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IMAGE | COLON

Sigmoid Volvulus as the Initial Presentation of Chronic Intestinal Schistosomiasis

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CASE REPORT

A 20-year-old man from Egypt presented to our emergency department with worsening abdominal pain over the past few days. He experienced constipation for 3 days and obstipation for 1 day. His medical history was notable for intermittent episodes of abdominal pain over the past few months, but otherwise unremarkable. Physical examination showed a distended abdomen with tenderness to deep palpation. Rectal examination showed an empty vault and a good anal sphincter tone. Differential white blood cell analysis showed elevations in each of the eosinophil count at 6.4%, the basophil count at 1.2%, and the monocyte count at 11.2%. Abdominal contrast-enhanced computed tomography scans revealed considerable dilation of the sigmoid colon, measuring up to 8.6 cm, along with twisting of the mesentery, consistent with volvulus (Figure 1). The patient was then admitted to the hospital, and a colonoscopy was performed; however, bowel decompression was unsuccessful. Subsequently, he underwent a sigmoid colectomy with colorectal anastomosis.

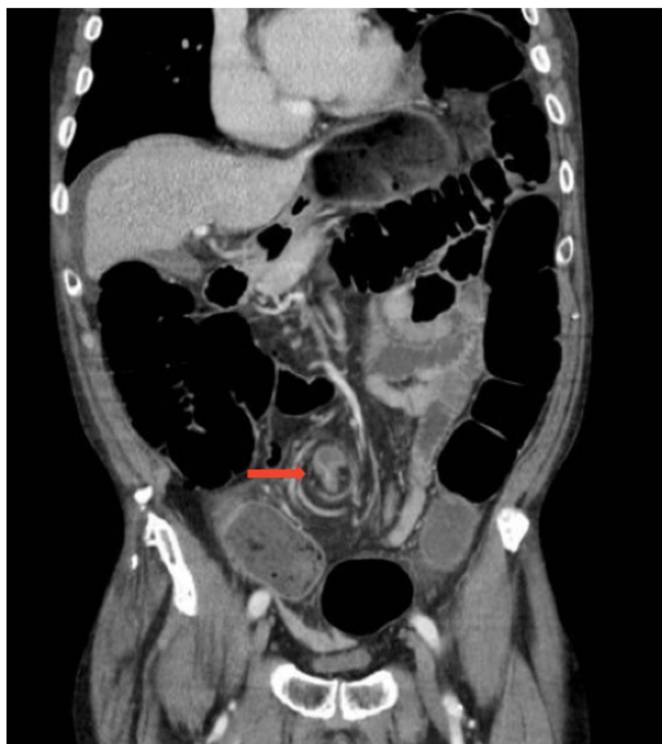

Figure 1. Computed tomography of the abdomen and pelvis showing the site of mesenteric twist with swirling of blood vessels (red arrow), consistent with volvulus.

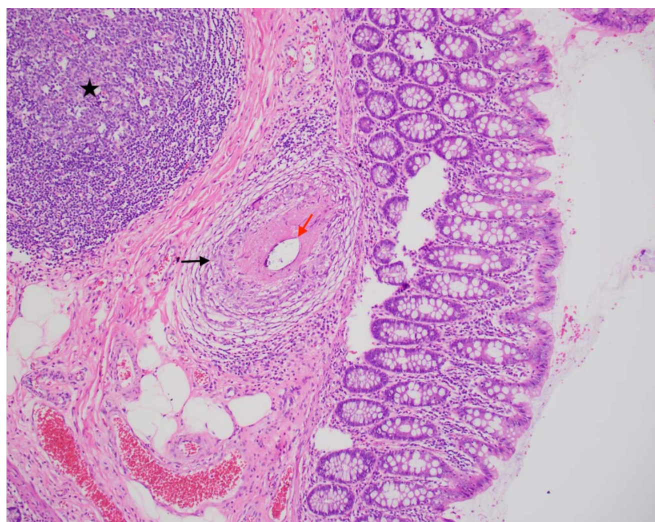

Figure 2. Histologic sections from sigmoid colon resection show that the submucosa has hyperplastic lymphoid aggregates (star) with overlying fibrosis (blue arrow). Multinucleated giant cells forming non-necrotizing granulomas are also seen within the submucosa (black arrow). The center of the granulomas shows calcified ova of the *S. mansoni* parasite (red arrow).

Microscopic examination of the resected sigmoid colon showed hyperplastic lymphoid aggregates with overlying fibrosis. Histologic sections also showed multinucleated giant cells forming

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non-necrotizing granulomas within the submucosa of the sigmoid colon. The center of the granulomas showed calcified ova typical to those of the *Schistosoma mansoni* parasite (Figure 2). This was consistent with chronic schistosomal colonic disease that resulted in bowel enlargement and subsequent volvulus. Postoperatively, the patient recovered well and was treated with praziquantel. Further follow-up stool and urine tests were negative for Schistosoma eggs, showing that he responded well to the treatment.

Volvulus is an uncommon cause of large bowel obstruction, accounting for 10%–13% of cases in the United States, with the sigmoid colon being the most common site involved.[1] Large bowel volvulus due to schistosomiasis is particularly unusual. Only 2 cases worldwide have been formerly reported.[2,3] In both cases, including this case, schistosomiasis infection was not previously diagnosed or suspected before the onset of volvulus. Although schistosomiasis is the second most prevalent parasitic disease worldwide, it is very rarely observed in nonendemic regions. Intestinal schistosomiasis is mainly caused by *S. mansoni*. The pathogenesis of the disease is mediated by the host's cellular immunity. The ovum within the submucosa induces a strong inflammatory response in the form of granuloma formation and lymphoid hyperplasia, resulting in ova entrapment and progression in inflammation with fibrosis.[4]

DISCLOSURES

Author contributions: All authors contributed equally to the preparation of the manuscript, analysis and interpretation of data, and technical or material support. G. Ilyas is the article guarantor.

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