Catheter-Related Fungemia Caused by *Saccharomyces cerevisiae* in a Newborn

To the Editors:

Catheter-related bloodstream infections are most commonly caused by coagulase-negative staphylococci, *Staphylococcus aureus*, aerobic Gram-negative bacilli and *Candida albicans*. Infections caused by new or unusual agents have increased worldwide. *Saccharomyces cerevisiae* is considered a nonpathogenic yeast, but it can cause invasive infections in immunocompromised patients who had central venous catheters. We report catheter-related fungemia caused by *S. cerevisiae* in a newborn despite amphotericin B therapy.

A term female baby was admitted to the pediatric surgery department with the presumptive diagnosis of esophageal atresia. On postnatal day 2, esophageal atresia and distal tracheoesophageal fistula were detected, the fistula was closed and end-to-end esophageal anastomosis was performed. On the follow-up, *Klebsiella* spp. septicemia developed and ciprofloxacin was started. On hospitalization day 32, because the general condition of the patient worsened and clinical findings of sepsis appeared, vancomycin and amphotericin B were added to the treatment. This led to a rapid alleviation of clinical and laboratory signs. Reopening of the fistula was detected on the 35th day of hospitalization. Gastrostomy and Nissen fundoplication for reflux were performed on the following day. Because of the difficulties in establishing venous access, an umbilical venous catheter (CVC) was placed. Ten days later, she developed fever with a venous catheter. The CVC tip culture was positive for *S. cerevisiae*. After removal of the umbilical venous catheter, all subsequent blood cultures were negative, and symptoms resolved promptly. Amphotericin B treatment was continued for 3 weeks.

*Saccharomyces boulardii* is a strain of *S. cerevisiae* used as a biotherapeutic agent to prevent antibiotic-induced diarrhea. Recently several reports of *S. cerevisiae* fungemia associated with the use of *S. boulardii* have been published. In addition, fungemia by *S. cerevisiae* can occur in patients who are not treated with a probiotic preparation of this organism or who share a room with treated patients. Hennequin et al have demonstrated that, after a package of probiotic agent is opened, viable cells persist on room surfaces after 2 hours at a 1-m distance and may persist on the bare hands of operators even after vigorous hand washing. There was no history of *S. boulardii* use in our patient, but *S. boulardii* was given to a patient who shared the same room with our patient. The *S. boulardii* infection in our case may be caused by dissemination of *S. boulardii* to the hands when the package is opened, followed by direct contamination of venous catheters with this yeast as suggested by Hennequin et al. The role of CVC in the pathogenesis of the infection has been demonstrated by CVC tip culture.

Optimal management of *S. cerevisiae* infections includes drainage of identified foci, administration of antifungal agents and removal of infected foreign bodies, especially indwelling venous catheters. Catheter withdrawal is more important for patients such as our case. Cesaro et al reported *Saccharomyces* fungemia in an 8-month-old infant with acute myeloid leukemia during intensive chemotherapy and prophylaxis with *S. boulardii* capsule. Although that patient received antifungal prophylaxis with fluconazole, *S. cerevisiae* grew in blood culture and the patient recovered with amphotericin B treatment and removal of the central venous catheter. In our patient likewise, amphotericin B could not prevent development of *Saccharomyces* fungemia, which ended with the removal of the umbilical catheter. In the medical literature, there is no report of a *Saccharomyces* fungemia in a person receiving amphotericin B.

In conclusion, because contamination of central venous catheter can be the cause of the infection, we recommend that preparations containing *S. boulardii* be prepared wearing gloves and outside the patient’s room. Documented fungemia necessitates the cessation of *S. boulardii* administration, removal of central venous catheters and search for a roommate who is receiving *S. boulardii*.

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LETTERS TO THE EDITORS
Induction of Acute Otitis Media by Human Metapneumovirus

To the Editors:
The human metapneumovirus (HMPV) causes mild to severe respiratory tract infections.¹ One of the suspected clinical symptoms caused or induced by HMPV is acute otitis media (AOM).² Therefore we appreciate the recent article of Suzuki et al³ who documented the presence of HMPV in the middle ear fluids of children with AOM. They detected HMPV RNA in nasopharyngeal samples from 8 patients. The viral RNA was also detected in middle ear fluids of 3 of these patients, prompting the conclusion that HMPV can induce or trigger AOM.

The observations by Suzuki et al³ are confirmed by our recently published short report on even this topic.² Briefly we detected HMPV RNA in the upper respiratory tracts of 14 children with AOM. We concluded that HMPV is more than an innocent bystander in the pathogenesis of AOM in young patients.

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