Case Report

Ancylostoma duodenale in Duodenal Biopsy – A Case Report

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ABSTRACT

A case report of duodenal biopsy showing, Ancylostoma duodenale was reported at Department of pathology, MIMER medical college. It is a very rare case finding to find an intact worm of adult size. Purpose of this report is to bring to the notice of the surgeons and clinicians to suspect parasitic infestation in cases of persistent microcytic hypochromic anemia associated with epigastric pain.

Key words: *Ancylostoma duodenale*, anemia, duodenal biopsy, endoscopy

INTRODUCTION

Ancylostoma duodenale, (Greek: ankylos – hooked, stoma – mouth) was originally described by Dublin in 1843 in Italy. Lifecycle was worked out by Looss, 1898, in Egypt. Second species, *Necator americanus*, was identified by Stiles in 1902, Texas, USA. It means "American murderer" (Latin necator – murderer), Aka "New world" hookworm, *A. duodenale* is called "Old world" hookworm. However, it is believed that *N. americanus* actually originated in Africa and was transported to America with slave trade. Maximum prevalence of *A. duodenale* in India is seen in Karnataka (47%), followed by Andhra Pradesh (40%), Tamil Nadu (3.2%), and Puducherry (4.8%).

CASE REPORT

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A 63-year-old female patient came to the outpatient department of our college, with bilateral pedal edema, abdominal distension, and passage of loose stools not associated with vomiting and dyspnea. Routine laboratory investigations were done, hemogram revealed microcytic hypochromic anemia (iron deficiency anemia). Urine and stool examination were also non-contributory. Ultrasound sonography of abdomen and pelvis showed hepatomegaly, portal hypertension, and ascites. Upper GI endoscopy was advised. Biopsy was done and sent to the department of pathology for HPE.

Histopathological Examination

Gross: Received a very tiny bit, thread-like tissue. Microscopy: Sections studied show cut sections of *A. duodenale*. Also seen are foci of chronic inflammatory infiltrate, predominantly of lymphocytes, and few polymorphs. No evidence of duodenal mucosa. There was no granuloma or malignancy noted.

Impression

Parasite: *A. DUODENALE* detected.

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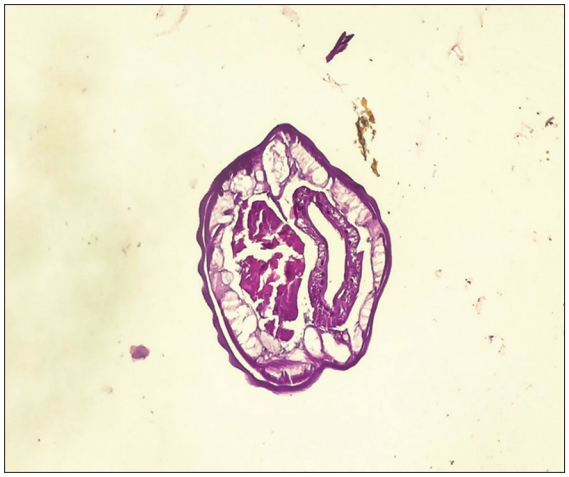

Figure 1: 4 X View of cross section of Ancylostoma duodenale

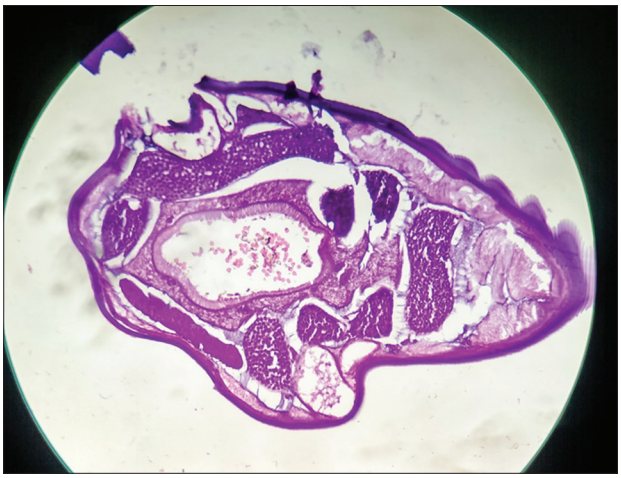

Figure 2: High magnification view showing coiled ovaries

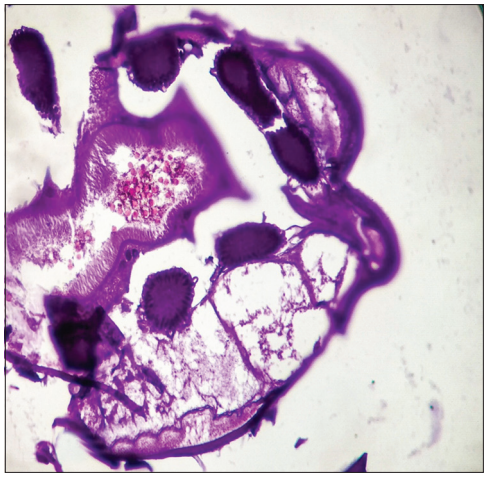

Figure 3: High magnification view showing EVExcretory duct, IN- Intestinal duct and MU-Muscular coat

Figure 4: Adult form of Ancylostoma duodenale (Endoscopic view)Inside duodenum

DISCUSSION

A. duodenale is one of the most common parasites in the world.[1] It is common cause of occult GI bleeding and anemia,[2] adult worms are 0.8–1.5 cm, long, white, cylindrical. It has teeth which allow it to grip the villus of intestine. Worm also secretes an anticoagulant that facilitates ingestion of blood and juices from host. They periodically change their location, leaving bleeding points. This can lead to different stages of ulcers. Most common mode of transmission is contact with soil contaminated with human feces. Eggs of the worm are passed in feces of infected individuals. Eggs develop in the soil and rhabditiform larvae hatch out, further developing into filariform larvae which are infective. Skin penetration by filariform larvae results into "Ground itch."[3] Most common site for localization of adult worm is jejunum, duodenum, and less often ileum. Diagnosis of *A. duodenale* is made by identification of characteristic oval-shaped eggs in stools.[4] At least three stool examinations with stool concentration method are an easy, cheap, and reliable method for establishing diagnosis. Upper GI endoscopy can be considered the gold standard for identifying worms grossly in GIT, though microscopic examination will always remain a cornerstone for confirmation of species.

CONCLUSION

Parasites are rare findings during upper GI endoscopic procedure and should be suspected in patients with anemia and persistent epigastric pain. Although it

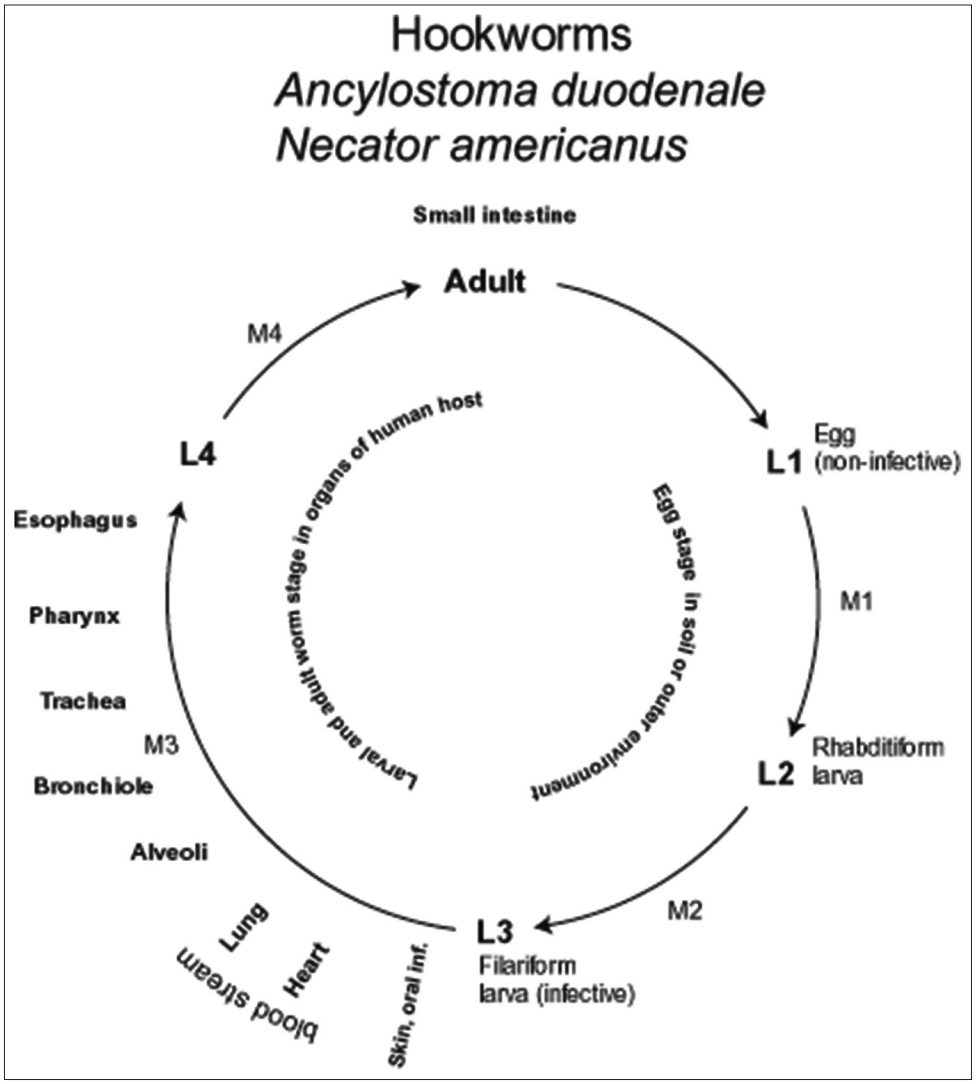

Figure 5: Life cycle of Ancylostoma duodenale

is less common than neoplasm and ulcers, parasitic infestation should always be considered as differential diagnosis in patients presenting with iron deficiency anemia and unexplained blood loss.

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