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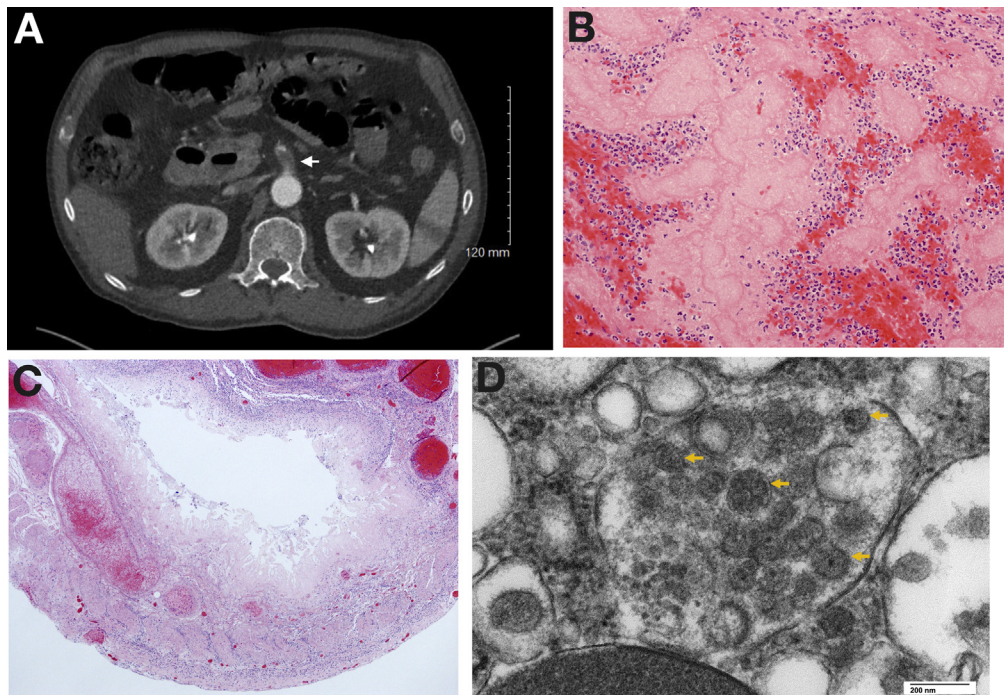
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SARS-CoV-2-related Hypercoagulable State Leading to Ischemic Enteritis Secondary to Superior Mesenteric Artery Thrombosis



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A 69-year-old man with known COVID-19 presented to the emergency department with constant midepigastric pain, constipation, and eructation. Physical examination revealed a temperature of 36.7°C, blood pressure of 185/110 mm Hg, pulse of 115 beats per minute, respiratory rate of 17 breaths per minute, and oxygen saturation of 95%. Computed tomography angiogram demonstrated a thrombus in the proximal segment of the superior mesenteric artery (Figure A, arrow) with complete occlusion in the right ileocolic branches. The patient underwent a small bowel resection and superior mesenteric artery thromboembolotomy. Histopathology from the thromboembolotomy showed organizing thrombus (Figure B), and the bowel showed extensive mucosal necrosis and transmural inflammation consistent with marked ischemic-type injury (Figure C). Electron microscopy showed viral particles clustered within membrane-bound cisternal spaces in enterocytes

(Figure D, arrows indicate representative viral particles). Postoperatively, the patient's clinical course improved dramatically and he was eventually discharged for ongoing self-isolation.

SARS-CoV-2 infects enterocytes via the angiotensin-converting enzyme 2 receptor resulting in diarrhea, nausea, vomiting, and/or abdominal pain. The development of coagulopathy in COVID-19 may have overlapping features with its gastrointestinal manifestations. Given that these gastrointestinal symptoms may predate respiratory symptoms, this awareness may aid in earlier detection, isolation, and treatment of at-risk patients.

Conflicts of interest
The authors disclose no conflicts.

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