Fact Sheet for Health Care Professionals

Clostridioides difficile infection (CDI)

Clostridioides difficile infection (CDI) (formerly known as Clostridium difficile) is a disease causing diarrhoea. The trigger for infection is the disturbance of normal gut flora during antibiotic treatment. This allows ingested spores to colonise the intestine and produce toxins that attach the lining of the intestinal wall. Symptoms can range from mild, self-limiting diarrhoea to toxic megacolon, pseudomembranous colitis, perforated colon, sepsis and death.

There are different strains of C difficile, including “hypervirulent” strains such as ribotype 027 which can be associated with a more severe form of disease and appears to be highly transmissible which has resulted in outbreaks overseas. Although there are other strains that may be classified as “hypervirulent”, not all are associated with epidemic spread. Fortunately, hypervirulent strains are rare in Australia.

The Australian Commission for Safety and Quality in Healthcare (ACSQHC) monitors the burden of CDI in Australian public hospitals, for more information see the ACSQHC web site.

Risk Factors

- Antimicrobial therapy.
- >= 65 years.
- Gastric-acid suppression therapy.
- Significant co-morbidities like inflammatory bowel disease, diabetes, malignancies.
- Abdominal surgery / Naso-gastric tube in situ.
- Previous CDI.
- Prolonged hospital stays and / or intensive care stay.

Prevention of CDI

- Antimicrobial stewardship program, monitoring prescription and use of antibiotics.
- Using targeted narrow spectrum antibiotics and avoiding broad spectrum antibiotics.
- Specification of an antibiotic stop date to ensure the patient is reviewed, and antibiotics are ceased or continued.
- Infection prevention and control, including transmission-based precautions.
- Partnering with consumers, including providing information CDI as required. Refer to the ACSQHC CDI Patient Information.

Testing for CDI

- CDI should be suspected in any patient who develops or has had prolonged diarrhoea who has recently had antibiotics or immunosuppressive therapy.

- A diarrhoeal stool sample should be sent to the laboratory with a request for C. difficile testing.
- Unless clinically indicated, do not take surveillance or “clearance swabs” from patients for CDI without diarrhoea who have been CDI positive within the last 8 weeks.

How is CDI diagnosed?

- The detection of C. difficile cytotoxin by cell culture, or culture for the organism that causes CDI (Clostridioides *difficile, an* anaerobic, spore-forming, gram-positive bacterium) in stool is considered the gold standard for diagnosis.
- More sensitive PCR Nucleic Acid Amplification Testing (NAAT) for detection of C. difficile toxins; are available and used by most laboratories. [1]

How is CDI treated?

- CDI can be difficult to treat and is associated with a high relapse rate.
- Targeted antibiotic therapy is as per the Therapeutic Guidelines. [4]
- Alternative treatments such as probiotics are of unproven effectiveness.
- Faecal transplantation is reserved for severe disease and / or subsequent recurrences and requires specialist consultation.

Infection Prevention and Control Recommendations

A combination of Standard and Transmission-based precautions (contact)

should be implemented from symptom onset, this includes:

- Single room, dedicated bathroom, commode, or bedpan.
- Dedicated patient equipment.
- Clean equipment and the environment using a chemical disinfectant that is sporicidal (e.g., buffered sodium chloride, chlorine dioxide or activated hydrogen peroxide). Patients with CDI shed large numbers of spores in their faeces which can cause widespread contamination of the environment and inadequate cleaning without sporicidal products can lead to transmission.
- Hand hygiene as per the 5 moments of Hand Hygiene.
- Hand washing is required for any unprotected exposure (e.g., touching the patient or their environment without gloves on) or direct soiling of the hands, then thorough washing with soap and water should be performed.
- Alcohol-based hand rubs can be used after removal of gloves if hands are not visibly soiled.

How long should transmission-based precautions (contact) be in place?

- Transmission-based precautions (in addition to standard precautions) should remain in place for at least 24 hours after diarrhoeal and / or vomiting symptoms have completely resolved. The decision to revert to standard precautions should be made in consultation with the treating clinical team and infection prevention and control as required.

References

1. Australian Government Department of Health and Aged Care Clostridioides difficile infection Laboratory case definition
2. National Library of Medicine Clostridioides difficile infection
3. Infection, Disease & Health ASID/ACIPC position statement-Infection control for patients with Clostridium difficile infection in healthcare facilities
4. Antibiotic Expert Group. Therapeutic Version 16. Melbourne: Therapeutic Guidelines Limited; 2019.
5. National Library of Medicine Management of Clostridioides difficile infection in adults and challenges in clinical practice
6. CALHN-GDE03146 Clostridioides (Clostridium) difficile Infection: Management and Treatment Guideline
7. National Library of Medicine. Therapeutic Advances in Gastroenterology; 2016 - March 9. Fecal microbiota transplantation: in perspective
8. National Library of Medicine Journal Clinical Practice Guideline by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA): 2021 Focused Update Guidelines on Management of Clostridioides difficile Infection in Adults - PubMed (nih.gov)
9. SA Health Clostridioides difficile infection CDI- including symptoms, treatment and prevention web page.
10. Australasian Society of Infectious Diseases updated guidelines for the management of Clostridium difficile infection in adults and children in Australia and New Zealand.
11. National Library of Medicine European Society of Clinical Microbiology and Infectious Diseases: 2021 update on the treatment guidance document for Clostridiodes difficile infection in adults.

For more information

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