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Short Communication

Clostridium difficile infection and Inflammatory Bowel Diseases

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Abstract

Clostridium difficile infection (CDI) plays an important part in the clinical course of patients with inflammatory bowel disease (IBD). CDI is more common in patients with inflammatory bowel disease and may provoke flares of the disease. There is a worrying recent rise in reported incidence in both IBD and non-IBD patients. Although it is intuitive to deduce that infection with CD would confer a worse outcome in terms hospital stay and mortality, the evidence is still rather sketchy.

A review and meta-analysis of currently available data is carried out to address 3 questions:

1. Does CDI confer a poorer outcome in terms of hospital stay?
2. Does CDI in IBD patients lead to a higher mortality
3. Does CDI in IBD result in a higher colectomy rate?

The majority of studies show that there is a poorer outcome in CDI associated with IBD. This applies to longer hospital stays and higher mortality. In patients with IBD and CDI, the risk of colectomy in the short (within 3-months of CDI diagnosis) does not seem to be increased in any subgroup. However, at 1 year colectomy rates are significantly higher in those with CDI (OR 2.23), including a subgroup with ulcerative colitis (OR 2.96). All previous studies CDI is associated with an increased mortality risk in both the short and longer term.

The reason for a lack of increased colectomy risk in the short term is unclear and may appear counter-intuitive, but may represent earlier diagnosis and treatment in a patient group known to have a higher risk of enteric infections. Clostridium difficile carriage is higher in IBD patients and asymptomatic colonisation rates may be more prevalent and it may be that higher colonisation rates label non-infected patients as suffering from CDI. It is likely that most IBD patients admitted with exacerbation would be tested for Clostridium difficile and perhaps more so than the non-IBD admission.

The finding of higher colectomy rates at 1-year in CDI infected IBD patients are in keeping with earlier findings. While the initial infection will have been treated by this time, the re-infection rate has been shown to be as high as 33% in previous studies. There may be a reticence of clinicians to use biologic or immunosuppressives in patients with a previous history of CDI. We do not if antibiotic treatment or indeed exposure to IBD therapies, in particular biologics which may have some bearing on longer term outcomes. The fact that IBD patients with CDI appear to have a higher long-term colectomy risk could be explained by a more severe disease phenotype in this group, though evidence of this is not provided in the current study.

The similar colectomy rates of the two groups in the short term should not imply that IBD patients with CDI are in any way low risk. Mortality remains increased in both the short and longer term for these patients, a point again confirmed in the current study. CDI is a risk factor for colectomy in IBD patients. Antibiotic therapy remains the standard of treatment as in non-IBD infected individuals, though there is an increasing body of work in recent years to suggest faecal microbiota may have an important role to play, though further studies are needed. It is hoped that this study may stimulate interest in exploring the role of Clostridium difficile, or indeed the altered microbiome of patients with IBD.

Biography

Dr. Tsai graduated from University of Aberdeen and after research in Liverpool with Prof. Rhodes, was awarded a doctorate with honours. Since then he has held a clinical post but remain active in research with his main interest in inflammatory bowel diseases with over 40 peer-reviewed papers.

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