were administered during this period, but fever persisted.

On physical examination, he was pale and had a rectal temperature of 39.1°C. Liver and spleen were palpated 3 and 4 cm below the costal margin, respectively. Blood counts were as follows: WBC: 2,790/mm³, ANC: 142/mm³, Hb: 5.8 g/dL, MCV: 58.3 fL, and platelets (PLT): 58,000/mm³. On peripheral smear, red blood cells were hypochromic microcytic, and there were 75% lymphocytes, 25% neutrophils, and very few platelets. ESR was 26 mm/h and CRP was positive. Aspartate aminotransferase (AST) was 79 IU/L and alanine aminotransferase (ALT) 81 IU/L. The results of other biochemical and urinary tests, and chest radiography were within normal range. Abdominal USG confirmed hepatosplenomegaly.

The patient was hospitalized and cefepime 150 mg/kg day was started after blood, urine and throat cultures were obtained. Blood culture was positive for methicillin-sensitive coagulase-negative staphylococci after 2 days’ incubation. Cefepime was substituted with ampic-
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Fig. 1. Giemsa staining of bone marrow aspiration. There are *Leishmania* amastigotes in macrophages and among other cells.

Ampicillin/sulbactam 150 mg/kg/day on the third day. Ampicillin/sulbactam was stopped on day 5 because control blood cultures were negative. Giemsa staining of bone marrow aspiration revealed hypercellularity. Erythroid, myeloid precursors and megakaryocytes showed normal maturation. There were *Leishmania* amastigotes in macrophages and among other cells (Fig. 1). Liposomal amphotericin B (L-AmB) 3 mg/kg/day on days 1–5 and 10 (total dose 18 mg/kg) was administered intravenously.

On the fourth day of therapy, fever subsided, and on the 10th day, blood counts were WBC: 7,030/mm³, ANC: 1,830/mm³, Hb: 8.8 g/dL, and PLT: 41,800/mm³. On the 20th day, PLT were 130,000/mm³ and liver transaminases were within normal limits (AST: 43 IU/L, ALT: 34 IU/L). There were no *Leishmania* amastigotes on control bone marrow aspiration at the end of the second week after the last dose of L-AmB. On the 30th day of therapy, no hepatosplenomegaly was palpated.

**DISCUSSION**

Sporadic VL cases have been reported from northeastern and Central Anatolia regions in Turkey (2–5). Kocaeli is a non-endemic area in the northwestern part of Turkey. Our patient is the first recorded VL case in Kocaeli.

The source of infection was not clear. Vertical transmission of VL from an asymptomatic mother has been reported (6). However, immunofluorescence antibody test (IFAT) detected no antibodies in the mother. During 2-year follow-up there was no sickness in the family and there were no other admissions to the Departments of Pediatrics, Dermatology, Internal Medicine or Infectious Diseases at Kocaeli University Hospital.

Dogs are a known source of VL (7). At disease onset the family lived near a farm where street dogs are isolated. The farm later moved to a different part of the city. But we suggest that infection or disease in the dogs has been overlooked and no serologic survey could be performed.

L-AmB provides the benefits of short-term hospital stay, lack of side effects, and no known resistance. Previous clinical experience supports the use of L-AmB for the treatment of children and adults with VL (7–9). Davidson et al. (9) suggested that total L-AmB doses of 18–24 mg/kg, given as ≥5 doses during a 10-day period, would be optimal for the treatment of Mediterranean VL. Our case was treated with six doses of L-AmB (3 mg/kg/day).

VL should be considered in the differential diagnosis of patients with persistent fever, hepatosplenomegaly and cytopenia even in non-endemic areas.

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