

EDUCATION AND IMAGING

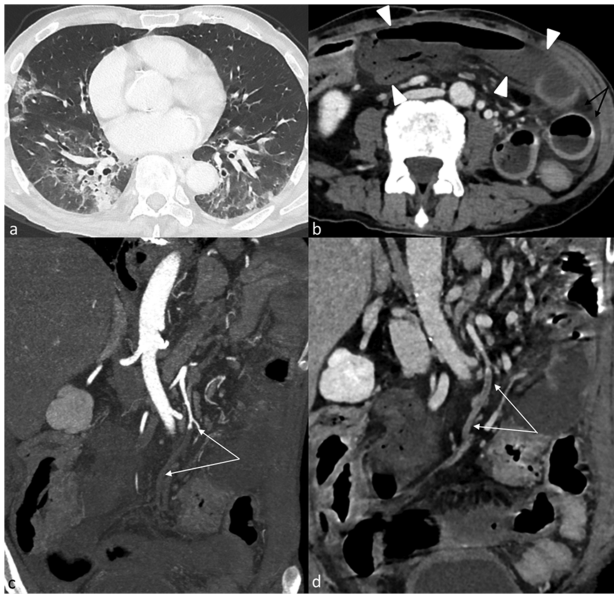
Gastrointestinal: Bowel ischemia in a suspected coronavirus disease (COVID-19) patient

Figure 1 (a–d) CT scan of the chest (a) demonstrates bilateral opacities localized in peripheral and central parts of the lung, with prevalence of ground-glass pattern. In the abdomen (b), multiple small bowel loops are dilated and contain air-fluid levels; thinning of the walls and absence of contrast enhancement (arrowheads) indicate ischemia. Edema of the mesenteric fat and a small fluid collection are also seen (black arrow in b). Paracoronary reconstructions show occlusion of the superior mesenteric artery (arrows in c) due to thromboembolism, with associated late enhancement of the arterial walls in the equilibrium phase (arrows in d), suggestive for inflammation.

A 70-year-old male was admitted to our hospital for abdominal pain, nausea, fever, pharyngodinia, and cough for 3 days. His oxygen saturation was 95% and body temperature 37.5°C. Moreover, diffuse abdominal tenderness and positive Blumberg sign were observed.

Laboratory test showed increased white blood cell count ($15.3 \times 10^3 \mu\text{L}$, with 90% neutrophils) and increased C-reactive protein (149 mg/L), with normal levels of total bilirubin and transaminase.

Reverse transcription polymerase chain reaction (RT-PCR) performed on nasopharyngeal swab resulted negative for SARS-

CoV-2 infection, and therefore, suspected COVID-19 was the final diagnosis, according to the European Center for Disease Control criteria.

Computed tomography (CT) demonstrated findings classified as common in COVID-19 pneumonia, according to the recommendations of the Radiologic Society of North America. Contrast-enhanced CT of the abdomen showed acute small bowel hypoperfusion (Fig. 1a). The patient was declared inoperable and passed away 2 days after admission, despite medical treatments.

The case above described had clinical signs and symptoms and chest CT findings consistent with COVID-19, but the final diagnosis was suspected COVID-19 due to the negative result of RT-PCR.

However, this clinical scenario is not unusual due to the well-known low specificity of RT-PCR on nasopharyngeal swab. The clinical course of COVID-19 may be complicated by coagulopathy. Pulmonary embolism was recently described as a possible complication in patients with severe bilateral pneumonia from COVID-19. Furthermore, a significantly higher incidence of disseminated intravascular coagulation was recently demonstrated in the group of non-survivors of a population of patients affected by COVID-19 pneumonia.

To the best of our knowledge, this is the first report on acute bowel ischemia due to thromboembolism, in a non-survivor patient with suspected COVID-19. This case highlights the concept that it is possible to find extrapulmonary symptoms and signs of thromboembolism also in patients with the diagnosis of suspected COVID-19. Therefore, in suspected and confirmed COVID-19, it is mandatory for radiologists to acquire CT also in the arterial phase and to carefully analyze all vascular structures, in order to detect any sign of thromboembolism, in both pulmonary and systemic circulation.

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