

## CASE REPORT

# Ceacal Trichuriasis Presenting As Severe Iron Deficiency Anemia: A Case Report

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## Abstract

Trichuriasis is an under reported and neglected helminth infection seen usually in children with poor sanitary conditions. It manifests as chronic abdominal pain, diarrhea, constipation, rectal bleeding or prolapse as well as anemia and growth failure. This helminth infection is very rarely encountered in adults. We report a rare case of severe iron deficiency anemia in a young adult male who presenting with easy fatigability and gross pallor and upon extensive evaluation *Trichuris trichura* was found adherent to ceacal wall of small intestine on colonoscopic examination. Finding no other cause for his severe anemia and dramatic response to oral mebendazole the iron deficiency was finally attributed to ceacal trichuriasis.

## Key Words

*Trichuris trichura*, Ceacal Trichuriasis

## Introduction

*Trichuris trichura* also known as whipworm is a round worm that causes Trichuriasis in humans. After 14 to 21 days the eggs mature and enter an infective stage. If humans ingest embryonated eggs the eggs start to hatch in the small intestine and utilize the intestinal microflora and nutrients to multiply and grow leading to immune response manifesting as abdominal pain and rectal bleeding.

## Case Report

A 24 years old male with no co morbidities presented to our out-patient department with complaints of exertional shortness of breath and easy fatigability of 6 months duration. On clinical examination he was grossly pale. There was no other significant finding on clinical history

and examination. Haemogram revealed hemoglobin of 6.7 g% with microcytic and hypochromic red cell indices. Peripheral blood film showed microcytic and hypochromic RBCs with no abnormal cells. Kidney and liver functions were normal, Iron profile confirmed severe iron deficiency anemia, Stool examination was unremarkable for any cysts or ova. Upper GI endoscopy was normal (*Fig 1*), Colonoscopy revealed *Trichuris trichura* impacted in the ceacal part of small intestine (*Fig 2 a,b*). Keeping in view whipworm as a rare cause of such severe anemia he was further evaluated in detail. Celiac profile was normal. Contrast imaging of abdomen as well as CT enterography were also unremarkable. He received oral mebendazole 100 mg twice a day for 3 days and total

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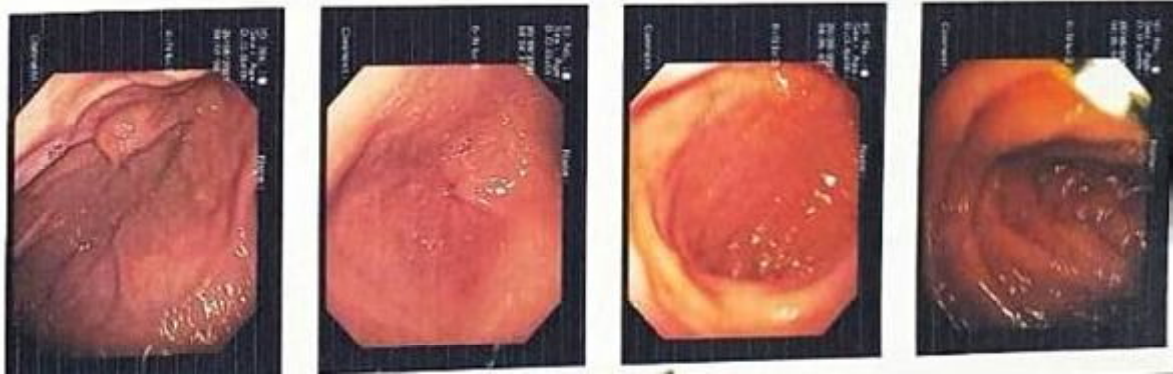
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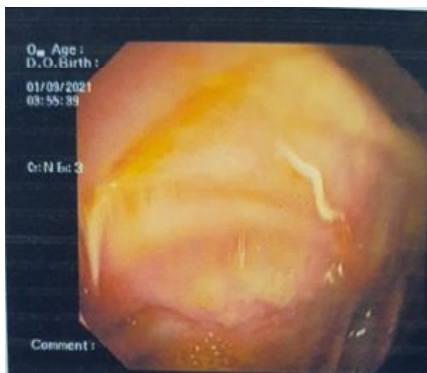
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**Fig 1. Image Depicting Unremarkable Upper Gastrointestinal Endoscopy**



**Fig 2b Magnified View of Figure 1a.**

dose iron. He was discharged on oral maintenance Iron and Hemogram repeated after 6 weeks revealed Hemoglobin of 13.5 gm%.

**Discussion**

Trichuriasis is one of the 3 well documented soil transmitted helminth infections. It is considered as a neglected tropical disease by WHO and CDC. Children appear to be vulnerable to parasite and poor sanitation is associated with a heavy disease burden. [1] The most common cause of Trichuriasis is ingestion of infected eggs found in soil due to poor sanitary conditions including open defecation and using human feces as fertilizer. [2] The larvae hatch in small intestine and migrate to large intestine where the anterior ends lodge into mucosa leading to cell destruction and activation of host immune system, recruiting eosinophils, lymphocytes and plasma cells



**Fig 2a. Colonoscopic Image Showing Trichuris Trichura (whip-worm) Adherent to Cecal Wall.**

leading to rectal bleeding, abdominal pain as well as rectal prolapse. [3,4] Many patients are asymptomatic when parasite burden is low. [5] Children may develop anemia ,growth deficiency,cognitive impairment and poor nutrition secondary to worm burden. [5,6] Our reference case had

only symptoms and signs of anemia in the form easy fatiguability and pallor. Microscopic examination of stool samples may depict presence and number of eggs. <sup>[5]</sup> The WHO recommends using the KATO-KATZ method for counting eggs per unit weight of faeces. Stool samples may also demonstrate RBCs, WBCs specifically Eosinophils. Colonoscopy may at times show classic "COCONUT CAKE RECTUM" from white bodies of adult worms dangling from inflamed mucosa. <sup>[6]</sup> Recent studies have shown a WHIPWORM DANCE on USG which is when the lumen of appendix wriggles continuously. <sup>[7]</sup>

PCR assays are currently being developed which have improved sensitivity and specificity of detecting the whipworm. <sup>[5,8]</sup> Treatment of Trichuriasis is with Mebendazole with suggested dose of 100 mg BD for 3 days or Albendazole 200 to 400 mg BD for 3 days. Mebendazole is more effective and first line treatment.

### **Conclusion**

Trichuriasis is very rare infectious disease among adult population. Our reference case is one such rare example in whom after extensive evaluation the cause of his iron deficiency anemia was finally attributed to worm infestation in small intestine.

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