


of suspicion is required when investigating any abnormal scar transformations.

From a reconstructive perspective, vascular supply to the anterior abdominal wall following gastroschisis has not been described and in this scenario was made even more challenging by significant scarring from multiple previous surgeries. A preoperative computed tomography angiogram identified the presence of a deep inferior epigastric artery on the ipsilateral resection side but not on the contralateral lower abdominal wall, demonstrating an aberrant blood supply to the anterior abdominal wall. As such, the rotational flap used to close the defect was based inferomedially on the existing deep inferior epigastric artery and its perforators, ignoring the existing midline laparotomy scar.

Marjolin's ulcers are uncommon but a high index of suspicion should always be held when scars present with indolent transformations, even in the absence of cutaneous ulceration.

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Unsuspected clinical presentation of coronavirus disease 2019: acute bowel disease

With the advent of coronavirus disease 2019 (COVID-19) pandemic, significant extrapulmonary clinical presentations were observed in high prevalence settings like our hub hospital in Bergamo, Italy, besides the well-documented respiratory complications.

We present a case in which unremarkable abdominal examination hid intestinal complications of COVID-19.

A 62-year-old male with no medical history presented to the emergency department with fever, cough and dyspnoea in the past 13 days.

His parameters were: temperature 38.2°C, arterial pressure 170/90 mmHg, heart rate 80 bpm, oxygen saturation 93% and respiratory rate 22 breaths/min. The abdomen was tense with diffuse mild tenderness to palpation and no signs of peritonitis on physical examination. Laboratory tests showed slight signs of inflammation.

The patient's nasopharyngeal swab analysis with reverse transcriptase polymerase chain reaction for severe acute respiratory syndrome coronavirus 2 was positive. Thoracic computed tomography (CT) scan highlighted diffuse bilateral ground-glass opacities

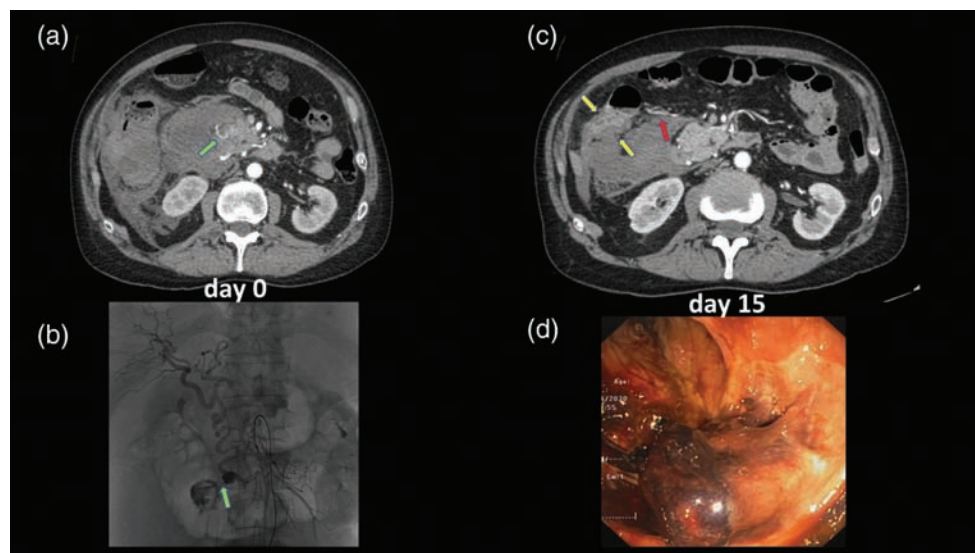
compatible with COVID-19 interstitial pneumonia. The patient was promptly hospitalized. Unfortunately, his symptoms worsened the day after, and acute abdominal pain associated with hypotension suddenly began. He underwent contrast-enhanced abdominal CT scan (Fig. 1a) that showed a retroperitoneal haematoma with active bleeding due to a ruptured aneurysm of the pancreaticoduodenal arcade. Treated with selective embolization (Fig. 1b), he was discharged after 13 days with no symptoms.

The patient was readmitted for repeated episodes of rectal bleeding after 2 days.

The contrast-enhanced abdominal CT scan revealed submucosal oedema of the ascending colon, with mucosal hyperaemia, patent mesenteric vessels and mild shrinking of the retroperitoneal haematoma (Fig. 1c). A colonoscopy was also performed (Fig. 1d); mucosal hyperaemia and oedema with ulcerations of the ascending colon were described.

Attributing the intestinal manifestations to COVID-19 infection, the patient was treated with oxygen therapy, hydroxychloroquine,

Fig 1. (a, b) Retroperitoneal haematoma with active bleeding due to a ruptured aneurysm of the pancreaticoduodenal arcade (green arrows); (c) submucosal oedema of the ascending colon, with mucosal hyperaemia (yellow arrows) and patent mesenteric vessels (red arrow); (d) colonoscopy.



darunavir/cobicistat, methylprednisolone and piperacillin/tazobactam. At the time of manuscript submission, the patient was still admitted to the hospital, but had clinically improved with resolution of rectal bleeding.

COVID-19 presents with gastrointestinal (GI) symptoms (anorexia 83.8%, diarrhoea 29.3%, vomiting 0.8% and abdominal pain 0.4%) associated with respiratory symptoms in almost half of the cases. This presentation is more likely in elderly population and the GI manifestations alone are extremely rare.¹ When GI system is involved, the physical examination usually shows only moderate distension of the abdomen with mild tenderness. However, an unexpected frequency of segmental thickening with marked oedema of the bowel wall or the occurrence of segmental dilatation of the colon found after performing bowel sonography and CT scan can be suggestive for bowel ischaemia. When colonoscopy is feasible, segmental bowel ischaemia with mucosal ulcerations, microhaemorrhages and focal vascular congestion can be observed. Eventually, surgery can become a necessary therapeutic option.

Several hypotheses can be made to explain those findings. First, the observed abnormalities could be due to COVID-19 enterocolitis, which usually presents with nausea, vomiting, fever and watery or bloody diarrhoea.^{2,3}

Second, the reduction in the number of functioning angiotensin-converting enzyme 2 receptors, due to binding to the severe acute respiratory syndrome coronavirus 2 spike protein, could decrease the synthesis of angiotensin 1–7, a peptide that exerts protective effects against bowel inflammation, restores mesenteric blood flow and reduces oxidative stress to the bowel.^{4–6}

Third, damage to the intestinal microvasculature and microvascular obstruction can be consequences of the COVID-19 infection, which has been recently correlated with a state of hypercoagulability⁷ and with endothelial dysfunction.⁸ In these conditions, a small reduction of the intestinal blood flow can be deleterious in elderly patients with pre-existing impaired bowel perfusion.

Finally, the composition of gut microbiota, which differs among patients and is altered by the use of antibiotics, could contribute to bowel inflammation and explain why the right colon is most often


affected, as microbiota differs between the left and the right colon and the bacterial biofilm is preferentially formed on the latter one.^{9,10}

This case demonstrates that bowel pathology from COVID-19 can be part of a multisystem involvement and COVID-19 patients should be thoroughly evaluated, even in case of mild abdominal symptoms, as the intestinal picture, although rare, may be life-threatening.

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Small bowel intussusception secondary to Meckel's diverticulum containing polypoid lesion in pregnancy

A 27-year-old female, 21 weeks pregnant, was brought in by ambulance to a rural New South Wales Emergency Department with a 24-h history of lower abdominal pain associated with intermittent nausea and vomiting. She had no fevers or changes to bowel habit and had passed a normal bowel motion that morning. She had no significant medical history and was primigravida.

On examination, pain was elicited in her right upper and lower quadrants with uterus palpable up to the umbilicus. Physical examination was otherwise unremarkable. A foetal ultrasound revealed a normal pregnancy and normal foetal heart rate. Her blood tests showed a mild neutrophilia (9.20×10^9) and elevated white cell count to 11.16×10^9 . Her blood was otherwise unremarkable. Sonography revealed a target sign consistent with intussusception, with focal tenderness over this area. There was no free fluid or other abnormalities detected (Fig. 1).

She proceeded to an emergency laparoscopy and reduction of intussusception. Upon exploration, an ileo-ileal invagination was discovered and a mass was felt at the lead point of the intussusception. As a result, the case was converted to a mini-laparotomy and Meckel's diverticulum was found to be causing the intussusception. A small bowel resection and side-to-side anastomosis followed with no further complications or findings. Post-operatively, the Meckel's diverticulum was opened to reveal a 3 × 2-cm intraluminal polypoid lesion (Fig. 2). This lesion was found to consist of a mixture of

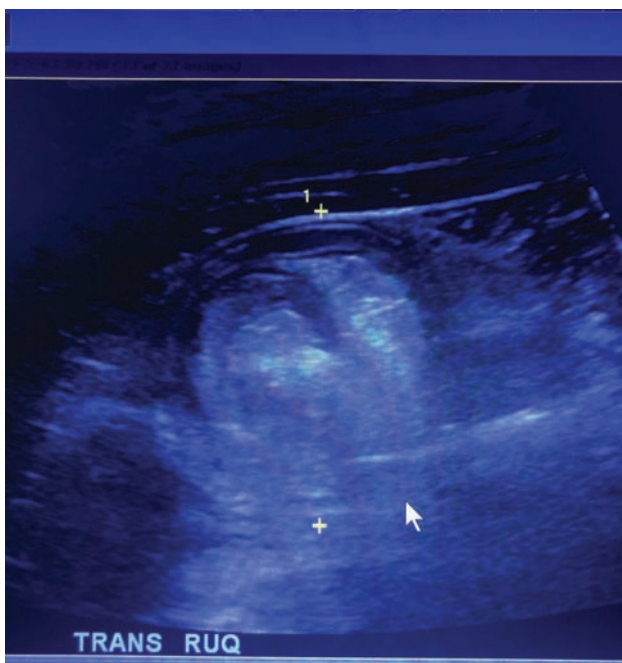


Fig. 1. Sonography revealing classing 'target sign'.

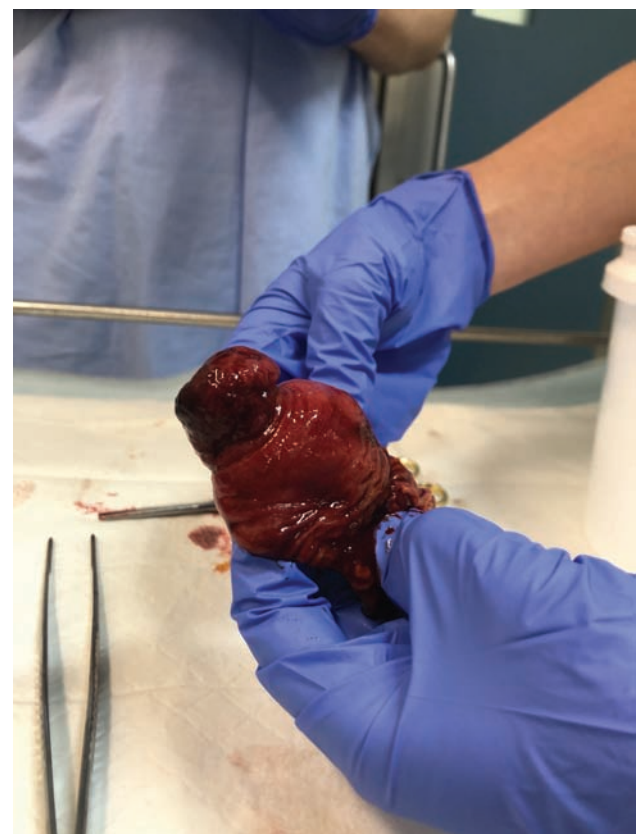


Fig. 2. Opening specimen revealing lead point as polypoid lesion.