

Doctors identify patients at high risk of *C. difficile*

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Doctors have developed and validated a clinical prediction rule for recurrent *Clostridium difficile* (*C. difficile*) infection that was simple, reliable and accurate, and can be used to identify high-risk patients most likely to benefit from measures to prevent recurrence. Their findings appear in a new study in *Gastroenterology*, the official journal of the American Gastroenterological Association (AGA) Institute.

"This rule is valuable in clinical practice as it defines a high-risk population in whom awareness of the risk can facilitate more prompt recognition, diagnosis and treatment of recurrent *C. difficile*," said Ciaran P. Kelly, MD, of Beth Israel Deaconess Medical Center (BIDMC), Harvard Medical School and lead author of the study. "These patients are also most likely to benefit from interventions to prevent recurrence, such as infection control precautions, prudent use of [antibiotics](#), prolongation of metronidazole or [vancomycin](#) therapy, and use of probiotics or other prophylactic measures."

The prevention of recurrent *C. difficile* is a substantial therapeutic challenge. This disorder has become the leading known cause of hospital-acquired infectious diarrhea in the developed world. Despite advances in knowledge of the pathogenesis of *C. difficile*, the organism continues to afflict millions of patients every year and is associated with increasing morbidity and death.

At BIDMC between January and May 1998, a research team prospectively studied 63 hospitalized patients with *C. difficile* and used

the data to develop a clinical prediction rule for recurrent *C. difficile* (derivation cohort). In the current study, an independent cohort of patients was investigated under a protocol almost identical to that used in the previous study. All adult patients with *C. difficile* hospitalized at BIDMC between December 2004 and May 2006 were eligible for study entry. Data from this second cohort were used to evaluate the performance of the prediction rule (validation cohort).

A clinical prediction rule is used by clinicians to identify symptoms or diagnoses that can best predict a patient's chance for disease or a negative clinical outcome. Researchers used a combination of age >65 years, Horn's index severe or fulminant, and additional antibiotic use, which accurately predicted patients most likely to suffer recurrence. The clinical rule accurately identified groups of patients with increasing probability of recurrent *C. difficile* with 77.3 percent diagnostic accuracy.

"Approximately 20 percent of individuals experience *C. difficile* recurrence despite successful treatment of the initial episode, and the risk may be as high as 65 percent for those with a prior history," added Dr. Kelly. "This rule will be of great value in selecting high-risk patients for clinical trials of novel agents to prevent recurrent *C. difficile* in the future."

Source: American Gastroenterological Association

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