

# Trichuris Trichiura Induced Massive Lower Gastrointestinal Hemorrhage A Rare Presentation

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## Abstract

Massive gastrointestinal bleeding from the small intestine is uncommon. It is usually a complication of advanced local small bowel pathology or vascular abnormalities. Parasitic infections causing gastrointestinal bleeding are usually a feature of large bowel parasitic infestations. Small parasitic infestation can cause chronic anemia rather than acute bleeding. This is a report of massive small intestinal bleeding caused by *Trichuris trichiura* infection. The patient had a dramatic response to the treatment with Albendazole for 6 days.

## INTRODUCTION

Trichuriasis is a common intestinal helminthic infection worldwide; it is caused by the intestinal nematode *Trichuris trichiura* (TT) or whip-worm.<sup>1</sup> The infection is transmitted via fecal-oral spread and is endemic in tropics and subtropics in areas with poor socio-economic conditions and deprived communities. About 500 - 600 million people worldwide are infected by *T. trichiura*.<sup>2</sup> The ingested eggs hatch in the small intestine and release rhabditiform larvae that will develop into adult worms and migrate into the large bowel mainly the cecum and the ascending colon.<sup>1</sup> TT infected patients are usually asymptomatic but children with heavy infections may have retarded growth.<sup>1</sup> Gastrointestinal bleeding due to TT infection was rarely reported with heavy infection.<sup>1,3</sup> The diagnosis of TT infection is based on detection of TT egg in the stool,<sup>1</sup> but in some patients computed tomography (CT scan) and colonoscopy were found to be helpful in the diagnosis.<sup>4,5</sup> Mebendazole is the treatment of choice for TT infection. Albendazole can be used as an alternative but it has lower efficacy against TT. Recently both mebendazole and albendazole were reported to exert a low rate of recovery of TT worms from the stool after the longest treatment regimen and alternative regimens or other treatment are suggested.<sup>6</sup> The following case represents a rare presentation of TT infection with massive lower gastrointestinal bleeding.

## CASE PRESENTATION

A 48 year Indian male patient presented to the emergency department (ER) with massive lower gastrointestinal (GI)

bleeding. He had been well until one week before admission when he had mild to moderate dull aching lower abdominal pain. Two days before admission the abdominal pain increased in severity and he developed frequent attacks of melena and large amounts of fresh per rectal bleeding. He did not have a history of use of non-steroidal anti-inflammatory medications, previous history of liver disease, history of GI bleeding or hematological disorders. He had no history of alcohol intake. There were no other significant past history, medical diseases or surgical procedures. He was resident in Saudi Arabia for 16 years with no history of recent travel. He used to eat outdoor meals on almost daily bases.

## PHYSICAL EXAMINATION

On arrival to ER. The blood pressure was 109/72 mmHg, the pulse was 98 beat/minute it was regular and of normal volume, he was afebrile and the respiratory rate was 20/minute. He was severely pale but not jaundiced and there were no general stigmata of chronic liver disease or other chronic illnesses. His abdominal examination was positive for mild diffuse abdominal tenderness; on rectal examination he had fresh blood per rectum. The chest, cardiovascular and nervous system examination were normal.

## INVESTIGATIONS

Complete blood count white blood cells (WBC) 17.8 K/uL normal (4.5-11.5) with neutrophils predominance 86.6% and eosinophils 0.2% hemoglobin (Hb) was 5.5 g/dL normal (14-18), platelets count 388 K/uL normal (150-450). Prothrombin time 1 second which is normal, Erythrocyte

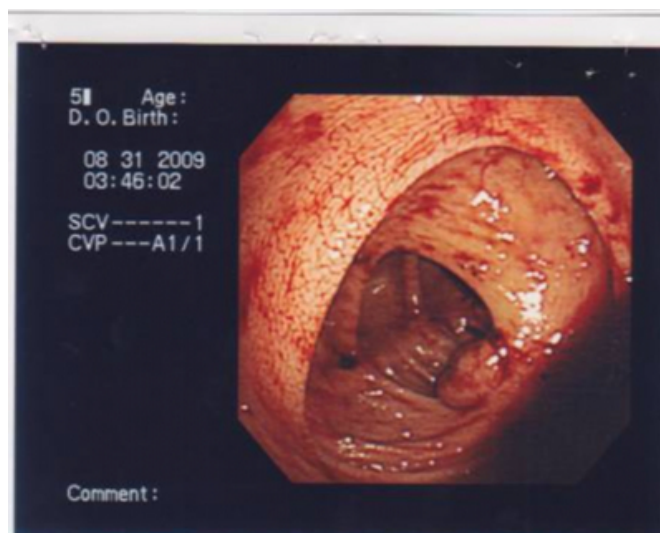
Sedimentation rate (ESR) was normal. The electrolyte and renal functions were normal with sodium 137 mmol/L, potassium 4 mmol/L, Chloride 94 mmol/L and urea 5.2mmol/L and creatinine 94µmol/L. The random blood sugar was normal 7.1 mmol/L. The liver enzymes were also normal, Aspartate Amino Transferase (AST) 19 IU/L, Alanine Amino Transferase (ALT) 44 IU/L, Alkaline phosphatase (ALKP) 57U/L, Gamma glutamyl transferase (GGT) 38 U/L. The total bilirubin was normal 5 µmol/L, the serum albumin was slightly low 31g/L normal (34-50). He was resuscitated with blood transfusion and intravenous fluids then he had urgent upper and lower GI endoscopy. The upper GI endoscopy was normal and the colonoscopy showed normal colonic mucosa but full of fresh blood and blood clots, the ileocecal valve was edematous forming polyp like protrusion and it was difficult to be intubated, and small parasite was seen coming through the ileocecal valve to the cecum ( figures 1A, B and 2A, B, C) The parasite was extracted by biopsy forceps and sent to the paracytology lab. Post colonoscopy he was thought to have massive bleeding from the small bowel massive parasitic infestation hookworms were considered but on the other hand other small bowel pathology like malignancies including lymphoma, vascular lesions like angiodysplasia or mickle's diverticulum bleeding were thought of. Surgical consultation was made for possible surgical intervention if the bleeding continued or deteriorate. He was started on Albendazole. 200mg daily. Small bowel enema was done and it was completely normal (figure 3) On the second admission day the bleeding significantly diminished and 2 days after starting albendazole bleeding had completely stopped

Hepatitis serology was negative for Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), and Hepatitis A Virus (HAV). Test for Human immunodeficiency virus (HIV) anti bodies were negative

The paracetology report on the parasite obtained during colonoscopy showed *Trichuris trichiura* larva. Stool analysis was negative for ova and parasite and the stool culture was also negative. Repeted CBC showed Hg of 9.9 and WBC of 14. patient was discharge home in stable condition on the fourth admission day he was continued on albendazole for 6 days. At follow-up 3 weeks after discharge he was asymptomatic and he had normal Hg.

**Figure 1**

Figure 1 A,B: the colonic mucosa at the area of the ileocecal valve was seen edematous, the ileocecal valve is also edematous forming polypoid lesion (arrow)



**Figure 2**

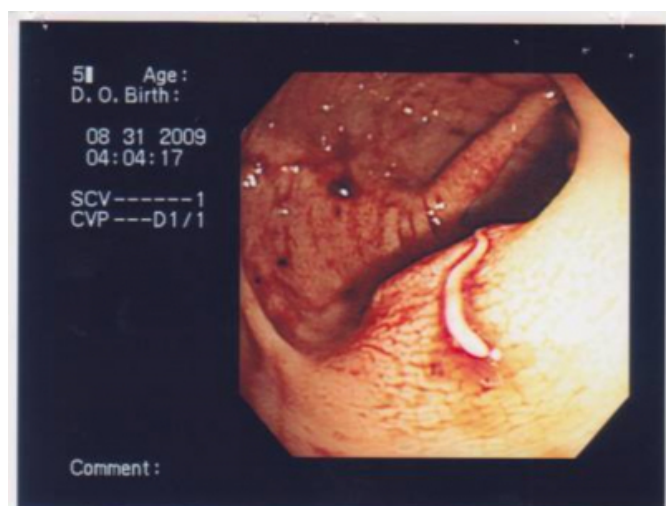


**Figure 3**

Figure 2A, B: the small parasite seen coming through the ileocecal valve to the cecum (arrow) this was recognized latter on to be *Trichuris Trichiura* larva.



**Figure 4**



**Figure 5**

Figure 3: normal small bowel enema.



## DISCUSSION

The above presentation of massive small bowel gastrointestinal bleeding due to whipworm (*Trichuris trichiura*) infection is very rare. Heavy infection may cause chronic anemia or lower GI bleeding from severe colitis.<sup>1</sup> Hung HC, and colleagues reported similar presentation in a patient with TT infection presenting with melena and abdominal pain<sup>3</sup>. Chronic bloody diarrhea with anemia due to TT infection have been also reported by Diniz-Santos DR and his colleagues.<sup>7</sup> Other rare presentation of TT infection was reported in the stomach with symptoms of gastroenteritis.<sup>8</sup> The diagnosis of TT infection by stool examination may be missed in some patients as in patients with isolated adult parasite or in patients infected at the larvae stage. Colonoscopy may be helpful in the diagnosis of patients with TT infection who had negative stool examination for ova.<sup>4,9</sup> The polymerase chain reaction (PCR) was used for detection *Trichuris T* infection as experimental studied but not yet introduced<sup>10,11</sup>, if proven of value it may be used as a diagnostic tool for TT infection in the future. Luckily this patient had passage of TT larva through the ileocecal valve to the cecum observed during the colonoscopic examination, at that time the possibility of heavy hook-worms infection of the small bowel was considered but on the other hand small bowel tumors including lymphoma were thought off. Adult forms of TT parasite may have been missed during colonoscopy because the colon was full of blood and blood clots. The patient was started on Albendazole for the possibility of heavy hook-worms infection and he had dramatic response to treatment.

Previous reports on the use of Albendazole for the treatment of TT infection showed low response rate and inferior results compared to Mebendazole.<sup>6,12</sup> Small bowel enema was normal and on follow up the patient maintained normal Hg without additional bleeding episodes. The passage larva during colonoscopy helped in the diagnosis and treatment of this patient and on the other hand it saves him from extensive investigations or even surgery for possible small bowel pathology

### **LESSONS TO BE LEARNED FROM THE CASE**

TT infection can present with massive small bleeding and it may need to be considered as a differential in endemic areas.

Colonoscopy may help in the diagnosis of TT infection in patients with negative stool examination.

In spite of low efficacy of albendazole for the treatment of TT infection in endemic areas, it is still highly effective in some patients and individualization of treatment may be needed according to the region and heaviness of infection.

New developments in the diagnosis of intestinal parasitic infections may be needed especially in patients with negative stool examination for ova or parasites.

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