C. difficile increases risk of death 6-fold in patients with inflammatory bowel disease

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Patients admitted to hospital with inflammatory bowel disease (IBD) face a sixfold greater risk of death if they become infected with *Clostridium difficile*, a new study has found. The researchers say IBD patients should be screened on admission to protect them from serious illness.

IBD, consisting of Crohn's disease and ulcerative colitis, affects around 240,000 people in the UK and its symptoms include abdominal pain and diarrhoea. When sufferers experience a bout of severe symptoms, they often need to be admitted to hospital.

C. difficile bacteria are present naturally in the gut in around two thirds of children and 3 per cent of adults, but they do not cause problems in healthy people. Broad spectrum antibiotics can cause problems by killing harmless bacteria that usually reside in the gut, allowing *C. difficile* to flourish and produce toxins that cause diarrhoea and fever. The infection is rarely fatal in people who are not already severely ill or elderly; a review published in 2010 estimated the overall mortality rate for patients with *C. difficile* to be 6 per cent.

There have been drives to reduce the spread of infection by improving hospital hygiene and changing antibiotic policies, which have had some success, but there are concerns that high-risk patients are still not adequately protected. Since IBD patients already have inflammation in the gut, they are thought to be especially vulnerable to *C. difficile* infection, but until now the incidence of infection in these patients in the

UK was not known.

In today's study, published in the journal Alimentary Pharmacology and Therapeutics, researchers from Imperial College London and St George's Healthcare NHS Trust examined NHS statistics on patient admissions between 2002 and 2008. After adjusting for differences between the groups, they found that IBD patients who contract *C. difficile* in hospital are six times more likely to die in hospital than patients who are admitted for IBD alone. In the patients followed in the study, the mortality rate for IBD patients with *C. difficile* at 30 days was 25 per cent, compared with 3 per cent for patients with IBD alone.

The results also showed that IBD patients with *C. difficile* also stay in hospital for longer, with a median length of stay of 26 days compared with five days, and are almost twice as likely to need gastrointestinal surgery.

Dr Sonia Saxena, from the School of Public Health at Imperial College London, said: "Hospitals must do everything they can to control infections such as *C. difficile*. We are asking for these high-risk patients to be screened for *C. difficile* proactively on admission to hospital so that if they are exposed, they can be diagnosed and treated more quickly."

Dr Richard Pollok, from St George's Healthcare NHS Trust, who was the senior author of the study, said: "At St. George's Hospital, we have seen a 70 per cent reduction in hospital-acquired infections after implementing a range of control measures, such as careful handwashing and reduced use of broad spectrum antibiotics. But we need to do more to protect vulnerable patients such as those with IBD."

More information: Journal reference: M.H. Jen et al. "Increased health burden associated with Clostridium difficile diarrhoea in patients with inflammatory bowel disease." Alimentary Pharmacology and

Therapeutics, published online 20 April 2011.

The review of mortality rates was: J.A. Karas et al. "A review of mortality due to Clostridium difficile infection." Journal of Infection (2010) 61, 1-8.