

Acute abdomen is not always surgical amid the COVID-19 pandemic

Editor

Lima *et al.*'s recently published paper discussed the role of imaging in the diagnosis of acute abdomen cases amid the COVID-19 era¹. Saeed *et al.* reported that SARS-CoV-2 infection could lead to an acute abdomen-like presentation in the absence of identifiable surgical causes². Both authors discussed the role of angiotensin-converting-enzyme-2 (ACE2) receptor in the pathogenesis of this entity. Our experience with similar cases makes us concur with both authors³. Herein we will summarize the likely non-surgical causes of acute abdomen in the COVID-19 era and discuss important management points when dealing with such patients.

The causes can be divided into respiratory and non-respiratory (*Fig. 1*). A respiratory cause for such presentation is pain referring from lower lungs involved by the SARS-CoV-2. The SARS-CoV2 infection seems to increase the risk of

thrombosis⁴; thus, the non-respiratory causes can be further classified as thrombotic and non-thrombotic. Non-thrombotic causes include pancreatitis, peritonitis, colonic distension, and colitis, while thrombotic etiologies are mesenteric vessel ischemia (occlusive or non-occlusive), renal vessels infarcts, appendagitis, and omental infarcts (*Fig. 1*).

With the causes mentioned above in mind, it is wise to keep a broad differential of non-surgical causes of acute abdomen in the setting of SARS-CoV-2 infection, to avoid unnecessary surgical interventions⁵. Any patients presenting with an acute abdomen should be tested and retested for SRAS-CoV-2, even in the absence of respiratory symptoms. Elevated serum ferritin may support COVID-19 diagnosis³. Computed tomography (CT) scan of the abdomen and lower chest will be valuable in ruling some of the causes and identifying pulmonary involvement. If unrevealing, we suggest performing a CT angiogram of the abdomen, focusing on mesenteric and renal vessels. We believe in the role of multidisciplinary meetings


(MDT), including radiologists, surgeons, internists, and infectious experts, to tailor an individualized, case-by-case management approach.

Author's contribution

MFHM and KA contributed equally to this letter. KA and MFHM wrote the initial and the final version and approved it for submission.

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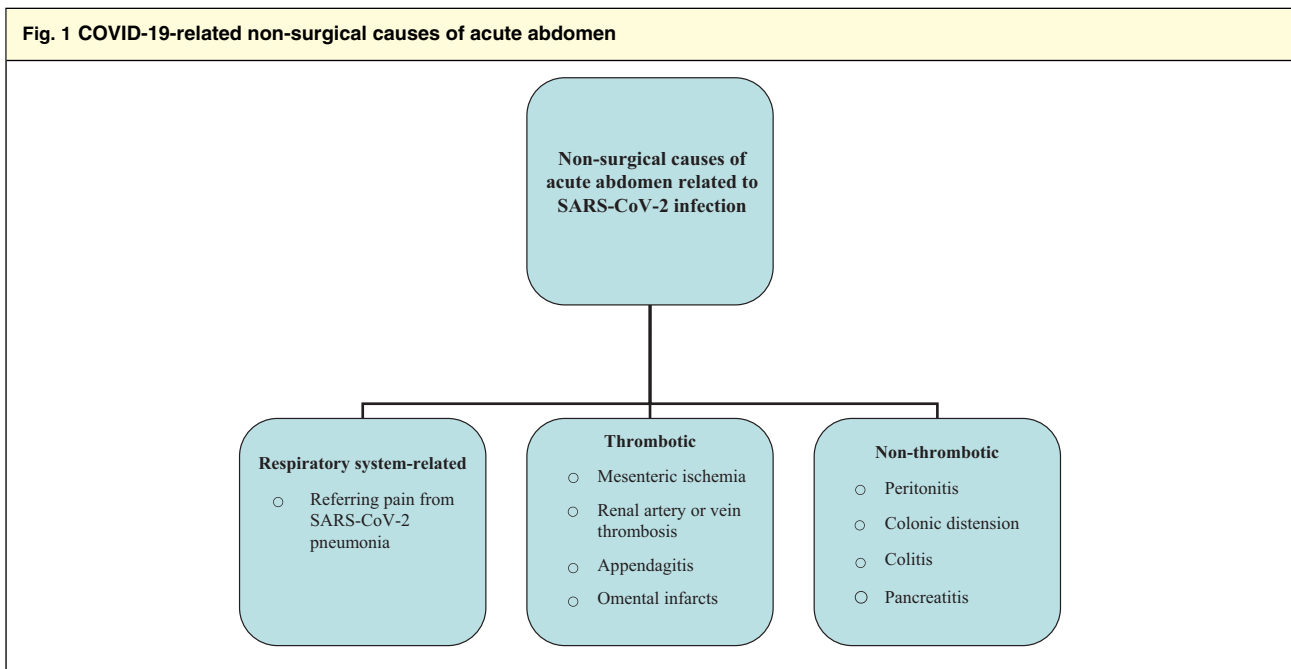
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Khalid Ahmed¹ and Mouhand F.H. Mohamed² 

¹Acute Care Surgery Department, Hamad Medical Corporation, Doha, Qatar, and ²Internal Medicine Department, Hamad Medical Corporation, Doha, Qatar

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Fig. 1 COVID-19-related non-surgical causes of acute abdomen



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- 2 Saeed U, Sellevoll HB, Young VS, Sandbaek G, Glomsaker T, Mala T. Covid-19 may present with acute abdominal pain. *Br J Surg* 2020; **107**: e186–e187.
- 3 Ahmed AOE, Badawi M, Ahmed K, Mohamed MFH. Case report: COVID-19 Masquerading as an Acute Surgical Abdomen. *Am J Trop Med Hyg* 2020; <https://doi.org/10.4269/ajtmh.20-0559> [Epub ahead of print].
- 4 Connors JM, Levy JH. COVID-19 and its implications for thrombosis and anticoagulation. *Blood* 2020; **135**: 2033–2040.
- 5 Farid Y, Schettino M, Kapila AK, Hamdi M, Cuyllits N, Wauthy P *et al.* Decrease in surgical activity in the COVID-19 pandemic: an economic crisis. *Br J Surg* 2020; <https://doi.org/10.1002/bjs.11738> [Epub ahead of print].