

## Colonoscopic diagnosis of trichuris trichiura in a patient with pulmonary tuberculosis; there is more than what meets the eye

Huzaifah Salat,<sup>1</sup> Mohammad Sohail Salat,<sup>2</sup> Muhammad Asim Beg<sup>3</sup>

Madam, Trichuriasis is among the global neglected tropical diseases, with an estimate of 795 million people infected worldwide. The prevalence of trichuriasis in Pakistan is estimated at 1.5 million.<sup>1</sup> We present the case of a patient in Pakistan with pulmonary tuberculosis who presented with chronic diarrhoea, and was eventually diagnosed with trichuriasis by colonoscopy.

A middle-aged lady with a history of diabetes, asthma, and two prior surgeries for surgical resection of a neuroendocrine tumour of the pancreas, presented in November 2010 with the complaints of productive cough, fever and diarrhoea for two months. Sputum was positive for Mycobacterium tuberculosis, which showed susceptibility to all first line drugs. Hence she was started on standard anti-tuberculous therapy. Although pulmonary tuberculosis resolved over these 6 months, the patient continued to suffer from intermittent diarrhoea, requiring hospitalization for dehydration management on multiple occasions. In June 2011, the patient presented with drowsiness and abdominal pain, with investigations showing severe metabolic acidosis. She was hospitalized and managed for severe gastroenteritis in the intensive care unit, and required mechanical ventilation and dialysis. Stool microscopy at that occasion demonstrated numerous pus cells, but no red blood cells or parasite eggs. Once she was vitally stable, upper gastrointestinal endoscopy and then colonoscopy were performed, where worms were seen attached to the caecum which were subsequently removed. Parasitic examination confirmed diagnosis of female *T. trichiura*.

Infection with *T. trichiura* is acquired by ingesting fully developed eggs, which hatch in the intestine, move to the caecum and penetrate the mucosa causing

inflammation. Although trichuriasis is usually clinically asymptomatic, patients with heavy infection present with vague gastrointestinal symptoms including chronic abdominal pain, tenesmus, diarrhea, with rectal prolapse seen in children.<sup>2</sup> The diagnosis is usually made by visualization of *T. trichiura* eggs on stool microscopy.<sup>3</sup>

Few case reports describe the detection of *T. trichiura* during colonoscopic evaluation of non-specific gastrointestinal symptoms.<sup>3</sup> In these cases, patients presented with range of various abdominal symptoms but stool examinations were negative in all, and diagnosis was done on colonoscopy. The accumulating evidence suggests that in areas endemic for intestinal helminth infections, trichuriasis can be suspected as the etiology for non-specific chronic abdominal symptoms, even when the stool examination is negative. Importantly, due to financial restrictions and lack of access to specialized healthcare, a colonoscopic evaluation is often not feasible for patients living in helminth-endemic zones in developing countries.

Tuberculosis and intestinal helminthic infections are prevalent in developing countries and when these diseases are endemic in the same regions, associations have been reported. A study from Brazil found a higher incidence of intestinal nematodes in patients with tuberculosis, compared to those without.<sup>4</sup> Concomitant helminth infection has been shown to reduce host immunity against tuberculosis thus contributing to a protracted disease course.<sup>5</sup>

Hence, in areas endemic for both tuberculosis and intestinal helminth infections, we advise keeping a high index of suspicion for concomitant infections on the radar and providing timely management of helminthiasis if no other cause is found and a colonoscopy is not feasible.

### References

1. Hotez PJ. The Neglected Tropical Diseases and Their Devastating Health and Economic Impact on the Member

.....  
<sup>1</sup>Final Year, Aga Khan University Medical College, <sup>2</sup>Department of Paediatrics and Child Health, <sup>3</sup>Department of Pathology and Microbiology, Aga Khan University, Karachi, Pakistan.

**Correspondence:** Muhammad Asim Beg. Email: masim.beg@aku.edu

- Nations of the Organization of the Islamic Conference. *PLoS Negl Trop Dis* 2009; 3: e539.
2. Bethony J, Brooker S, Albonico M, Geiger SM, Loukas A, Diemert D, Hotez PJ. Soil-transmitted helminth infections: ascariasis, trichuriasis, and hookworm. *Lancet* 2006; 367: 1521-32.
  3. Ok KS, Kim YS, Song JH, Lee JH, Ryu SH, Moon JS, et al. *Trichuristrichiura* infection diagnosed by colonoscopy: case reports and review of literature. *Korean J Parasitol* 2009; 47: 275-80.
  4. Tristão-Sá R, Ribeiro-Rodrigues R, Johnson LT, Pereira FE, Dietze R. Intestinal nematodes and pulmonary tuberculosis. *Rev Soc Bras Med Trop* 2002; 35: 533-5.
  5. Resende Co T, Hirsch CS, Toossi Z, Dietze R, Ribeiro-Rodrigues R. Intestinal helminth co-infection has a negative impact on both anti-*Mycobacterium tuberculosis* immunity and clinical response to tuberculosis therapy. *Clin Exp Immunol* 2007; 147: 45-52.
-