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Case Series

Gastrointestinal symptoms in COVID-19 patients: a case series

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ABSTRACT

The coronavirus disease 2019 (COVID-19) pandemic, caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), presents an ongoing global threat. Common clinical features reported in early confirmed infections included fever, cough, and myalgias or fatigue. But as testing capacity and case numbers have increased worldwide, gastrointestinal (GI) symptoms such as diarrhoea, nausea/vomiting, abdominal pain, and loss of appetite have been increasingly recognized. Authors present a case series of gastrointestinal symptoms in COVID-19 patients and how they were managed at the hospital. However, correlations between the presence of fecal virus RNA and severity of digestive symptoms, namely, diarrhoea severity could not be established due to unavailability of the test in the hospital setting. Although knowledge about the viability of SARS-CoV-2 is limited, the virus could remain viable in the environment for days, which could lead to faeco-oral transmission. Various studies conducted on COVID-19 patients recommended routine stool sample testing with real-time RT-PCR after the clearance of viral RNA in a patient's respiratory samples. Strict precautions to prevent transmission should be taken for patients who are in hospital or self-quarantined if their faecal samples test positive. Optimally, testing for COVID-19 should be performed using both respiratory and stool samples, if available.

Keywords: Gastrointestinal, Global threat, Nasal and pharyngeal swabs, Severe acute respiratory syndrome coronavirus 2

INTRODUCTION

The coronavirus disease 2019 (COVID-19) pandemic, caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), presents an ongoing global threat. Common clinical features reported in early confirmed infections included fever, cough, and myalgias or fatigue.[1,5,7] But as testing capacity and case numbers have increased worldwide, gastrointestinal (GI) symptoms such as diarrhoea, nausea/vomiting, abdominal pain, and loss of appetite have been increasingly recognized.[8-10] SARS-CoV-2 is thought to gain access to cells via surface expression of angiotensin converting enzyme 2 (ACE2).[11] Thus, tissues with high levels of ACE2 expression are assumed to be susceptible to direct infection.[12] ACE2 surface expression is most abundant in lung alveolar epithelial cells, enterocytes of the small intestine, and vascular endothelium.[13] The large amount of ACE2 surface expression in the gastrointestinal tract and, less so, biliary epithelium has been offered as possible explanations of GI symptoms and liver injury.[1,14] In addition, SARS-CoV-2 has been identified in stool samples of a substantial proportion of infected patients.[15-17]

CASE SERIES

Authors present a case series of gastrointestinal symptoms in COVID-19 patients and how they were managed at the hospital. Despite atypical symptoms in following patients, COVID-19 testing was done in them due to high suspicion of Corona in the current scenario.

Laboratory-confirmed COVID-19 test based on real-time reverse transcriptase polymerase chain reaction (PCR) assay for nasal and pharyngeal swab specimens was used.

Case 1

A 20-year-old unmarried female presented to the emergency with complaints of pain in abdomen and obstipation since 2 days (acute onset). On examination, her vitals were stable. She was afebrile. On per abdomen examination- epigastric fullness present, without guarding/ rigidity, with sluggish bowel movements. On digital rectal examination, anal tone was normal, rectum collapsed and fecal staining present. Previous menstrual cycles were normal of 4-5 days duration, occurring every 28 days, normal flow and no dysmenorrhea. A provisional diagnosis of subacute intestinal obstruction was made. Necessary investigations done. All biochemical parameters within normal reference range. In X-ray abdomen (erect and supine), single dilated ileal bowel loop present (Figure 1). No air fluid levels present. On USG, findings consistent with SAIO with mild ascites with small hemorrhagic cyst.

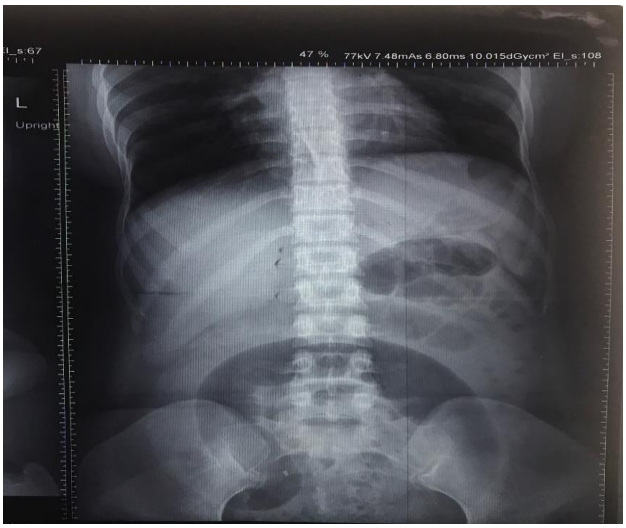

Figure 1: X-ray abdomen (erect and supine) of single dilated ileal bowel loop.

On third day of admission, she had multiple episodes of diarrhea. Vitals stable and she was still afebrile. Nasopharyngeal and oropharyngeal swabs sent for COVID-19 testing, which came out positive. Patient shifted to COVID isolation ward. Started on conservative management like temperature charting, adequate hydration, antipyretics, high protein diet. Eventually she improved and was discharged on day 10.

Case 2

A 22-year-old unmarried female who was a known case of abdominopelvic mass (? Ovarian), under evaluation, presented with multiple episodes of vomiting and loose stools since 1 day. No history of chronic cough, constipation or excessive weight loss. On admission, vitals were stable with no history of fever, cough, shortness of breath or sore throat. On per abdomen examination- a 6×6 smooth, solid mass was palpable in right iliac fossa (abdominopelvic mass). No guarding/ rigidity, with sluggish bowel movements. On digital rectal examination, anal tone was normal, rectum collapsed and fecal staining present. Previous menstrual cycles were normal of 3-5 days duration, occurring every 28-30 days, normal flow and no dysmenorrhea. Necessary investigations sent. All biochemical markers, including the tumour markers, were within normal reference range. Chest X-ray was normal. Ultrasound of abdomen and pelvis was consistent with the findings of an abdominopelvic mass (? Ovarian origin) (Figure 2 and 3). Nasopharyngeal and oropharyngeal swabs sent for COVID-19 testing, which came out positive. Patient shifted to COVID isolation ward. Started on conservative management like temperature charting, adequate hydration, antipyretics, high protein diet. Eventually she improved and was discharged on day 12. Currently patient is under evaluation for abdominopelvic mass on outpatient basis.

Figure 2: Ultrasound findings consistent with abdominopelvic mass (ovarian origin).

Case 3

A 25 years old primigravida at 38 weeks gestation, came to emergency with complains of leaking per vaginum. Her vitals were stable. Afebrile at presentation. Patient admitted to labour room where she delivered spontaneously. On the second post-natal day, she had multiple episodes of loose stools. Vitals remained stable. She was afebrile. On per abdomen examination, abdomen was soft, uterus well contracted. On local examination, no foul-smelling discharge or excessive bleeding seen. All biochemical markers were within normal reference range. Chest X-ray was normal (Figure 4). No cause could be elicited. Her symptoms persisted for over 48 hours. Nasopharyngeal and oropharyngeal swabs sent for

COVID-19 testing, which came out positive. Patient shifted to COVID isolation ward. Started on conservative management like temperature charting, adequate hydration, antipyretics, high protein diet. Eventually she improved and was discharged on day 15.

Figure 3: Ultrasound findings consistent with abdominopelvic mass (? ovarian origin).

Figure 4: Normal chest X-ray findings.

DISCUSSION

Luo et al presented a case series of hospitalized patients with SARS-CoV-2 infection whose initial symptoms were gastrointestinal, with a paucity of other manifestations. Such patients could be overlooked, leading to potentially serious consequences to them and their contacts. Therefore, it is important to maintain appropriate vigilance and a high index of suspicion.[8]

In the study of COVID-19 patients with mild disease severity, Pan et al described a clinically important subgroup that presents with digestive symptoms. In addition, patients with digestive symptoms took longer to report for medical care, a finding observed in other research from Wuhan, China, suggesting that COVID-19 was not initially recognized in these patients leading to delayed diagnosis.[3]

Because the intestinal wall is invaded by COVID-19, there may be increased permeability and diminished barrier function, easier invasion of pathogens across a vast intestinal surface area, the presence of enteric symptoms such as diarrhea, and nutrient malabsorption.[2] Recent evidence reveals that fecal nucleic acid is readily detected in the stool of patients with COVID-19 and rectal swabs are also positive in some patients.[1,5] In addition, angiotensin-converting enzyme 2 expression is higher in the small intestine, duodenum, and colon than that in the lungs, and thus potentially greater opportunity to suffer direct damage on the gut mucosa.[4,6]

Authors were unable to perform correlations between the presence of fecal virus RNA and severity of digestive symptoms, namely, diarrhea severity because authors were not able to test stool RNA/ viral load due to unavailability of the test in the hospital setting.

In the meta-analysis conducted by Cheung et al, it was alarming to note that 70.3% of patients had stool viral RNA remaining positive despite negative respiratory specimens. Although it was uncertain whether these were live virus particles or just RNA fragments released from the intestinal cells, this poses a serious concern about the isolation policy for patients with COVID-19, particularly during the recovery phase.[10]

The data collected by Wu et al, suggested the possibility of extended duration of viral shedding in faces, for nearly 5 weeks after the patients' respiratory samples tested negative for SARS-CoV-2 RNA. Although knowledge about the viability of SARS-CoV-2 is limited, the virus could remain viable in the environment for days, which could lead to faeco-oral transmission. Therefore, in their study routine stool sample testing with real-time RT-PCR was highly recommended after the clearance of viral RNA in a patient's respiratory samples. Strict precautions to prevent transmission should be taken for patients who are in hospital or self-quarantined if their faecal samples test positive.[17]

CONCLUSION

In conclusion, we describe a unique subgroup of COVID-19 patients with low severity disease marked by the presence of digestive symptoms. These patients are more likely to test positive in stool RNA for COVID-19, to have a longer delay before viral clearance, and to experience delayed diagnosis compared with patients with respiratory symptoms. In some cases, the digestive symptom, particularly diarrhoea, can be the initial presentation of COVID-19 and may only later (or never) present with respiratory symptoms. It is to emphasize that patients with new-onset diarrhoea after a possible COVID-19 contact or in the current scenario of global pandemic, should be suspected for the illness, even in the

absence of cough, shortness of breath, sore throat, or even fever. These patients should self-quarantine and seek medical care if not already under evaluation. Optimally, testing for COVID-19 should be performed using both respiratory and stool samples, if available.

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