

An Interesting Twist: An Adult Midgut Volvulus Presenting as a Transverse Colon Volvulus, Both Rare Phenomena

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Background

- A volvulus is a twisting of an intestinal malrotation upon its mesentery
- A transverse colon volvulus is rare in adults; a small intestinal volvulus less so.
- The embryonic gut has three divisions
 - The foregut comprises the esophagus through the pancreas and ampulla of Vater
 - The midgut comprises the distal duodenum to the proximal two-thirds of the transverse colon
 - The hindgut comprises the distal one-third of the transverse colon to the rectum

Case Report

Patient history:

- A 62-year-old man with no significant past medical history presented to the emergency department with complaints of intractable nausea, vomiting, and abdominal pain for twenty-four hours. He had been evaluated at an outside hospital where an abdominal and pelvis computed tomography was read as a transverse colon volvulus, a vanishingly rare medical condition. A CT reimaging of the abdomen and pelvis illustrated a whirlpool sign in the region of the small bowel, consistent with a small bowel volvulus.

Diagnosis and treatment

- He had initially presented to an outside hospital where a CT of the abdomen and pelvis showed a “volvulus of the transverse colon” with “a moderate amount of stool in the left and right colon.” A CT was repeated to show if there was a transverse volvulus. The results showed unusual whirlpool-like mesenteric swirling of the left central abdomen, centered around the distal aspect of the superior mesenteric vessels. There were a few prominent small bowel loops which were not frankly dilated. Oral contrast had reached the mid small bowel at the time of the CT scan. A few distal small bowel loops were decompressed. Diagnostic considerations include mesenteric volvulus.

Outcome

- Surgery was embarked upon. Exploratory laparoscopy was performed. Findings were consistent with an omentum that was adhered up to the epigastrium along the midline. This was lysed. There was no evidence of ischemia in the bowel and no evidence of volvulus in the cecum or transverse colon. The sigmoid colon was as well without evidence of volvulus. There was a loop of jejunum that was adhered down to the anterior pelvis wall along the previous peritoneal flap dissection. This created an internal hernia with multiple loops of small bowel that was herniated underneath. The adhesion was lysed, and the hernia was reduced. No other evidence was identified of any small bowel pathology that could have caused any of the patient’s symptoms of intractable abdominal pain, nausea, and vomiting.

Imaging



Discussion

This case presents with some unusual features. The patient was initially referred from the original outside emergency room for a possible volvulus of the transverse colon. This would be an exceedingly rare condition by review of the noncontrast CT scan of the abdomen. The patient presented with history suggestive of a possible intermittent bowel obstruction. The decision was made to pursue further imaging first rather than proceed straight to surgery was based on a relatively benign physical examination as well as an inability to visualize the small intestine. Upon reimaging, the contrast CT scan of the abdomen and pelvis showed the unusual whirl or whirlpool sign centered around the distal mesenteric vessels (shown in figure.) Subsequent plain films of the abdomen showed oral contrast and that there were prominent but not dilated loops of bowel.

Clinical Implications

- Volvulus is a life-threatening condition that is frequently missed by healthcare providers
- Awareness of this disease process can save lives
- The differential diagnosis can be confusing, including ileus, fecal impaction, small bowel obstruction
- The whirlpool sign is seen on CT when there is a twisting of blood vessels about the mesentery
- This case report highlights the importance of early clinical suspicion and the detection of the whirlpool sign using computed tomography

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