**Antibiotics and community Clostridium difficile infection**

In this article...

- Current advice on treating C difficile
- Evidence on the link between antibiotic use and community-acquired C difficile

Clostridium difficile rarely causes problems in healthy people because it is kept in check by the normal bacterial population of the intestine. However, certain antibiotics – especially broad-spectrum antibiotics – can disturb the balance of bacteria in the gut, which allows C difficile to multiply rapidly and produce toxins.

**Current advice**

Public Health England (2013) guidance states that supportive care should be given to people with C difficile infection, including hydration, electrolytes and nutrition, and antiperistaltic agents should be avoided. The precipitating antibiotic should be stopped wherever possible; agents with less risk of inducing C difficile infection can be substituted if an underlying infection still requires treatment.

Proton pump inhibitors (PPIs) should be reviewed in people with or at high risk of C difficile infection.

People with mild infection may not require specific C difficile antibiotic treatment; mild or moderate disease can be treated with oral metronidazole, but oral vancomycin is preferred for severe infection. Fidaxomicin should be considered for people with severe C difficile infection who are at high risk of recurrence. It may also be considered in severe cases that have not responded to oral vancomycin (National Institute for Health and Care Excellence, 2012). The addition of oral rifampicin or intravenous immunoglobulin may also be considered in such cases. In life-threatening disease, high-dose oral vancomycin plus intravenous metronidazole is advised.

**Box 1. Commentary**

In 2007–08, non-hospital cases of C difficile infection reported in patients aged two years and over comprised approximately 40% of the total cases in England. In 2012–13, this proportion had risen to approximately 60% (Public Health England, 2013).

This increase in community-associated cases coincides with likely increased awareness and ascertainment of community cases, due to the introduction of national testing guidelines, increasing use of proton pump inhibitors and better control of hospital-acquired C difficile infection. Therefore, the use of lower risk antibiotics in the community, particularly among older people on PPIs, is likely to be of increasing importance.

The findings of Deshpande et al (2013) are consistent with previous papers showing that clindamycin, fluoroquinolones and cephalosporins are the highest risk antibiotics for C difficile, with commonly used antibiotics such as penicillins and macrolides also a risk.

Bearing in mind the limitations of this meta-analysis, this article provides useful additional knowledge for practitioners trying to select the best antibiotics to treat infection in those at risk of C difficile.

**References**


**New evidence**


Eight case-control studies from the UK, the US and Canada were included in the meta-analysis. Cases had been exposed to antibiotics in the 30–180 days before diagnosis, and neither cases nor controls had been admitted to a healthcare facility in the previous eight weeks to one year.

Antibiotic exposure was associated with a significantly higher risk of C difficile infection than no exposure to antibiotics. The risk of infection was greatest with clindamycin, followed by fluoroquinolones, cephalosporins, penicillins, macrolides and sulphonamides or trimethoprim. Tetracyclines were not associated with a significantly increased risk of infection.

The authors noted the findings should be interpreted with caution. They suggested patients and health professionals should be aware of the risk of C difficile infection associated with antibiotic prescriptions in outpatients and should, where possible, select drugs associated with a lower risk. NT

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