Infiltrating Strongyloides stercoralis presenting as duodenal obstruction

Deepak Suvarna, Rajiv Mehta, Shine Sadasivan, Raj V V, Balakrishnan V

Department of Gastroenterology, Amrita Institute of Medical Sciences, Amrita Lane, Elamakkara P O, Cochin 682 026

Small intestinal obstruction due to Strongyloides stercoralis is rare and has not been reported in an immunocompetent patient. We describe a 70-year-old immunocompetent man presenting with duodenal obstruction secondary to severe S. stercoralis infestation, as documented on duodenal biopsy. He was treated with ivermectin, with which he recovered remarkably. [Indian J Gastroenterol 2005;24:173-174]

The gastrointestinal manifestations of Strongyloides stercoralis infection include abdominal pain, diarrhea, nausea, vomiting and rarely malabsorption; many patients are asymptomatic. Chronic infestation is usually limited to the duodenum and jejunum. Disseminated infection occurs in the immunocompromised host.

A 70-year-old man presented with recurrent bilious vomiting and anorexia since 2 months. Vomiting was preceded by abdominal distension and pain. There was no history of GI bleeding. He had lost 12 Kg weight since 2 months. The patient did not give history of any significant illness in the past and was not on any medication. On examination, he was emaciated; abdominal examination was normal.

Routine blood tests showed hemoglobin 12 g/dL, serum albumin 2.9 g/dL, total WBC count 11,000/µL, neutrophils 65% and absolute eosinophil count 220/µL. stool examination done twice was normal. Serology for human immunodeficiency virus was negative. Plain X-ray abdomen was normal. Upper GI endoscopy showed effacement of the duodenal folds, narrowing in the third part of duodenum, with food residue in the stomach. Barium study revealed narrowing of the third part of duodenum with mucosal ulcerations; rest of the small bowel was normal. CT scan showed dilated stomach and proximal duodenum. Duodenal biopsy revealed S. stercoralis in the submucosa with inflammatory infiltrates (Fig).

The patient was treated initially with albendazole 400 mg twice daily for 2 days but he did not have relief of symptoms even after 2 weeks. He was then put on ivermectin 6 mg twice daily for 2 days. Within 2 months, his abdominal symptoms resolved, and he had gained 8 Kg weight. Upper GI endoscopy and barium study repeated after the treatment was normal.

Small bowel obstruction due to S. stercoralis infestation is rare. Duodenal obstruction due to enteritis has been described in an HTLV-1-infected patient. Small bowel obstruction in secondary to intense infestation and mucosal edema. Duodenal entrapment at the level of the enlarged superior mesenteric artery has also been reported.

Treatment consists of either albendazole 400 mg/day or ivermectin 200 µg/Kg/day twice daily for two days. Our patient responded to ivermectin.

References
Patients with liver cirrhosis are well known to be prone to infections. These are a source of considerable morbidity and often mortality, and hence need prompt and aggressive treatment. Skeletal infections are an often-unrecognized group of infections in patients with liver cirrhosis. We present two such cases seen over a period of one year.

**Case 1:** A 46-year-old man with alcohol-related liver cirrhosis with portal hypertension and diabetes mellitus, presented with fever off and on for 4 months. There was no history of cough, dysuria, headache, or joint pains. Evaluation done outside was inconclusive. On admission he was pale, febrile, hemodynamically stable; physical examination was otherwise unremarkable.

**Investigations:** hemoglobin 7.6 g/dL, white cell count 3,800/cm³, platelets 91,000/cm³, ESR 70 mm in 1st hour, serum bilirubin 1.2 mg/dL (direct 0.6), AST 27 U/L, ALT 16 U/L, serum protein 6.4 g/dL (albumin 2.4), INR 1.7. Renal function tests and electrolytes were normal. Routine examination of urine was normal and culture was sterile. Chest X-ray was normal.

Blood culture showed *E. coli* bacteremia. ELISA for HIV was negative. Echocardiography did not reveal any vegetations. He was treated with culture-sensitive antibiotics and discharged after the fever subsided.

He was readmitted with fever after one month. This time he gave history of severe low backache increased on prolonged sitting or walking. He had numbness of both lower limbs. He was found to have weakness of extensor hallucis longus and dorsiflexors of right lower limb. MRI spine revealed disk protrusion at L4-L5, with narrowing of neural foramen and lateral recess (Fig). He underwent disectomy. Intra-operatively the disk space was found to be infected. Culture of disk material showed *E. coli*. He was managed with culture-sensitive antibiotics and analgesics. However, as there was no relief in pain, re-exploitation was done after 2 weeks and posterior lumbar intrabody fusion was done. He was discharged after one month and was doing well on follow up at 3 months.

**Case 2:** A 42-year-old man, previously diagnosed to have alcohol-related liver cirrhosis with portal hypertension, presented with upper GI bleed and right-sided chest wall abscess. On examination he was found to be pale and febrile, with a large parietal swelling on the right side of chest.

**Investigations:** hemoglobin 6 g/dL, white cell count 32,000/cm³, serum bilirubin 8.6 mg/dL (direct 3.8), AST 84 U/L, ALT 49 U/L, alkaline phosphatase 64 U/L, serum protein 7 g/dL (albumin 1.6). ELISA for HIV was negative. Ultrasonography (USG) showed shrunken liver with coarse echotexture, splenomegaly and gross ascites. Diagnostic paracentesis of ascitic fluid did not suggest spontaneous bacterial peritonitis. USG chest showed a 19 cm x 8 cm heterogeneous cystic lesion with internal echoes abutting the right chest wall muscles and ribs, almost reaching up to the axilla, and right-sided pleural effusion. Pleural fluid aspirate showed 788 cells (64% polymorphonuclear), glucose 79 mg/dL, LDH 1430 U/L, and no AFB. Aspirate from the abscess was thick and hemorrhagic, and sterile on routine culture.

He was treated with parenteral broad-spectrum antibiotics, vitamin K, packed RBC, platelet, and plasma transfusions. As his coagulopathy worsened despite attempts at correction, incision and drainage of abscess was deferred on surgeon’s advice. However he continued to be febrile. CT chest showed...