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Case Report

An incidental colonoscopy: finding *Trichuris trichiura*: a case report and review of literature

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ABSTRACT

Trichuris trichiura commonly referred to as whipworm, has a world-wide distribution, particularly countries with warm, humid climates. This parasite is reported from nearly one quarter of the world population, especially from less developed countries. Poor hygiene conditions are associated with trichuris transmission, usually this infection remains asymptomatic in human but heavy infection can lead to chronic bloody diarrhoea associated with complications like rectal prolapsed, appendicitis, proctitis. Very few cases of extensive trichuriasis have been reported world-wide. Usually, diagnosis is confirmed by detection of eggs in stool sample. This case report deals with a patient of trichuriasis, who was diagnosed by detection of the parasite on colonoscopy. Thus, colonoscopy might be a useful diagnostic tool, especially in symptomatic patients who are infected by only few male worms with no eggs in the stool. Hence cannot be diagnosed by conventional methods.

Keywords: *Trichuris trichiura*, Wet mount, Colonoscopy

INTRODUCTION

Trichuris trichiura infection is endemic in tropical and subtropical countries, but few sporadic causes have occurred in non-endemic areas. *Trichuris trichiura* (Whipworm) is a soil transmitted helminths responsible for trichuriasis, a neglected tropical disease it infects as many as 600-795 million people, mostly in communities with poor sanitation infrastructure enabling sustained faeco-oral transmission.[1] Commonly *T. trichiura* doesn't cause specific symptoms, except only patients with heavy infection. Severe colonic infection causes mucoid diarrhoea, iron deficiency anaemia mostly in children often resulting with growth retardation.[2] Diagnosis of infection is usually based on the demonstration of characteristic bile-stained barrel shaped egg in the stool, however in some cases colonoscopy and computerized tomography are found to be helpful when they are being investigated for symptoms like bleeding per rectum and rectal prolapsed.[3] Here we reported a case of patient with trichuriasis diagnosed incidentally by detection of adult worm on colonoscopy whose stool examination was negative for eggs of *T. trichiura* which is quite unusual.

CASE REPORT

A 52-year-old male came from Ludhiana (Punjab) to our tertiary care hospital Dr RPGMC Tanda (Himachal Pradesh) in department of gastroenterology presented with intermittent rectal bleeding, sever diarrhoea along with lower abdomen pain, loss of appetite and significant weight loss for past 3 month. He had low grade fever on and off for 3 months. He also complained of diffuse abdominal cramping pain with burning temporary relief after defecation. He did not have history of liver disease, or haematological disorders. He uses to eat street food almost daily. Serum biochemical was all with in normal limits (Table 1). Peripheral blood smear finding was

normal except severe anaemia and eosinophilia. Blood electrolytes, renal function test, blood sugar, liver function test, bilirubin level were within normal limits. Microbiological investigation HIV, HCV and HB_sAg status were non-reactive. Stool examination for ova, parasite, cyst was surprising negative (Table 2).

Department of microbiology received worm after colonoscopy examination from gastroenterology department in Dr RPGMC Tanda (Kangra) on macroscopic examination. It was thin whitish worm with whip like appearance. The size of the parasite was approximately 30 mm in length and 10mm in diameter freely mobile (Figure 1). Through microscopic examination worm appeared with long whip in the anterior portion and curved posteriorly. No ovum was found with in the worm. The morphology was consistent with Trichuris (Figure 2-4). Patient was treated with albendazole (doses: 400 mg daily) for total three days. The patient mentioned that abdominal pain and diarrhoea gradually relieved and appetite also improved.

Table 1: Estimation of serum.

Estimation of serum	Observed value	Reference value
Total bilirubin	0.50 mg/dl	0.2-1.2 mg/dl
Hematocrit	39.8%	40.4-51.1%
Hemoglobin	8 g/dl	13.2-17.2 g/dl
Creatinine	1.12 mg/dl	0.7-1.4 mg/dl
Urea	23.0 mg/dl	10-50.0 mg/dl
Alanine aminotransferase	79.00 U/L	0-55 U/L
Alkaline phosphatise	144.00 U/L	150 U/L
Aspartate transaminase	50.00 U/L	0-46 U/L
Total protein	6.90 g/dl	6.2-8.0 g/dl

Table 2: Microbiologically stool examination.

Microbiological test	Finding
Anti HBS-Ag (Rapid)	Non-reactive
Anti HCV (Rapid)	Non-reactive
Stool amoeba	Not found
Stool parasite	No eggs of *T. trichiura* found
Ova	Not found

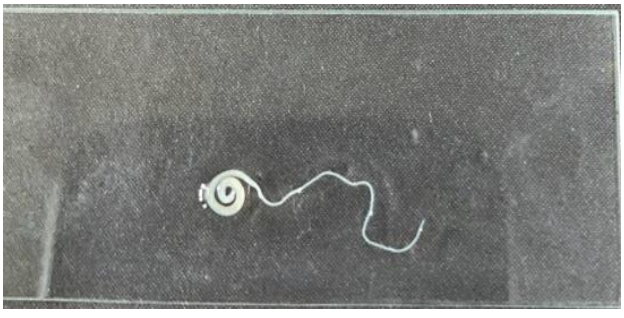

Figure 1: *Trichuris trichiura* (Macroscopic image).

Figure 2: *Trichuris trichiura* (Microscopic picture of anterior portion).

Figure 3: *Trichuris trichiura* (Microscopic picture of middle portion).

Figure 4: *Trichuris trichiura* (Microscopic picture of posterior portion-male worm).

DISCUSSION

T. trichiura infection is one of the common helminthic infections which is transmitted via soil, with word-wide distribution especially in rural areas of developing countries including Sub-Saharan Africa, East Asia and Pacific Island.[4] The ingested egg of *T. trichiura* hatch in

the small intestine and release rhabditiform larvae that develop into adult worms and migrate to large intestine, mainly caecum and ascending colon.[5,6] The above presentation in which stool examination was negative but the worm was observed during colonoscopy. Several studies support our finding of colonoscopy being an important tool for diagnosing trichuriasis infection along with microscopy.[7,8] Kyung et al reported four cases of trichuriasis infection which were diagnosed by the detection of the parasite by colonoscopy.[6] Only two of four cases showed barrel shaped bile-stained eggs with mucoid plugs. Similar cases have been reported by Daniel et al where trichuriasis patient presented with chronic dysentery like syndrome which can mimic other inflammatory bowel disease like celiac and ulcerative colitis.[9]

In the extensive review of literature conducted, it was found that the majority of publication were from South East Asian countries using modern available techniques for screening and diagnosis of parasitic manifestation. To our knowledge there are only 26 cases of *T. trichiura* infection, where stool examination was negative but colonoscopy was positive for *T. trichiura* 13 cases from South chorea and 12 cases from international countries, and one case of trichuriasis with similar scenario was reported by Mukhopadhyay et al from Nair hospital Mumbai.[6,10-13] We observed that in India such cases are very few in numbers, as colonoscopy is available only in tertiary care hospital.[14] To the best of our knowledge this is the first case reported of *T. trichiura* diagnosed by colonoscopy found worm, where stool sample was negative for eggs in this region. Hence, we feel that in a developing country like India whenever we clinically suspect *T. trichiura* infection and stool examination is negative we should use microscopic examination of rectal wash as a second alternative.

CONCLUSIONS

Trichuriasis may show an increasing tendency in rural areas of India and should be monitored by national survey of colonoscopy becomes wide spread it would become remarkable important in the diagnosis and treatment of colorectal disease, but also in epidemiologic studies of parasite infection.

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