Unusual presentation of more common disease/injury

Happy ending of life-threatening upper GI bleeding

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Strongyloides stercoralis is an intestinal nematode in humans, and estimated about tens of millions of people are infected worldwide. This parasite is endemic in tropical or temperate and subtropical climates like Bangladesh. The authors report a 33-year-old man who presented with recurrent life-threatening upper gastrointestinal bleeding from gastric infection by *S stercoralis*.

BACKGROUND

Acute gastrointestinal (GI) bleeding is a potentially life-threatening abdominal emergency. Bleeding from the upper GI tract is approximately four times more common than the lower GI tract and is a major cause of morbidity and mortality.¹ Mortality from upper GI bleeding are 6%–10% overall.¹ Sometimes patient underwent extensive evaluations by multiple specialists, but no definitive diagnosis was made. In this case report, patient presented with a very uncommon cause of life-threatening acute upper GI bleeding.

CASE PRESENTATION

On 13 August 2010, a 33-year-old man presented with recurrent passage of black tarry stool for last 1 month. He was a known case of rheumatoid arthritis for last 5 years and was on oral non-steroidal anti-inflammatory drugs (NSAIDs), prednisolone and methotrexate. On admission, clinical examination revealed that he had features of drug induced Cushing's syndrome with severe anaemia and oral candidiasis. Other clinical examinations revealed normal findings. Our provisional diagnosis was rheumatoid arthritis with drug induced Cushing's syndrome with drug induced upper GI bleeding with oral candidiasis.

Laboratory test results showed haemoglobin 4.82 g/dl, haematocrit 15.42% and peripheral blood film showed microcytic hypochromic anaemia. All other biochemical test and HIV screening revealed normal findings. Upper GI endoscopy showed an annular shaped ulcer in the antrum near the pyloric ring with active bleeding. Inj. Proton Pump inhibitor, blood transfusion and other supportive management started and gradually oral prednisolone was withdrawn. Even after 4 days, clinical improvement did not occur, so anti *Helicobacter pylori* therapy (omeprazole, clarithromycin, amoxicillin) was started for 7 days as this infection is very common in our country. After the end of 10 days, he did not show any improvement. Repeat upper GI endoscopy was done and showed the same features as before. This time biopsy

was taken from the ulcer for histopathology, and endoscopic thermal coagulation was done, which was unsuccessful. Surgery was contemplated as there was failure to respond to medical and endoscopic therapy. Within this time, he was transfused with 12 units of blood. Finally, histopathology showed a darkly stained oval elongated larva of *Strongyloides stercoralis* in the mucosal layer (figure 1). The cause of this life-threatening upper GI bleeding was revealed. Stool was sent for routine test but larvae of *S stercoralis* was not found (may be because of huge blood mixed stool).

DIFFERENTIAL DIAGNOSIS

- NSAIDs induce bleeding gastric ulcer.
- *H pylori* induce bleeding gastric ulcer.

TREATMENT

Patient was treated with albendazole and ivermectin and improved dramatically within 3 days. His bleeding stopped and required no further blood transfusion.

OUTCOME AND FOLLOW-UP

Follow-up endoscopy after 2 weeks, showed completely healed ulcer with no bleeding point. The patient remained asymptomatic at follow-up in May 2011.

DISCUSSION

S stercoralis is an intestinal nematode in humans, and estimated about tens of millions of people are infected worldwide.² This parasite is endemic in tropical or temperate and subtropical climates like Bangladesh. It infects human with the penetration of the skin by filariform larvae, which migrate haematogenously to the lungs. Larvae then ascend the airway, are swallowed, and mature in the gut. The adult form preferentially localises in the intestine mucosal wall, producing eggs that develop rapidly into the rhabditiform larvae which can be found in the stool specimens.^{2 3} This infective cycle may persist and disseminated due to immunocompromised

Figure 1 Haematoxylin-eosin stain of the biopsy sample from gastric ulcer showing darkly stained adult *Strongyloides stercoralis* in the mucosa layer (arrow).

status from HIV, chemotherapy or corticosteroid therapy.^{2 3} Glucocorticoids are the most widely used immunosuppressive drug and the most specifically associated with transforming chronic strongyloidiasis to hyperinfection.^{2 3} Numerous other drugs have contributed to immunosuppressive states associated with strongyloid hyperinfection, including azathioprine, cyclophosphamide, antithymocyte globulin, anti-CD3, chlorambucil, 6-mercaptopurine, methotrexate, bleomycin, adriamycin, doxorubicin, daunorubicin, ifosfamide, melphalan, carmustine, VP16 and mitoxantrone, as well as total body irradiation.² In our patient, the main cause of his immune suppression was long-term use of prednisolone and methotrexate.

In a healthy host, the parasite usually does not cause any symptoms but it can cause symptoms even fulminant fatal illness under certain conditions associated with a compromise of host immunity.^{2 3} Although *S. stercoralis*

may infect many organs (small intestine, lung) in hyperinfection, the involvement of the stomach is relatively rare.³ GI symptoms are most common but are non-specific. Abdominal pain, often described as crampy or bloating in nature, watery diarrhoea, constipation, anorexia, nausea, vomiting, weight loss, sore throat and GI bleeding in any order or combination are frequently reported.²⁻⁴ In this patient, upper GI bleeding was the only presenting symptom.

The finding of larvae in the stool is diagnostic. Mucosal ulceration is most common in the small intestine, but can occur at any level from the oesophagus and stomach to the rectum. Larvae may be seen in these ulcers on biopsy.^{2 4-6} Strongyloides infection should always be treated even in the asymptomatic patient, albendazole and ivermectin have markedly improved efficacy of treatment.^{2 5} The case of strongyloides infection presented here shows how difficult making the diagnosis is. *S. stercoralis* infection can rapidly become fatal, so early diagnosis and treatment are very important, especially in immunocompromised patient.

Learning points

- ▶ • Acute GI bleeding is a potentially life-threatening abdominal emergency.
- ▶ In a healthy host, the *S. stercoralis* usually does not cause any symptoms but it can cause symptoms even fulminant fatal illness under certain conditions associated with a compromise of host immunity.
- ▶ *S. stercoralis* is a very rare cause of life-threatening upper GI bleeding.

Competing interests None.

Patient consent Obtained.

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