



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Finally, disease activity was identified as a risk factor for COVID-19 in the study by Bezzio et al² but not by Allocca et al¹ or by the SECURE-IBD registry.⁴ This association should be interpreted with caution. The data reporting that SARS-CoV-2 binds to the angiotensin I-converting enzyme 2 (ACE2) before cleavage by the host transmembrane serine protease 2 (TMPRSS2) and virus-cell fusion lead to several questions because ACE2 is also expressed in gastrointestinal epithelial cells. This may explain the digestive symptoms reported in up to 30% of infected patients but also raise the question of fecal-oral transmission. In addition, the impact of inflammation and of immunomodulators and biologics on ACE2 expression (and its pathogenetic consequences) in IBD patients is important to consider. Burgueño et al⁷ have confirmed that the viral entry molecules ACE2 and TMPRSS2 are highly expressed on IBD patients' enterocytes and colonocytes with no difference with controls. They also showed that anti-TNFs, vedolizumab, ustekinumab, and steroids, decreased ACE2 expression in CD-11b-enriched cells, whereas TMPRSS2 expression is increased in vedolizumab-treated patients compared with those taking other medications and down-regulated in ustekinumab-treated patients.⁷ Therefore, it appears that most of the IBD medications may not adversely influence ACE2 intestinal expression.

In conclusion, the current data suggest that IBD patients may not have a higher risk of COVID-19 infection or severe infection and may indeed be protected from severe infections by several IBD medications. However, the true incidence of COVID-19 infections in IBD patients remains unclear because they can be asymptomatic as reported in one of our cases. Therefore, large-scale studies on patients with IBD may provide more precise answers about the risk of infection in IBD and identify potential therapeutic targets and drugs such as recently reported for tocilizumab.⁸

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Conflicts of interest

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Follow Your Gut: Challenges in Nutritional Therapy During the COVID-19 Pandemic



Dear Editor:

We have read with great interest the article entitled “Donning a New Approach to the Practice of Gastroenterology: Perspectives from the COVID-19 Pandemic Epicenter” by Dr Sethi et al.¹ Their review comprehensively discussed the different implications of coronavirus disease 2019 (COVID-19) to the gastrointestinal (GI) practice from the repurposing of endoscopy units and GI services to the care of patients with preexisting GI diseases and even to the emotional and leadership aspects of the pandemic. We are particularly interested in their discussion of enteral nutrition and access, because we also receive referrals for percutaneous endoscopic gastrostomy (PEG) placements even in this time of pandemic. As gastroenterologists, aside from providing nutritional access, we also encounter several challenges in the nutritional therapy of our patients. We aim to highlight these nutritional dilemmas while also providing evidence-based recommendations.

Despite the viral effects of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in the GI

tract, enteral nutrition is still the preferred method of nutrition therapy for patients with COVID-19 because of its multiple benefits in the gut. It supports the structural and functional integrity of the gut, thereby modulating systemic immunity, attenuating disease severity, and favorably affecting patient outcomes.² However, the presence of GI symptoms such as anorexia, nausea, vomiting, or diarrhea in some patients with COVID-19 complicates this challenge to feed the patient.

There are several routes where feeding can be administered. If nutritional requirements are not met orally, enteral nutrition via a nasogastric tube (NGT) is recommended. If still unable to reach targets and if all strategies to maximize enteral nutrition intolerance have been attempted, nasojejunal tube (NJT) feeding or parenteral nutrition should be considered.³ In the context of the pandemic, placement of these tubes is not without risks. Placement of enteral access such as an NGT or NJT is an aerosol-generating procedure; hence, proper personal protective equipment should be used.⁴ Its placement should prioritize the safety of both the patient and the healthcare workers. A large-bore NGT may be used because it has less risk of tube occlusion during feeding, but it should be replaced with a more pliable tube of smaller diameter within 5–7 days to improve patient comfort and reduce morbidity.⁵

Consensus guidelines suggest that patients who are likely to require enteral nutrition for >30 days should be considered for placement of a PEG tube.⁶ However, the timing of PEG tube insertion during the pandemic is a dilemma in itself because of the risk of aerosolization. We agree with Dr Sethi and colleagues in their proposal to delay the PEG tube insertion until the patient has shown clinical improvement and a probable chance of discharge. Therefore, enteral nutrition via NGT should be continued while waiting for the appropriate time to do the procedure.

Another challenge in the nutritional therapy is the proning maneuvers done to patients with COVID-19. Historically, there is apprehension to feed patients in prone position in view of the relatively flat body position and increase in abdominal pressure of these patients, thereby with risk of aspiration. However, studies have shown that enteral feeding in the prone position is safe and is not associated with increased risk of pulmonary or GI complications.⁷ It is recommended to keep the head of the bed elevated or in a reverse Trendelenburg position to at least 10°–25°.³ We also suggest to hold feeding temporarily for 1 hour when shifting positions to further decrease aspiration risks.

The most challenging issue in the nutritional therapy of these patients probably is the problem of GI intolerance. Reported in up to 60% of critically ill patients, it is important for clinicians to understand its etiology to

ensure enteral nutrition delivery can be optimized and not inadvertently halted.⁸ For COVID-19 patients, it is usually due to multifactorial reasons that include the disease severity, multiple sedative drugs, and prone positioning. We hypothesize that it could also be aggravated by the effects of the SARS-CoV-2 infection in the GI tract. GI intolerance can manifest as nausea, vomiting, diarrhea, or abdominal distention.³ Measurement of gastric residual volume is controversial because nutrition societies have different views. Nevertheless, there are several methods that can be done to address GI intolerance. Prokinetics can be administered. Enteral feeding rate can be reduced. Semi-elemental formula can be used. Finally, parenteral nutrition or post-pyloric feeding should be considered with persistent GI intolerance.

In conclusion, we recognize that there could be potential challenges in the nutrition therapy of our patients. Fortunately, there are several solutions for these dilemmas, and by giving due priority to patient's nutrition, we can improve clinical outcomes. As they say, "follow your gut as it is always right."

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Conflicts of interest

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