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### Complications of helminthic infestation with illustration of a rare case of intestinal obstruction and gut gangrene secondary to ascariasis.

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#### ABSTRACT

Intestinal obstruction secondary to helminthic infestation is extremely rare even amongst the tropical countries that are endemic for the causative agent. Here we have review the problem with a special illustration of a case of ascariasis with intestinal obstruction and gut gangrene.

**Keywords:** Ascariasis, Intestinal obstruction, Helminths, Antihelminths.

#### INTRODUCTION

*Ascaris lumbricoides* is one of the largest and commonest helminth that infests the humans. [1] Mode of infection is oral ingestion of ascaris eggs with contaminated food. The eggs release larvae in the intestine from where they go for pulmonary migration phase. From thence they further reach the small intestine where they achieve sexual maturity. [2, 3] A large number of worms must be present in the intestine to cause obstruction. However this large number has not been defined in the available literature. [4]

Ascariasis can produce life threatening complications like intestinal obstruction, cholangitis, pancreatitis, intestinal perforation etc. intestinal obstruction is the most common complication reported. [5-7] The post operative complication rate continues to be high. [8, 9] Delay in intervention is often fatal. [10, 11]

Diagnosis:

1. Anaemia.
2. Worms or ova in stools.

3. Xray: features of intestinal obstruction/perforation or worm shadows.
4. Ultrasound: features specific to complications and worms can be visualised.
5. CT scan: can diagnose the underlying pathology and also assess complications.

#### CASE

19 year old unmarried lady presented to the surgical emergency with 03 days history of pain abdomen, distension, obstipation and vomiting. She also gave a history of similar episodes of pain abdomen for last 01 year. History of pica and passage of worms in stool also present.

On examination the patient was thinly built and poorly nourished, had normal vitals, gross pallor present. On per abdominal examination abdominal distension with generalised peritonitis was observed and the bowel sounds were absent. Rest of systemic examination was within normal limits.

Haematology revealed a Hb of 7.2 gm% and TLC of 14000/mm<sup>3</sup>. All biochemical parameters were normal.

Xray chest and abdomen showed multiple air fluid levels and dilated bowel loops. [Figure 1] No free gas under the diaphragm was seen. Patient was resuscitated with i.v. fluids, blood and antibiotics, and further planned for emergency exploratory laparotomy.

Following intra operative findings were noted:

1. About 200 ml straw coloured free fluid in the pelvis.
2. Dilated small bowel loops
3. Gangrenous two feet of distal ileum ending 30 cm proximal to the IC junction.[Figure 2]

4. Entire bowel inflamed and loaded with ascaris [Figure 3]
5. A large obstructing ball of worms stuck at appoint about 40 cm proximal to the IC junction.

The gangrenous segment of bowel was resected; worms manipulated out, and end ileostomy with mucous fistula fashioned. Post-operative period was uneventful. Deworming was done with Tab Albendazole 4000 mg stat on the 3<sup>rd</sup> post-operative day as the patient was gradually started on oral diet. Albendazole was repeated after 07 days. The continuity of gut was restored after 03 months of initial surgery. Patient was asymptomatic after 06 months of follow up.



FIGURE 1



FIGURE 2



**FIGURE 3**

## **DISCUSSION**

Ascariasis though cosmopolitan in distribution, is endemic and a major health problem in tropical countries. Most cases respond well to conservative management with antihelminthic agents as albendazole/mebendazole. Intestinal obstruction has been reported as the commonest surgical complication of ascariasis. [12, 13] Owing to its narrow diameter, the terminal ileum is the commonest site of obstruction though the jejunum hosts most of the ascaris. The diagnosis is difficult even in endemic areas. [14] Causes attributed for obstruction are [15-19]:

1. Ball of worms.
2. Entangled worms at the IC junction.
3. Inflammatory matting of the bowel wall.
4. Associated volvulus/ intussusception.
5. Early and partial obstruction can be managed conservatively but signs of peritonism warrant exploration.

Haematology and biochemistry findings do not aid in clinching a final diagnosis but are of value in

formulation of further treatment modality. Plain Xray chest and abdomen can reveal features of obstruction with shadow of worms and free gas under the diaphragm in case of perforation. Ultrasound can be confirmatory in expert hands showing typical signs of ascariasis (bull's-eye in transverse section and railway appearance in longitudinal section. [20,21] Gastrograffin, a hyperosmolar agent can be used for diagnosing the condition, and has therapeutic value as it helps in relieving obstruction by making the worms slippery and dehydrated, thus shrinking their size. CT scan of the abdomen can confirm the diagnosis with highest degree of sensitivity and specificity.

## **CONCLUSION**

Ascariasis is a common medical condition with still rare occurrence of complications. Early diagnosis and surgical intervention holds the key for a favourable outcome.

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