SATURDAY, November 5, 2022

Canada Future Directions in IBD

SESSION I

THE BRAIN-GUT AXIS IN MENTAL HEALTH

Gut Inflammation and Mental Health: The missing link?

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Brain-gut interactions affect mental illness within the context of inflammatory bowel disease (IBD) in a complex, bi-directional manner. The presence of anxiety or depression is associated with the development or exacerbation of gastrointestinal symptoms, and the presence of gastrointestinal symptoms is associated with the development or exacerbation of mental illness. While these two illnesses seem quite disparate at first glance, they share many etiological mechanisms. The focus of this presentation is to examine the shared pathophysiology of IBD and mental illness, with a special focus on the role of inflammation. It will review the involvement of the stress response and immune system activation in the development of depression and anxiety and the multiple pathways by which stress-induced inflammation harms brain function and ultimately affects mental health and IBD. Building on this, we will also review how potential therapies; probiotic and prebiotic treatments, fecal transplant, current psychiatric pharmacotherapies, and the more novel neurostimulation, can play a role in disease management for both brain and GI-based disorders. Evidence indicates that the gut microbiome plays a facilitating role between stress response, inflammation, and depression and anxiety in IBD. Elucidating the mechanisms by which gut microbes influence brain function and mental health can lead to better management of both conditions.

Key references

Peirce JM, Alviña K. The role of inflammation and the gut microbiome in depression and anxiety. *J Neurosci Res*. 2019;97(10):1223–4.

Simpson CA, Diaz-Arteche C, Eliby D, et al. The gut microbiota in anxiety and depression - A systematic review. *Clin Psychol Rev*. 2021;83:101943.