TRICHURIS TRICHIURA INFECTION DIAGNOSED BY HISTOPATHOLOGY

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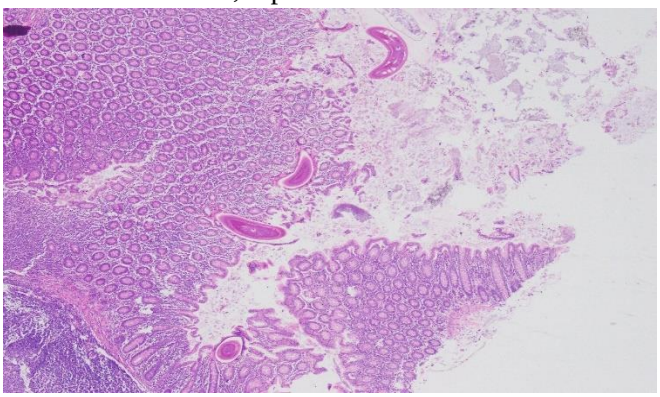
DEAR EDITOR,

We would like to highlight a case of a young female patient who was accidently diagnosed with a *Trichuris trichiura* infection, when her abdominal resection samples were sent for histopathological studies.

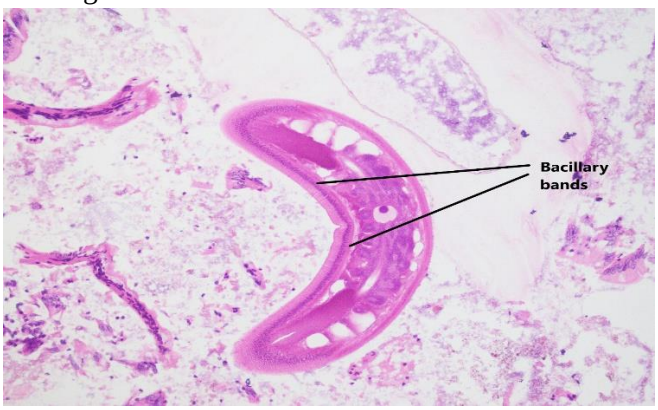
The patient was a 16-year-old female patient who presented to her local hospital in Temergara, Lower Dir district with a history of abdominal pain along with abdominal distention for the last 6 months. The patient subsequently underwent a right hemicolectomy procedure and her terminal ileum, cecum, appendix and ascending colon were resected. Suspecting tuberculosis or a malignancy, portions of resections were sent for histopathological studies, to the histopathology section at the Shaukat Khanum Memorial Cancer Hospital and Research Centre, Lahore.

Gross examination of specimen revealed interloop fibrous adhesions between small bowel, large bowel and appendix with some twisting of bowel, but no discrete tumor or polyp was identified. Microscopically, on hematoxylin and eosin stain (H&E) one section of large bowel showed cross-sections of multiple intestinal parasites. (Picture 1) To confirm the identification of the parasite, the case was discussed with microbiology and parasitology experts and on closer inspection, the worm was identified as *T. trichiura* and hence, reported.



Picture 1: 40x H&E stain on a section for the large bowel showing multiple worm in cross section of the, embedded in the mucosa.

On the cross sections of the worm, one of the most prominent structures observed were the bacillary bands (Picture-2). Bacillary band is a basophilic layer beneath the muscular layer of the worm that is specific to this genus of worms.



Picture-2: 400x H&E Cross section of the worm, with prominent bacillary bands.

Another helpful feature in its identification was the presence of the worm in the large bowel (which is the most typical location for the whipworm), and the fact that its medial end was embedded within the mucosa, and its distal end partially loose in the lumen. Whipworms are known to embed their thinner anterior end into the intestinal mucosa, allowing the larger end to hang free in the gut lumen. This lets eggs to be shed into the lumen from the adult female.

We made multiple attempts to contact the patient's guardians to advice stool examination for ova and parasites and to seek treatment for trichuriasis, unfortunately, all in vain.

T. trichiura is as soil-transmitted helminth infection and is among the most common infections affecting the poorest and most deprived communities, worldwide. They are spread by eggs present in human faeces which contaminate soil in places with poor sanitation. The eggs hatch into larvae in the small intestine, which then grow into their mature forms and localize in the colon.[1]

These are nematode parasites and cause diarrhoea and dysentery in humans. They are also known to cause rectal prolapse in heavy infections.[2]

T. trichiura, a round worm, popularly known as the human whipworm, gets its name from its characteristic shape with a short thicker end and a longer thinner end, giving the worm a 'whip-like' shape. The thinner, anterior end and lies buried in the mucosa of the ileocecal region. The size of these worms varies from 3 to 5 cm. The female usually larger than the male.[3]

A quarter of the world's population is infected with T. trichiura, which is characterized by a relative absence of symptoms and generally go undetected. Often only patients with heavy infections become symptomatic. In those with heavy parasitic infection, symptoms include anaemia, diarrhea, and intestinal bleeding. Definitive diagnosis is made by identifying *T. trichiura* eggs in stool specimens. However, several reports have described the detection of *T. trichiura* during colonoscopy, where colonoscopy was performed for evaluation of nonspecific gastrointestinal symptoms, such as abdominal pain, diarrhea, and anemia.

Bowel resection is not usually indicated for *T. trichiura* infection and resection in this case was likely due to subacute intestinal obstruction secondary to fibrous interloop adhesions causing some degree of mechanical obstruction. Etiology of adhesions could not be ascertained by histopathologic examination in this case but is unlikely to be due to *T. trichiura* infection.

The purpose of this case is to highlight the accidental finding of *T. trichiura* infection on histopathological examination which is the first encounter in our setting.[4]

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