LETTER TO THE EDITOR

Time to Place *Clostridium difficile* Infections in Major Healthcare-associated Infections List

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There has been a trend toward increased incidence and severity of *Clostridium difficile* infection (CDI) globally in recent times. Most of the CDIs are healthcare-associated infections (HAI), though community-acquired CDIs are also a concern. It is noteworthy that around 25% of these infections recur within 30 days of completing treatment. As per the recent IDSA clinical practice guidelines, a case definition of CDI includes the presence of diarrhea [>3 loose stools (Bristol stool 5–7) per day] or toxic megacolon after 48 hours of hospital admission and either a stool test result positive for *C. difficile* toxins (toxin A and/or toxin B) or toxin-producing *C. difficile* organism detected in stool via culture.[1,2]

The major list of HAIs include catheter-associated urinary tract infections (CAUTI), ventilator-associated pneumonia (VAP), central line-associated bloodstream infections (CLABSI), and surgical site infection (SSI). Centers for Disease Control and Prevention (CDC) works to monitor and prevent these infections because these nosocomial infections are important threats to patient safety and are an important quality indicator.

Diarrhea is a common symptom in the ICU patients. About 15–38% of patients develop at least one episode of diarrhea during their ICU stay. *Clostridium difficile* infection is the most common infectious cause of nosocomial diarrhea and it is responsible for approximately 10–35% of all cases of antibiotic-associated diarrhea. It is a leading cause and it accounts for 11–13.5% cases of diarrhea in ICU patients.[3] A multistate one-day point prevalence survey by US public health surveillance reported that *C. difficile* accounted *for* causing 12.1% of HAIs, and it was the most common pathogen responsible for HAI.[4]

The important risk factors for CDIs include prolonged use of antibiotics, hospital stay, comorbidities, recent surgery, and proton-pump inhibitors. Though developed countries have shown a declining trend of CDI burden, data from developing countries show a rising incidence and severity. The incidence of CDI varies from 8.7 to 53.9 cases per 10,000 patient days, and the estimated total prevalence of CDI in ICU ranges from 3.4 to 18%.[3,5] This can be attributed to various factors, including changing demographic situation, increased use of broad-spectrum antibiotics, and emergence of hypervirulent *C. difficile* strains known as NAP1/BI/027.[5] The 30-day mortality of CDI ranges from 24.0 to 50.0%.

There has been a surge in the use of broad-spectrum antibiotics due to the emergence of multidrug-resistant infections in the last decade, and this has led to further usage of reserve-category antimicrobials, which predispose to the development of CDIs in at-risk patients. The current practice of isolating CDI cases poses significant logistic challenges in the ICU. As part of HAIs, CDIs should be considered at regular intervals as major HAI and be monitored. Currently, it is not routinely included in the list of nosocomial infections though it is usually recognized as a healthcare-associated infection. The advantage of including this infection in the CDC major list of HAIs will be that at least many healthcare setups will review it seriously and focus on its incidence, risk factors, outcomes and morbidity, and mortality. We recommend that all cases of suspected antibiotic-associated diarrheas should be at least screened for CD toxins. Patients with CDIs should be cared for separately to prevent horizontal transmission. The GDH test in stool is used for screening and detection of toxin A or B as diagnostic of infection.[6] It will be an effective indirect indicator of antibiotic overuse and will help in antimicrobial stewardship efforts. Therefore, we believe it is time to expand the list of HAIs and include CDI in the list for regular surveillance along with the existing four major HAIs (CAUTI, VAP, CLABSI, and SSI). This will be a useful parameter for raising awareness about CDI and aid in antimicrobial stewardship programs.

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