Question of the Week

What's new in the management of *Clostridium difficile* infections?

Clostridium difficile is responsible for 20%-30% of cases of antibiotic-associated diarrhea, 50%-70% of cases of antibiotic-associated colitis, and >90% of cases of antibiotic-associated pseudomembranous colitis. Though the role of *C. difficile* in causing antibiotic-associated diarrhea has been known for several decades, the clinical and economic consequences of *C. difficile* infection (CDI) has magnified significantly with the spread of a hypervirulent strain in the late 1990s and 2000s. This led to renewed efforts at institutions to prevent the spread of this pathogen through strict infection control measures while SHEA and IDSA released updated guidelines for the management of CDI in the Spring of 2010.[1] However, despite these efforts, treatment of CDI a has been limited due to the lack of new antimicrobial agents that can effectively target this pathogen.

One of the greatest challenges in the management of CDI is preventing disease recurrence. Approximately 20%-30% of patients with CDI will have a recurrent episode. Newer agents may have the potential for sustained clinical response in these patients. In May 2011, fidaxomicin became the first new antimicrobial approved by the FDA in nearly 30 years indicated to treat CDI. In phase III clinical trials versus vancomycin, fidaxomicin was shown to be non-inferior in clinical response rate after 10 days of treatment. However, fidaxomicn showed superior sustained clinical response, defined as a clinical response maintained without proven or suspected recurrence through 25 days beyond the end of treatment. In a sub-group analysis recently released, treatment with fidaxomicin resulted in significantly better clinical response compared to vancomycin in patients receiving concomitant antimicrobial therapy for concurrent infections.[2] Treatment with fidaxomicin also resulted in significantly fewer recurrences compared to vancomycin.

Several other antimicrobial agents are currently under development that may offer potential benefits for the treatment of CDI with sustained clinical response. It will be critical for clinicians to keep apprised of the latest developments in order to offer patients an effective option when managing these deadly infections.

1. Cohen SH, Gerding DN, Johnson S, et al. Clinical practice guidelines for Clostridium difficile infections in adults: 2010 update by the Society for Healthcare Epidemiology of Amercia (SHAE) and the Infectious Diseases Society of America (IDSA). *Infect Control Hosp Epidemiol*. 2010;31:431-455. Click here for full text.

2. Mullane KM, Miller MA, Weiss K, et al. Efficacy of fidaxomicin versus vancomycin as therapy for Clostridium difficile infection in individuals taking concomitant antibiotics for other concurrent infections. *Clin Infect Dis*. 2011;53:440-447. Click here for full text.