



CLINICAL GUIDELINE

Clostridium Difficile Infection (CDI) in Children - Diagnosis and Management

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

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Important Note:

The Intranet version of this document is the only version that is maintained. Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

Diagnosis and Management of Clostridium difficile infection (CDI) in children

Background

In adults *Clostridium difficile* is a common cause of hospital acquired diarrhoea. In children the role of *C difficile* is less well understood and in the majority likely represents gut colonisation. Recent studies however have shown that *C difficile* is an emerging pathogen in the paediatric setting particularly in patient with underlying haemato-oncology and gastrointestinal disorders. Other risk factors include recent antibiotics, proton pump inhibitors and prolonged hospitalisation.

Health Protection Scotland now recommends that diagnostic labs test diarrhoeal stools in all children aged 3 years or older for CDI. Testing of diarrhoeal stools from children under the age of 3 years should be at the clinicians request only.

Interpretation of results

In GGC diagnostic labs test diarrhoeal samples for CDI in two stages. Firstly all diarrhoeal stool samples are tested using a sensitive screening test – GDH (glutamate dehydrogenase).

If the GDH test is negative the stool sample is reported as negative for CDI

If the GDH test is positive the lab proceeds to the second stage of testing which is toxin detection.

The interpretation of results is as follows;

Result	Interpretation
GDH negative	No CDI or colonisation
GDH positive, toxin negative	Colonised with <i>C difficile</i> . Unlikely to require treatment. Send repeat samples if symptoms persist
GDH positive, toxin positive	CDI possible if case definition met

Case definition

GDH and toxin positive sample with diarrhoea **and** one or more of the following

- Significant co morbidity – Gastrointestinal disease, haemato-oncological condition
- Antibiotic use in the last 4 weeks
- Severe GI disease with bloody diarrhoea and an unlikely alternative diagnosis.

Further investigation

- Send FBC , CRP and U+Es
- Request imaging (abdominal X-ray) if toxic megacolon or ileus is suspected
- Test for clearance is not required

Severity scoring

Patients who meet the above case definition should undergo daily severity scoring as below and be managed accordingly

Criteria	Point
Diarrhoea > 5 times/day	1
Abdominal pain and discomfort	1
Rising white cell count	1
Raised CRP	1
Pyrexia > 38°C	1
Evidence of pseudomembranous colitis	2
Intensive care requirement	2

Score;

1-2 = mild disease

3-4 = moderate disease

≥5 = severe disease

Medical management

In all cases the need for antibiotics should be reviewed by medical staff. If possible discontinue or switch to less C diffogenic agents.

PPI /H2 antagonist use should be reviewed and if possible discontinued

Mild disease (score 1-2)

Mild disease may not require treatment. Consider oral metronidazole for 10-14 days if symptoms persist

Moderate disease (score 3-4)

Oral metronidazole for 10-14 days.

Consider escalation to oral Vancomycin if non resolution of symptoms

Severe disease ≥5

Oral Vancomycin and iv metronidazole. Consider surgical intervention/ colectomy if evidence of caecal dilatation on imaging

Recurrent CDI following completion of treatment course

Greater Glasgow and Clyde Antimicrobial Utilisation Committee, ADTC. November 2017. Review November 2019

For recurrence of CDI please contact a paediatric ID physician or microbiology for advice on management

Infection control precautions

Please refer to the NHSGGC CDI infection control policy

References

- 1) Recommended protocol for testing for Clostridium difficile and subsequent culture. Health Protection Scotland , October 2016
- 2) Pai S et al. Five years experience of Clostridium difficile infection in children at a UK tertiary hospital: proposed criteria for diagnosis and management. PLOS 2012;71-6

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