

## Case Report

# Jejunal Perforation Due to Single *Ascaris Lumbricoides* – A Case Report

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### Abstract

Ascariasis is a common infection in underdeveloped and developing countries and usually detected incidentally on evaluation of nonspecific pain abdomen. Complications related to ascariasis occur mainly due to heavy worm load. We here report a rare case, in which a single live ascaris worm had caused jejunal perforation.

**Keywords:** *Ascaris lumbricoides*, jejunum, perforation, peritonitis, chemoprophylaxis

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### Introduction

An important medical, social and economic problem in many underdeveloped countries is Ascariasis, where the precipitating factors are poverty, unhygienic conditions, sanitation, and unsafe drinking water supply (1,2,3). For the development of larval stage of worms, wet soil of Punjab and temperate climate serve as excellent conditions. *Ascaris* infestation causes common surgical problems like small intestinal obstruction, volvulus, intussusception and perforation usually involving the ileum (4,5,6,7,8). Incidence of children infested with *Ascaris lumbricoides*, in our environment is over 70% and surgical complications are common in them. However, surgical complications of ascaris worms in adults are less common (9). Here, we report a rare case of jejunal perforation due to a single round worm in adult.

### Case Report

A 32-year-old vegetable vendor, chronic alcoholic for the past 15 years, presented to the emergency with complaints of pain abdomen, vomiting and abdominal distention for the past two days. After conducting routine blood and urine investigations, an erect chest x-ray was performed. It revealed free air under both domes of the diaphragm. An exploratory laparotomy was performed and the intra-operative findings were as follows:

Single perforation was present in the jejunum, about 20cm distal to duodeno-jejunal junction, measuring 2x1.5 cm in size, on the anti-mesenteric border.

One round shaped worm measuring about 10 cm in length, was protruding out from the perforation site (Fig.1)

The round-worm was removed (Fig.2), whole of the small intestine examined for any other worm and the perforation site was closed in a single layer. Post-operatively, the patient was given broad spectrum antibiotics and anti-helminthic therapy was instituted. The histology of perforation margin showed edema and invasion of the lamina propria by polymorphonuclear leukocytes. On retrospective interrogation, the patient gave history of eating undercooked and partially cooked meat regularly and living in unhygienic conditions. His further stay in the hospital was uneventful, and he was discharged in a satisfactory condition.

### Discussion

*Ascaris* is the earliest recorded human helminthes and has a worldwide distribution being prevalent especially in the tropics such as China, India, Bangladesh and South-East Asia. Pre-early school age children are most commonly affected by *Ascaris* infection, although it is prevalent in all age group of both sexes (1-3). Transmission of Ascariasis to humans is by faeco-oral route.



**Figure 1:** Live *Ascaris lumbricoides* removal from jejunal perforation.

In children having history of passing worms frequently, ascari induced intestinal obstruction is a common complication, along with intussusception, perforation and gangrene of bowel as further complication. But these are not very common because of intestine's immense capacity for dilation. Some claim that more than 5000 worms may be present in the intestine and patient may remain asymptomatic so it is very rare that direct pressure by few ascari may cause jejunal perforation (11,12). In our case only a single live ascari worm was found causing jejunal perforation.

Two types of intestinal perforation by normal worms are recognized, primary and the secondary. In the primary type, the worm perforates through healthy intestinal, while in the secondary type there is associated intestinal disease like enteric fever, or a weakness in intestinal wall. In primary perforation, it has been suggested that the worm produces a lytic secretion and this combined with the nibbling effect of the head of the worm can lead to perforation of the normally impenetrable bowel wall. Despite the fact that ascari is toothless and has soft lips, it is paradoxical that it can perforate normal healthy intestine (13). This fact describes cause of perforation in our case.

Provision of clean drinking water, safe disposal of human sewage, legislation to ensure high standards of food hygiene and programmes to detect and monitor chronic carriers are advocated (14). These efforts should be complemented by mass anti-helminthic chemoprophylaxis which may further ameliorate the risk of early intestinal perforation.

### Conclusion

Despite the large number of cases of infestation with *Ascaris lumbricoides* reported in the literature, no case of jejunal perforation by a single ascari worm per se was conclusively identified. Possibility of ascariasis should always be considered in patients



**Figure 2:** Live *Ascaris lumbricoides*. (Length about 10 cm)

with nonspecific abdominal pain, as a cause of perforation, especially in tropical countries. As a delay in management of the abdominal complications can have a fatal outcome, the surgeon and physician who are treating these patients should be aware of it.

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