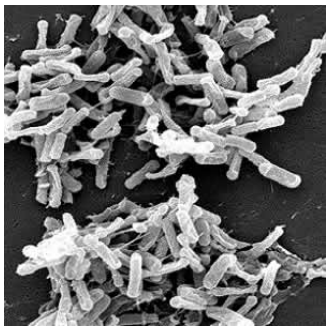
ICU
MANAGEMENT & PRACTICE

Sleeping with the enemy: C.difficile infection in ICU



There has been an increase in the number and severity of Clostridium difficile infections (CDI) in all medical settings, including the intensive care unit (ICU), in recent years. An estimated 10-20% of patients are colonised with C. difficile without showing signs of infection and spores can be found throughout ICUs. However, it is not yet possible to predict whether and when colonisation will become infection, says a review paper in the journal Critical Care.

In describing the problem, the report authors write: "Figuratively speaking, our patients are sleeping with the enemy and we do not know when this enemy awakens."

Among ICU patients, diarrhoea is one of the most common symptoms. About 10% of patients with diarrhoea will test positive for CDI. Out of the 2% of ICU patients with CDI, a significant number of cases can be classified mild or moderate. Nevertheless, difficult-to-treat severe and complicated cases also occur. As there are no disease-specific markers, severity is measured by general parameters (e.g., leukocytes, renal function) frequently altered in ICU patients either because of the CDI or because of the patient's underlying condition. None of the aforementioned parameters or scoring systems has been validated in the subgroup of ICD patients, the authors note.

"It is difficult to separate the otherwise critically ill patient with mild CDI from the patient who is critically ill because of severe CDI. Current classification according to the international guidelines probably does not accurately reflect the actual risk profile of the ICU patient," the authors write. They emphasise that testing should include direct toxin testing by enzyme-linked immunosorbent assay (ELISA). They also say that the isolated detection of C. difficile via polymerase chain reaction (PCR) is not sufficient to make the diagnosis of CDI.

According to international guidelines, patients with mild or moderate disease should be treated with oral vancomycin (125 mg qid) or metronidazole (500 mg tid). While the strain type is not taken into account in those recommendations, "we recommend treating every infection with a known hypervirulent strain (particularly O27) as severe disease," the authors say. First-line treatment of severe or complicated cases consists of oral vancomycin.

Treatment failure is particularly frequent in ICU patients due to comorbidities and the necessity of continued antibiotic treatment, the authors explain. However, early recognition of treatment failure is still an unresolved clinical problem. In the case of treatment failure, alternative treatments include substituting vancomycin with fidaxomycin, tigecycline, a combination of intravenous metronidazole and vancomycin, immunoglobulins, and faecal microbiota transplantation (FMT).

"Preventative measures and an acute awareness of risk factors should be a priority in every ICU. The clinical team should be aware of the individual risk profile of each patient for developing CDI while in the ICU. Where possible, this risk should be minimised using a set of preventive bundles. These should include involving an ID specialist and reducing or terminating antibiotic therapy, discontinuation or replacement of PPI [proton pump inhibitor] therapy, and increased and predefined hygienic measures," the authors conclude.

Source: Critical Care
Image Credit: CDC

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