

Abstracts of current literature on epidemiology, diagnosis, and treatment

Series Editor: Jihad Slim, MD

## CASPOFUNGIN AND AMPHOTERICIN B FOR INVASIVE CANDIDIASIS

A double-blind trial compared caspofungin with amphotericin B for the treatment of invasive candidiasis. The study enrolled adult patients with 1 or more positive candida cultures from blood or another, sterile site within the previous 4 days. Patients were stratified according to the presence or absence of neutropenia and the score on the Acute Physiology and Chronic Health Evaluation (APACHE II) ( $\leq 20$  or  $> 20$ ); they were randomly assigned to receive intravenous doses of either caspofungin or amphotericin B. Of 239 patients enrolled in the study, 224 were included in the modified intention-to-treat analysis, which showed that the proportion of patients with a favorable response at the end of therapy was 73.4% in the caspofungin group and 61.7% in the amphotericin B group. After adjustment for neutropenic status and the APACHE II score, the difference in the proportion of patients with a favorable response was 12.7 percentage points ( $P = .09$ ). In the analysis of patients who met prespecified criteria for evaluation, 80.7% of the caspofungin-treated patients and 64.9% of the amphotericin B-treated patients had successful outcomes at the end of therapy (difference, 15.4 percentage points;  $P = .03$ ). Caspofungin was also as effective as amphotericin B in patients with candidemia, with a favorable response in 71.7% and 62.8% of patients, respectively (difference, 10.0 percentage points;  $P = .22$ ). Researchers concluded that caspofungin is as effective as amphotericin B for the treatment of invasive candidiasis and, more specifically, candidemia.

*Mora-Duarte J, Betts R, Rotstein C, et al. Comparison of caspofungin and amphotericin B for invasive candidiasis. N Engl J Med 2002; 347:2020–9.*

## OUTBREAK OF GROUP A STREPTOCOCCAL INFECTION AMONG HEALTH CARE WORKERS

A study investigated the transmission of group A *Streptococcus* species (GAS) from a single source patient to 24 health care workers (HCWs) but not to other patients. The 24 HCWs developed symptomatic pharyngitis 4 days or less after coming into contact with the source patient. Nosocomial transmission occurred no more than 25 hours after exposure, before the institution of outbreak control measures. Of 132 cultures of throat samples obtained from HCWs, 24 (18%) were positive for GAS; 5 cultures of samples obtained from neighboring patients were negative. The DNA pattern of 23 of 24 positive isolates was identical to that of the source patient's isolate. These isolates were M type 1, positive for production of nicotine adenine dinu-

cleotidase, and negative for opacity factor, all of which are reported to have a higher correlation with invasive disease. A questionnaire was developed and distributed to 141 HCWs identified as having been exposed to the source patient or having provided a throat sample for GAS culture. Of the 67 persons who returned their questionnaires, 54 reported having had contact with the index patient; 16 of them were infected, and 38 were not. The most significant factor related to infection was earlier initial exposure. The authors concluded that rapid identification, early treatment, and adherence to infection-control practices can prevent or control outbreaks of GAS infection.

*Kakis A, Gibbs L, Eguia J, et al. An outbreak of group A streptococcal infection among health care workers. Clin Infect Dis 2002;35: 1353–9.*

## OUTBREAK OF VARICELLA DESPITE VACCINATION

Researchers investigated an outbreak of varicella at a day-care center in New Hampshire, where vaccination coverage was 66%, similar to the national average of 68%. Varicella developed in 25 of 88 children (28.4%) between December 1, 2000, to January 11, 2001; 17 cases occurred in vaccinated children, and 8 cases occurred in unvaccinated children at least 12 months of age. The index patient was a healthy, vaccinated, 4-year-old boy who had an onset of rash on December 1, 2000, approximately 3 years after vaccination. Using standard questionnaires, researchers collected information from parents about the children's medical and vaccination history, including exposure to varicella outside the day-care center for children in whom illness involving a rash developed on or after November 1, 2000 (1 month before the onset of the index case). In this outbreak, the effectiveness of the varicella vaccine was 44% against disease of any severity and 86% against moderate and severe disease. An increased risk for vaccine failure was evident among children vaccinated 3 or more years previously. The fact that the index patient was a healthy vaccinated child who infected more than 50% of susceptible classmates indicated that breakthrough infections in vaccinated, healthy persons can be as infectious as varicella in unvaccinated persons.

*Galil K, Lee B, Strine T, et al. Outbreak of varicella at a day-care center despite vaccination. N Engl J Med 2002;347:1909–15.*

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