



## TRICHURIS TRICHIURA: A CASUAL FINDING BY COLONOSCOPY IN ARGENTINA

### Microbiology

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### ABSTRACT

Trichuriasis is a human intestinal infection caused by *Trichuris trichiura*, most commonly known as whipworm. It is characterized by the invasion of the colonic mucosa by the adult worm of the nematode. This infection usually causes no clinical symptoms, although a severe infection can cause abdominal pain, rectal prolapse, anemia, anorexia and bloody diarrhea. The diagnosis is made by identification of eggs or worms in feces. Several reports have described the detection of *T. trichiura* during colonoscopy. To our knowledge, this is the first report of a case of *T. trichiura* diagnosed by colonoscopy in Buenos Aires province, Argentina.

### KEYWORDS

*Trichuris trichiura*, Colonoscopy, Buenos Aires, Argentina

### INTRODUCTION

*Trichuris trichiura* is an intestinal nematode that infects the human large intestine. The female worm is about 35 to 50 mm long, and the male worm about 30 to 45 mm long. The anterior third of the worm is much more thinner than the posterior two-thirds, and thus, giving it the name of whipworm. The muscular esophagus is thin in its anterior end. The posterior end of the esophagus is constituted by a layer of secretory cells, the stichocytes, that form a multicellular organ called the stichosome. Distinct features of *T. trichiura* are its very long esophagus with stichosome and a simple mouth with no lips. The stichosome is also present in other nematodes such as *Trichinella* spp. and *Capillaria* spp [1].

The estimated number of infected persons is of 800 millions with 10000 annual clinical cases. The highest prevalence occurs among people 5-10 years old [2]. In Argentina, the prevalence of *T. trichiura* in stool examinations in Mendoza province was found to be of 0.2% and of 4-12.5% in Greater La Plata in Buenos Aires province [3]. In China, in 31 provinces, the prevalence of *T. trichiura* infection ranged from 0.01% to 31.35%, with a national average prevalence of 4.63% in 2004 [4].

Infection occurs by ingesting embryonated eggs from the environment. Most light infections (<10000 eggs/gram of feces) are asymptomatic with only eosinophilia present. Severe infections (> 50000 eggs/gram of feces) may cause abdominal pain, rectal prolapse, anemia, anorexia, bloody diarrhea, mimicking an intestinal inflammatory disease [5]. *Trichuris* dysentery syndrome is a combination of mucoid diarrhea and occasional bleeding [6].

The diagnosis is made by identification of eggs or worms in feces together with a peripheral eosinophilia (5 to 20 %). On rare occasions, diagnosis may be performed by colonoscopy or by rectosigmoidoscopy [5].

In this paper we present a casual finding of *T. trichiura* in an

Argentinian patient diagnosed by colonoscopy.

### CASE REPORT

A 50-year-old female from Moreno, Buenos Aires province, went to hospital for an annual check-up. She had safe drinking water at home and had no significant gastrointestinal symptoms. She had no history of previous parasitic infections. Under suspicion of Trichinellosis, an ELISA test was ordered and it rendered a negative result.

The patient had previously experienced a three-day stay in Salta, Northern Argentina, during January 2016 and a five-day stay in Galapagos Islands during December 2016.

A fecal occult blood test was positive and the erythrocyte sedimentation rate (ESR) was 18 mm/hr. The hematocrit test was 35 to 38%. She underwent a colonoscopy where the examination demonstrated the presence of a parasite. No stool examinations were ordered.



**Fig:** Image by colonoscopy

Images of the parasite were sent to the CDC (Centers for Disease Control and Prevention) in Atlanta for diagnostic assistance and the diagnosis issued was *T. trichiura*. The differential diagnosis with *Trichinella* spp. was the location of the worm in the colon of the

patient, instead of the usual localization of *Trichinella* spp in the small intestine. Other morphologic differential features included: a very long esophagus with stichosome, a simple mouth with no lips and an immature egg that although does not demonstrate the typical polar plugs of *T. trichiura*, it excludes *Trichinella* spp.

The patient was treated with mebendazole 100 mg twice daily for three days.

## DISCUSSION

*T. trichiura* is a common human parasite with a worldwide distribution. The diagnosis of trichuriasis is usually based on the identification of *T. trichiura* ova in feces.

There are some case reports that describe the detection of *T. trichiura* during colonoscopy with non-specific gastrointestinal symptoms [2, 4, 6-11]. Colonoscopy is a useful diagnostic tool, especially when the worm burden is low and/or no eggs are found in stool. Colonoscopy is strikingly important- besides the diagnosis and treatment of colorectal disease- in the studies of parasite infections.

To the best of our knowledge, this is the first report of a case of *T. trichiura* infection diagnosed by colonoscopy in Buenos Aires province.

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