Candidiasis Guidelines Get 5-Year Update

BY DENISE NAPOLI

Updated guidelines for candidiasis management incorporate significant changes for pediatric patients since the most recent 2004 guidelines, according to a panel of experts convened by the Infectious Diseases Society of America.

"Candidemia is the fourth most common cause of nosocomial bloodstream infections in the United States and in much of the developed world," wrote the authors, led by Dr. Peter G. Pappas, who is with the division of infectious diseases at the University of Alabama at Birmingham.

The lengthy new guidelines address 15 clinical questions dealing with treatment in neonatal patients, neutropenic versus nonneutropenic patients, vulvovaginal candidiasis, central nervous system candidiasis, *Candida*-related osteoarticular infections, and yeast-related cardiovascular system infections, among other topics (Clin. Inf. Dis. 2009;48:503-35).

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According to Dr. Danny Benjamin, a coauthor of the new guidelines and a member of the pediatrics department at Duke University, Durham, N.C., the treatment recommendations for neonatal candidiasis cases have changed significantly since 2004. "The dosing changes are pretty dramatic compared to what is used in adults and what is in some reference texts," he said. For example, the guidelines recommend fluconazole in dosages of 12 mg/kg daily, given intravenously, versus a range of 5-12 mg/kg daily recommended in the 2004 guidelines.

Additionally, he said there is a firm recommendation to treat candidiasis for 3 weeks, based on a significant risk of central nervous disease in these patients. "CNS involvement in the neonate usually manifests as meningoencephalitis and should be assumed to be present in the neonate with candidemia because of the high incidence of this complication," wrote the authors. "Neurologic impairment is common in survivors," they add, which is why Dr. Benjamin also stressed neurodevelopmental follow-up.

Prompt replacement or removal of central catheters in this population also is strongly recommended. "Some want to leave the catheter in [for the duration of treatment]; some want to remove and use peripheral for a few days," said Dr. Benjamin. "The guidelines advocate a middle path of remove or replace. In the replacement strategy, the bedside neonatologist/pediatrician is able to still have central access, but does so with a new catheter."

The guidelines also include an extensive section on pediatric dosing of antifungals, which Dr. Benjamin said is often wrong in reference texts. Data are limited, according to the guidelines, although "there is growing evidence with the echinocandins in children and neonates."

One recent study emphasized the importance of dosing based on body surface, versus weight, for example. And although 2-4 mg/kg daily of micafungin is recommended for children, "neonates may require as much as 10-12 mg/kg daily to achieve therapeutic concentrations," they wrote.

Some additional guidelines include:

- Because fluconazole is rapidly cleared in children, "to achieve comparable drug exposure, the daily fluconazole dose needs to be doubled, from 6 to 12 mg/kg daily, for children of all ages and neonates."
- "Children up to [approximately] 12 years of age require higher doses of voriconazole than do adults to attain similar serum concentrations," the authors wrote. A dosage of 7 mg/kg every 12 hours is recommended to approximate the effects of 4 mg/kg in an adult.

Although the development of the guidelines was directly supported by the IDSA, several of the authors, including Dr. Benjamin, disclosed personal financial ties to pharmaceutical companies. ■