



Traumatic Intestinal Perforations Encounter *Ascaris Lumbricoides*

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Case Report

A 21-year-old male was brought to the emergent department after a traffic accident caused by DUI. He crashed his car into the green belt. After he regained consciousness, he complained of severe abdominal pain which made him awake. On physical examination, there was left abdominal tenderness. Computed tomography of abdomen suggested intestinal perforation. During the exploratory laparotomy, two small perforations in the small bowel were found and sutured. Then a live adult worm was discovered unexpectedly in the greater omentum with its tail exposed. The whole small intestine and the rest of the abdominal cavity were examined again; two more adult worms were touched separately through the bowel wall. The worms were removed through small incision. Pathological specialist confirmed they are *Ascaris lumbricoides*. The patient accepted albendazole therapy on the fourth day after surgery. On follow up 3 months later, he was doing well with no complications (Figure 1).

Ascariasis is one of the most common human parasitic infections worldwide, especially in developing countries [1]. Ascariasis is common in China. According to the data of the national survey carried out from June 2001 to 2004 compared with those of the national survey performed in 1990, the prevalence of ascariasis was declined by 71.29%. However, there are still 85.93 million people infected with *Ascaris* in China [2]. The patient is from Yunnan, one of the provinces with highest rate of infection, with the incidence rate at 16.13%.

The life cycle of a *lumbricoides* begins when embryonated eggs are passed in the feces of an infected individual. These eggs can then contaminate soil, water, or even food. Humans become infected after ingesting contaminated material. Gastric secretions then cause the eggs to hatch in the small bowel. The larvae penetrate the intestinal mucosa and are hematogenously transported to the lung. Pulmonary manifestations vary widely. The worms grow while in the alveoli, eventually travel up the airway to the epiglottis, and are swallowed again. Once they are back in the small bowel, the worms grow to lengths of up to 35 cm. The life span of an adult female worm is 6 months to 1 year [3].

Ascaris worms have the ability to probe and force their way into various ectopic locations. Probably they are prone to try to escape unfavorable conditions. Thus, various abnormal conditions such as fever, diseases, surgical operation, drugs, anesthesia, traumatic injuries, spicy foods, fasting, etc, may cause them to migrate to other less hostile regions, finally to diverse complications such as intestinal perforation, volvulus, intussusceptions and gangrene. *Ascaris* may penetrate through the intestinal perforation into the peritoneal cavity and cause acute peritonitis [1].

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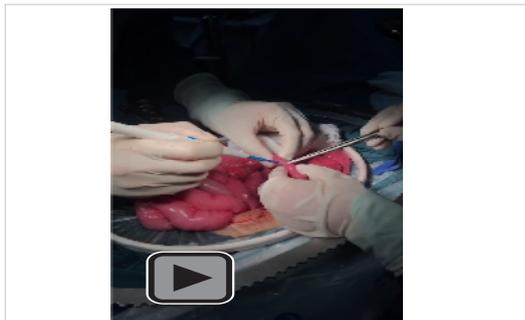
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Figure 1: A live adult worm was discovered unexpectedly in the greater omentum with its tail exposed.



Video 1: A live adult worm was discovered unexpectedly in the greater omentum with its tail exposed.

Radiographic evaluation includes plain radiographs, barium studies, ultrasound and CT. Plain abdominal films are usually normal, but may show dilated intestinal loops and air-fluid levels in cases of partial or complete intestinal obstruction. In severe infections the worms may form cords or soft tissue masses contrasted against the gas in the intestinal lumen [4].

Some cases about *Ascaris* infection in trauma patients have been reported. Masumbuko and Hawkes [1] reported a 12-year-old girl presented with gunshot wounds on the anterior abdominal wall. She underwent an urgent exploratory laparotomy. In addition to the surgical treatment of gunshot injuries of many abdominal organs, an unexpected finding was that a total of 22 ascarids (seven had been fragmented by the bullet) were extracted through the traumatic enterotomy wound and from the peritoneal cavity. Huang et al. [1] reported 2 cases of traumatic rupture of the small intestine (the exact nature of trauma was not specified) who underwent intestinal anastomosis. The patients developed acute abdominal colicky pain and rebound tenderness at 5 and 11 days after the operation, respectively, and were suspected of intestinal fistula and peritonitis. In both patients the second laparotomy revealed the rupture of intestinal anastomosis and the presence of several *Ascaris* worms in the peritoneal cavity.

The methods of operation vary according to the diversity of the degree and location of the injury. When it comes to perforation, closure of the perforation and irrigation of abdominal cavity are indicated. When it comes to obstruction, a “push” or “milking” should be done to move the bolus worms from narrow small intestine to colon. Enterostomy should be done to remove the worms manually if this is not possible. In some cases, enterectomy is needed when there is necrosis of bowel. In general, removal of all the ascariasis is recommended. If the worms were not cleaned up, the incidence of intestinal fistula will increase because their ability of probe.

Treatment with oral administration of a single 400-mg dose of albendazole is usually successful. The effective rate of albendazole to ascariasis is 90% to 100%. The patient was given albendazole after operation and the effect of treatment was satisfactory.

Conclusion

The diagnosis of *Ascaris* infection is not so difficult. Surgeon, especially trauma surgeon should be aware of the possibility of *Ascaris* infection in traumatic patient.

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References

1. Li QY, Zhao DH, Qu HY, Zhou CN. Life-threatening complications of ascariasis in trauma patients: a review of the literature. *World J Emerg Med.* 2014;5(3):165-70.
2. Coordinating Office of the National Survey of the Important Human Parasitic Diseases. A National survey on current status of the important parasitic diseases in human population. *Chin J Parasitol Parasit Dis.* 2005;23(5 Suppl):332-40.
3. Rodriguez EJ, Gama MA, Ornstein SM, Anderson WD. Ascariasis causing small bowel volvulus. *Radiographics.* 2003;23(5):1291-3.
4. Pratt LT, Blachar A. Computed tomography diagnosis of intestinal ascariasis: incidental finding in a trauma patient. *Isr Med Assoc J.* 2007;9(9):688-9.