Unusual Case

Asymptomatic intraperitoneal ascariasis: Importance of diagnostic laparoscopy

Santhosh Anand, Aditya P Sharma, Sandeep Aggarwal, Devajit Nath[1], Sandeep Mathur[1]

Department of Surgical Disciplines and [1]Department of Pathology, All India Institute of Medical Sciences, New Delhi, India

Address for Correspondence: Prof. Sandeep Aggarwal, Department of Surgical Disciplines, All India Institute of Medical Sciences (AIIMS), Ansari Nagar, New Delhi, India. E-mail: sandeep_aiims@yahoo.co.in

Abstract

Migration of Ascaris from intestine into peritoneal cavity is rare and usually presents as acute abdomen. We report a case of 41-year-old male who was admitted for laparoscopic mesh rectopexy for rectal prolapse. During the initial laparoscopy, purulent fluid was seen in pelvis. A complete diagnostic laparoscopy was done. An omental nodule was found, which was excised and extracted in a bag. On histopathology, the omental nodule revealed gravid *Ascaris lumbricoides*.

Key words: Asymptomatic, intraperitoneal ascariasis, omental nodule

INTRODUCTION

Ascaris lumbricoides is the largest of the human helminthes. It is prevalent in tropical and subtropical climates, especially in children.[1] It may be asymptomatic or may present as acute abdomen following obstruction, gangrene or perforation of intestines. It may also masquerade as appendicular abscess.[2]

Migration of ascaris from the intestines into the peritoneal cavity is uncommon. This usually presents as acute abdomen or an abdominal mass. Here, we present a case, which was originally planned for an elective abdominal surgery for rectal prolapse and incidentally found to have purulent fluid in pelvis along with a nodule in omentum. Histopathological examination of the nodule revealed gravid ascariasis with surrounding inflammation.

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CASE REPORT

A 41-year-old gentleman was admitted for laparoscopic mesh rectopexy for a grade 3 rectal prolapse. His preoperative laboratory investigations and ultrasound of the abdomen, done in another hospital, were normal. Patient was taken up for surgery after preoperative preparation. Pneumoperitoneum was created by Veress needle in infraumbilical region. A 12 mm port was inserted, and a 10 mm, 30 degrees telescope was introduced. Surprisingly, pelvic cavity revealed small amount of purulent fluid [Figure 1a]. The fluid was aspirated and sent for microbiological examination. The abdominal cavity was inspected for any source of sepsis. Solid organs were found to be normal. A complete bowel examination was done, which was found to be normal. A 2 × 2 cm omental nodule [Figure 1b] was found. It was excised with harmonic shears, extracted in a bag and was sent for histopathological examination.

In view of existing intraperitoneal sepsis, rectopexy was postponed. Patient had uneventful post-operative course and was discharged on second post-operative day with a course of antibiotics for a week. Histopathology report of the omental nodule [Figure 2] revealed gravid *Ascaris lumbricoides* with surrounding inflammation.

The history of patient was reviewed. He frequently used to eat from street vendors. There was no history of passing worms in stool. There was no past history of abdominal pain or any past history of intestinal perforation. He was treated with a course of albendazole.

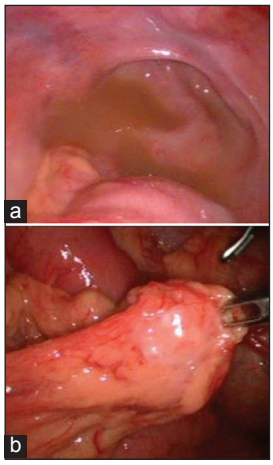

Figure 1: Laparoscopic view of peritoneal cavity (a) Purulent fluid in pelvic cavity. (b) Omental nodule

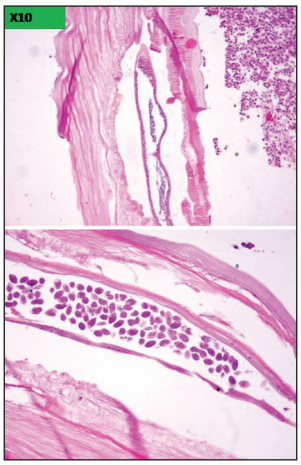

Figure 2: Histopathology section shows adult gravid *ascaris lumbricoides* worm with ova *in situ* within the fibrocollagenous tissue. Surrounding mixed inflammatory and oeosinophilic infiltrate is noted. (×10, ×20HE)

DISCUSSION

Ascariasis is ubiquitous, but is especially prevalent in China, India, South East Asia and Africa. Our patient hails from north eastern part of India, which is endemic for ascariasis. [1] *Ascaris* has a propensity to migrate from its usual habitat, ileum, to other areas. Wandering worms can move to various organs of abdomen and cause serious complications like intestinal obstruction, intussusception, cholangiohepatitis, pancreatitis, acute appendicitis, intestinal perforation and granulomatous peritonitis.[2] Extensive intestinal ascariasis may cause torsion and gangrene of intestine. These complications are usually seen in children, but can present in adults too.[1]

Perforation of hollow viscus by an adult worm is well-known to tropical surgeons. It may be primary or secondary. In primary type, the worm perforates through healthy intestine as a result of pressure necrosis caused by large worm bolus or by lytic secretions of worm combined with nibbling effect of its head.[3] In secondary type, it perforates through an existing weakness in the intestinal wall like an inflamed appendix, typhoid ulcers or inflamed Meckel's diverticula.[4]

Perforation may present as acute diffuse peritonitis or may be self-limiting if it is sealed spontaneously. In the peritoneal cavity, the female worm lays eggs, which produce a granulomatous inflammation, and itself dies leading to a large abscess, which presents as a tumour like mass in the abdomen.[5] Silent primary perforation of ascariasis would have caused its entry into peritoneal cavity in our case. Perforation might have sealed spontaneously, leaving some evidence behind in the form of pus in pelvis. Omentum, the policeman of abdomen acted promptly, localized and destroyed the worm. The whole process might have been silent as our patient did not have any abdominal symptoms in the past. In case of fatal complications like peritonitis and intestinal gangrene, surgery is the treatment of choice. Uncomplicated cases mostly respond to oral anthelmintic drugs[1] given once at primary visit and repeated after 6 weeks. Our case was similarly managed further with albendazole on an outpatient basis.

To conclude, ascariasis in peritoneal cavity usually presents as acute abdomen. Incidental omental nodule containing round worm during laparoscopy for another procedure has not been reported.

REFERENCES

1. Bhutia KL, Dey S, Singh V, Gupta A. Ascaris lumbricoides causing infarction of the mesenteric lymph nodes and intestinal gangrene in a child: A case report. Ger Med Sci 2011;9:Doc12.
2. Mokoena T, Luvuno FM. Conservative management of intestinal obstruction due to Ascaris worms in adult patients: A preliminary report. J R Coll Surg Edinb 1988;33:318-21.
3. Rao PL, Shenoy MG, Venkatesh A, Warrier PK. Intraperitoneal round worm abscess (case report). Indian Pediatr 1980;17:633-6.
4. Chandrasoma PT, De Silva S, Yoganathan M. Roundworm granuloma of the anterior abdominal wall. Postgrad Med J 1978;54:103-7.
5. Sane SY, Shroff RR. Ascarial abscess of omentum. Indian J Gastroenterol 1989;8:305-6.

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