SMALL INTESTINE BACTERIAL OVERGROWTH AFTER COVID-19 INFECTION

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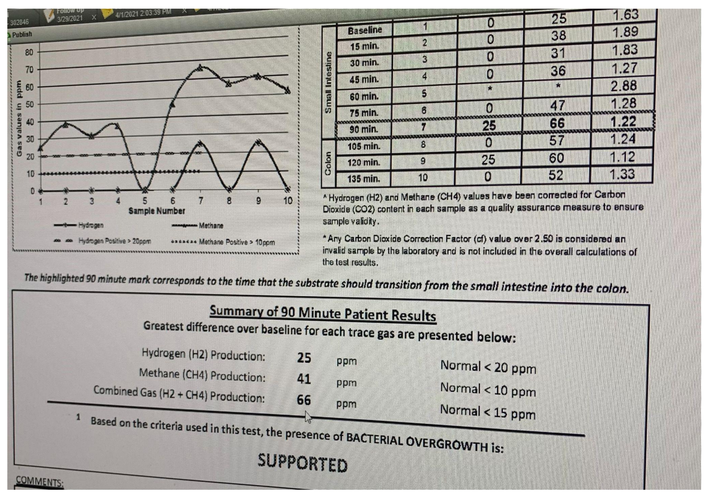
Introduction

Gastrointestinal manifestations of COVID-19 includes diarrhea, which usually resolve after the acute infection. Covid-19 has been observed to cause a disruption of the gut equilibrium. We present a case of post-COVID SIBO in a patient with no other potential cause.



Case presentation

Patient with past medical history of hyperlipidemia, OSA and BPH presented to hospital with complains of dyspnea. Based on imaging studies and lab work, diagnosis of COVID infection was made. Patient did not require steroid or Remdesivir therapy. He received symptomatic treatment and discharged in two days. Patient was admitted to hospital for diarrhea and bloating months after initial presentation. CT Abdomen was negative for inflammation, workup for infectious causes was negative. Patient was symptomatically treated and discharged home, however he continued to have recurrent episodes of diarrhea and frequent complain of severe bloating. EGD was unremarkable and biopsy for H Pylori was negative. Colonoscopy was negative and biopsy results did not show microscopic colitis or functional bowel disorder. Stool studies was negative for malabsorption. Lactulose hydrogen breath test confirmed the diagnosis to be SIBO. Patient was prescribed Rifaximin and Neomycin and his symptoms completely resolved.

Discussion

Low gastric acid secretion and intestinal dysmotility are two main factors causing SIBO. Viral infections damage the enteric epithelial cells, causing decreased Motilin production, resulting in reduced migrating major complexes causing dysmotility and favoring overgrowth of bacteria. It has long been established that there is a cross walk between lungs and gut microbiota. Studies have shown that disruption of gut microbiota resulted in increased risk of developing respiratory illnesses (Chunxi et al., 2020) and gut microbes also play role in immunity against respiratory infections (Willer & Viemann 2021). Likewise, it has been established that respiratory illnesses negatively affect gut microbiome as well. Enterocytes express Angiotensin-converting enzyme 2 (ACE2) protein, which is a major receptor for SARS-CoV-2. It is hypothesized that COVID causes alteration of gut microbiota resulting in “gut dysbiosis” causing increased bacterial growth however further research is on SARS-Cov2 and gut microbiota is needed to have a better understanding of GI manifestation of COVID infection.

Conclusion

SIBO is caused by excessive numbers of bacteria in the small intestine. In this case study, a patient presents with symptoms such as bloating, diarrhea, and abdominal pain. A look at the patient’s medical history revealed a Covid-19 diagnoses in the previous year. We examined the possible links between Covid-19 and SIBO since Covid-19 has been documented to cause disruption in gut microbiota and many sufferers have only exhibited GI infection symptoms. After examining the literature, we conclude that the initial Covid-19 diagnosis is likely to be the cause of the patient’s subsequent development of SIBO.

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