COVID-19 Disease: a Gastroenterologist's Perspective

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has rapidly resulted into a pandemic, as the first case of Coronavirus disease 2019 (COVID-19) was detected in Wuhan, China in December; 2019.¹ As of 8 June 2020, over 7 million infections and more than 402,000 deaths had been reported globally. Although the virus primarily affects the respiratory system and is transmitted via respiratory droplets, various gastrointestinal and hepatic manifestations are not uncommon. Angiotensin-converting enzyme 2 (ACE2), the major receptor of SARS-CoV-2, is expressed in the gastrointestinal tract and liver cells. Presence of SARS-CoV-2 viral RNA in patient's faecal matter and the possibility of faecal-oral transmission has posed a challenge for control of COVID-19 pandemic.

A large multicentre study done by Pan and colleagues,² on 204 patients with COVID-19 in China revealed that 103 (50%) patients presented with gastrointestinal manifestations. Six (3%) patients had gastrointestinal manifestations without respiratory symptoms. Ninety-nine patients with gastrointestinal manifestations at presentation had a long time from onset to admission as compared to patients without gastrointestinal symptoms (9.0 days vs 7.3 days). Patients with gastrointestinal manifestations had more severe disease and prolonged hospital stay as compared to patients without digestive symptoms (60% vs 34%).² This finding was consistent with the study from Wang and colleagues,³ who found that patients admitted to the ICU were more likely to have abdominal pain and loss of appetite compared with non-ICU patients. Luo S et al,⁴ studied a large case series (n=1141) of patients admitted to hospital with COVID-19, 183 (16%) presented with gastrointestinal symptoms only. Ren Mao and colleagues,⁵

conducted meta-analysis and systemic review of 35 studies, including 6686 patients with COVID-19 disease. The prevalence of gastrointestinal symptoms was 15% (95% CI, 10-21), the common symptoms were nausea or vomiting, diarrhoea and anorexia. This study revealed that 10% of patients presented with gastrointestinal features without respiratory symptoms, resulting in delayed diagnosis of COVID-19 disease.

The incidence of liver involvement in patients of COVID-19 ranged from 1% to 53%. Hepatic involvement manifests as abnormal ALT and AST concentrations, accompanied by slightly increased bilirubin level. Cholangiocyte-related enzymes, such as alkaline phosphatase and γ -glutamyl transpeptidase, were slightly increased.⁶ The plausible reasons of hepatic derangement may be due to viral infection of hepatocytes and cholangiocytes, cytokine storm and drug toxicity. Cai and colleagues,⁷ showed that hepatic injury was more often seen with severe COVID-19 disease than in patients with mild disease. In patients with COVID-19 who died, the incidence of liver injury might reach as high as 58% to 78%.⁸

Paediatric cases of COVID-19 have a milder disease as compared to adults. Xu Y et al,⁹ studied ten children with SARS-CoV-2; these paediatric patients had the milder disease as compared to adults. Biochemical tests, imaging and other laboratory parameters were better than adults with COVID-19 disease. Comprehensive studies done on 227 paediatric patients with SARS-CoV-2, revealed a lower risk of transaminitis as compared to adults. However, gastrointestinal symptoms were similar between children and adults.^{7,9-11}

The recent guidelines by APASL COVID-19 Task Force¹² recommend postponing all elective and non-urgent

Access this article online

Website:
www.jmsskims.org

DOI:
<https://doi.org/10.33883/jms.v23i2.757>

How to cite this article: Shah A, Dar HA. COVID-19 Disease: a gastroenterologist's perspective. JMS 2020; 23(2):1-2

Received: 2020-06-15 Accepted: 2020-06-22

This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

procedures. Emergency procedures should be done by wearing proper PPE, including N95 mask with face shield, water impervious long-sleeved gown and gloves. Its recommended screening all SARS-CoV-2 patients for hepatitis B surface antigen and nucleos(t)ide analogues should be started if planned for treatment with IL-6 monoclonal antibody or immunosuppressive therapy. Patients with decompensated CLD and those with ALT more than five times the upper limit of normal should not be treated with Remdesivir. Patients with autoimmune liver disease (AILD) and mild COVID-19 infection should continue the usual immunosuppressants. However, stress doses of steroids may be needed in patients with AILD and severe COVID-19 infection.

It's crucial for gastroenterologists to suspect COVID-19 disease in the absence of respiratory symptoms, as 10% of patients with COVID-19 have only digestive symptoms. This leads to the community spread of COVID-19 disease due to delayed diagnosis. Persistence of SARS-CoV-2 RNA in stool after the respiratory specimen is negative has been a concern for faecal-oral transmission. Lack of data regarding the duration of the viability of SARS-CoV-2 in the stool is an unmet need. Gastroenterologists should abide by national or international guidelines, which will help in treating patients rationally and safeguarding themselves from COVID-19 disease.

References

1. Wu F, Zhao S, Yu B, et al. A new coronavirus associated with human disease in China. *Nature*. 2020 Mar;579:265269.
2. Pan L, Mu M, Ren H, et al. Clinical characteristics of COVID-19 patients with digestive symptoms in Hubei, China: a descriptive, cross-sectional, multicenter study. *Am J Gastroenterol* 2020; published April 14. DOI:10.14309/ajg.0000000000000620.
3. Wang D, Hu B, Hu C, et al. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China. *JAMA* 2020; published online Feb 7. DOI:10.1001/jama.2020.1585.
4. Luo S, Zhang X, Xu H. Don't overlook digestive symptoms in patients with 2019 novel coronavirus disease (COVID-19). *Clin Gastroenterol Hepatol* 2020; published online March 20. DOI: 10.1016/j.cgh.2020.03.043.
5. Mao R, Qiu Y, He J-S, et al. Manifestations and prognosis of gastrointestinal and liver involvement in patients with COVID-19: a Systemic review and meta-analysis. *Lancet Gastroenterol Hepatol*. 2020
6. Zhang C, Shi L, Wang FS. Liver injury in COVID-19: management and challenges. *Lancet Gastroenterol Hepatol* 2020; 5: 42830.
7. Cai J, Xu J, Lin D, et al. A case series of children with 2019 novel coronavirus infection: clinical and epidemiological features. *Clin Infect Dis* 2020; published online Feb 28. DOI:10.1093/cid/ciaa198.
8. Zhang B, Zhou X, Qiu Y, et al. Clinical characteristics of 82 death cases with COVID-19. *medRxiv* 2020; DOI:10.1101/2020.02.26.20028191 (preprint).
9. Xu Y, Li X, Zhu B, et al. Characteristics of pediatric SARS-CoV-2 infection and potential evidence for persistent fecal viral shedding. *Nat Med* 2020; 26: 50205.
10. Lu X, Zhang L, Du H, et al. SARS-CoV-2 infection in children. *N Engl J Med* 2020; 382: 166365.
11. Qiu H, Wu J, Hong L, et al. Clinical and epidemiological features of 36 children with coronavirus disease 2019 (COVID-19) in Zhejiang, China: an observational cohort study. *Lancet Infect Dis* 2020; published online March 25. DOI:10.1016/S1473-3099(20)30198-5.
12. Gregory, C; Rino, G; Richard, G. et al. Clinical practice guidance for hepatology and liver transplant providers during the COVID-19 pandemic: APASL expert panel consensus recommendations. *Hepatol Int* (2020).

Altat Shah, MD, DM

Professor & Head of Unit II, Department of Gastroenterology, SKIMS Soura, Srinagar Kashmir, India

Hilal Ahmad Dar, MD, DM

Assistant Professor,
Department of Internal Medicine,
Government Medical College Baramulla, Kashmir (J&K)