AP&T Alimentary Pharmacology and Therapeutics

SYSTEMATIC REVIEW WITH META-ANALYSIS

Systematic review with meta-analysis: the prevalence of small intestinal bacterial overgrowth in inflammatory bowel disease

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As part of AP&T's peer-review process, a technical check of this meta-analysis was performed by Dr Y Yuan. The Handling Editor for this article was Professor Jonathan Rhodes, and it was accepted for publication after full peer-review.

Summary

Background
Current data on small intestinal bacterial overgrowth (SIBO) in patients with inflammatory bowel diseases (IBD) are controversial.

Aim
To conduct a systematic review and meta-analysis to determine the prevalence of SIBO in patients with ulcerative colitis (UC) and Crohn's disease (CD).

Methods
Electronic databases were searched up to May 2018 for studies reporting prevalence of SIBO in IBD patients. The prevalence rate of SIBO among IBD patients and the odds ratio (OR) and 95% CI of SIBO in IBD patients compared with controls were calculated.

Results
The final dataset included 11 studies (1175 adult patients with IBD and 407 controls), all utilising breath test for diagnosis of SIBO.

The proportion of SIBO in IBD patients was 22.3% (95% CI 19.92-24.68). The OR for SIBO in IBD patients was 9.51 (95% CI 3.39-26.68) compared to non-IBD controls, and high in both CD (OR = 10.86; 95% CI 2.76-42.69) and UC (OR = 7.96; 95% CI 1.66-38.35). In patients with CD, subgroup analysis showed the presence of fibrostenosing disease (OR = 7.47; 95% CI 2.51-22.20) and prior bowel surgery (OR = 2.38; 95% CI 1.65-3.44), especially resection of the ileocecal valve, increased the odds of SIBO. Individual studies suggest that combined small and large bowel disease but not disease activity may be associated with SIBO.

Conclusions

Overall, there is a substantial increase in the prevalence of SIBO in IBD patients compared to controls. Prior surgery and the presence of fibrostenosing disease are risk factors for SIBO in IBD.