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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Letter to the Editor

The use of antimotility drugs in COVID-19 associated diarrhea

We read with interest the research work by Han et al.[1] who described the clinical characteristics of patients with novel coronavirus disease 2019 (COVID-19) presented with diarrhea. Particularly, Han et al.[1] reported that a significantly higher proportion of patients presented with diarrhea developed a severe course of disease compared to their counterparts without diarrhea (71% versus 22%; $P = 0.011$). While it is still unclear the exact explanations behind such observation, some researchers have proposed that cytokine storm associated with a severe course of COVID-19 could alter the gut-brain axis, leading to gut inflammation and diarrhea.[2]

Nevertheless, the development of diarrhea among COVID-19 patients may have tempted the use of antidiarrheals, especially agents that slow intestinal motility. Antimotility drugs such as loperamide and diphenoxylate-atropine combinations act as opiate receptor agonists to reduce intestinal motility. Since these agents delay transit time, the clearance from the gut of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the causative pathogen of COVID-19, may be delayed. Therefore, the use of antimotility drugs could prolong the course of SARS-CoV-2 infection, and subsequently leading to a more severe course of illness.

In fact, the potential for antimotility drugs to prolong the course of bacterial diarrheas, such as that caused by Shigella and *Escherichia coli*, have been described earlier.[3,4] Whether this also holds in COVID-19 associated diarrhea remains to be determined. However, considering that the current observation was that COVID-19 patients who presented with diarrhea had a more severe course of illness, the use of antimotility drugs with concerns of delaying viral clearance should be discouraged.

In fact, there are other clinically relevant concerns associated with the use of antimotility agents. Treatment with antimotility agents may mask the amount of fluid lost, since fluid may pool in the intestine. Therefore, patients may unknowingly develop hypovolemia. Furthermore, several potentially severe side effects, including paralytic ileus, toxic megacolon, central nervous system depression, coma, and even death have been previously reported in patients who received treatment with antimotility agents.[5]

Safer antidiarrheal alternatives include racecadotril, which is an antisecretory agent via its inhibitory actions on enkephalinase. Yet, whether racecadotril is beneficial in the management of COVID-19 associated diarrhea is uncertain. Several studies reported a reduction in the output and duration of non-COVID-19 associated diarrhea, and in some studies, leads to more rapid improvement with fewer adverse effects compared with loperamide.[6,7] On the other hand, adsorbents (such as smectite/diosmectite and kaolin-pectin) have the potential to bind digestive mucus and toxins, as well as reduce water loss in patients with diarrhea. These agents should be preferred over antimotility agents in COVID-19 patients who present with diarrhea if an antidiarrheal is deemed necessary.

Declaration of Competing Interest

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