

A Case Review of Intestinal Perforation Due To Round Worm Infestation



Medical Science

KEYWORDS :

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ABSTRACT

A young male presented with classical features of intestinal perforation leading to perforative peritonitis. The said patient after being subjected to baseline workup was subjected to exploratory laparotomy. A live ascaris lumbricoides were seen pouting out of a small bowel perforation.

INTRODUCTION

Ascaris lumbricoides (*A. lumbricoides*) which is also known as roundworm is one of the largest of the parasites that infest the human bowel, common in regions with poor sanitation, in the tropics and subtropics like Africa, Latin America, India and Far East[1]. It is estimated that almost 25% of world population are infected with roundworm. Roundworm infestation may cause some surgical problems including perforation of duodenal ulcer or intestine [2]. In our region, roundworm infestation is endemic especially in paediatric age group. It affects children mainly from low socioeconomic group whose standard of living and hygiene are poor. Common acute surgical abdomen caused by roundworm infestation include small intestinal obstruction, volvulus, intussusception and perforation usually involving the appendix or Meckels diverticulum, ileum, and rarely through areas of pre-existing bowel pathology and biliary ascariasis.[1,3] Radiologic investigations are helpful in the managements of *A. lumbricoides*. [1-4]. The adult round worm normally resides in the small intestine but due to their unpredictable dance may even become biliary or pancreatic demons leading to lot many complications. Although generally asymptomatic, heavy infestations may cause serious complications like intestinal obstruction, cholangitis, liver abscess, peritonitis, pancreatitis, cholecystitis, and Loffler's pneumonitis [5].

CASE REPORT

A 20 years old boy came to hospital with chief complaints of fever since 5 days, pain in abdomen since 1 day and vomiting since 1 day. Patient was apparently alright 5 days back when he developed fever which was high grade, not associated with chills and rigors, for which he took medication in private hospital and fever, subsided. Fever increases again since one day along with pain in abdomen which was severe, generalised and continuous in nature. Pain was associated with vomiting since one day, 6-7 episodes of vomiting containing bile. No h/o constipation, melaena and haematemesis.

On examination, patient was dehydrated with coated tongue, pulse was 102/min, blood pressure was 110/70 mm of Hg, and patient was afebrile. On systemic examination, abdomen was distended, with restricted mobility of abdomen during respiration. Generalised tenderness, guarding and rigidity were present. On haematological examination, haemoglobin was 11.4 gm%, total leucocyte count was 4400 cmm, RBC count was 3.77 [normal 4.0 -6.0] and PCV was 31.8% [normal 35-45%]. Eosinophil count was normal [03]. Chest X ray PA view showed air collection under right dome of diaphragm. Findings of ultrasound examination of abdomen were suggestive of perforative peritonitis with small bowel worm infestation. Patient was posted for exploratory laparotomy. Small bowel perforation 20 cm proximal to ile-

ocaecal junction on antimesenteric border was identified. Round worms were coming out through that perforation all worms were milked out. Liberal saline and betadine wash was given. Perforation closed in two layers [inner with 2-0 vicryl and outer with 3-0 mersilk] after freshening of edges. Drains were kept in subhepatic and pelvic spaces and abdomen closed in layers.



Intraoperative findings roundworm coming out of intestinal perforation

DISCUSSION

Roundworm infection is of global distribution with more than 1.4 billion persons infected throughout the world. Roundworm related clinical disease is restricted to subjects with heavy worm load, and an estimated 1.2 to 2 million such cases with 20,000 deaths occur in endemic areas per year. roundworm infection

is acquired by the ingestion of the embryonated eggs. Larvae, while passing through the pulmonary migration phase for maturation, cause roundworm pneumonia. Intestinal ascariasis is usually detected as an incidental finding. Gastrointestinal sequelae of ascariasis include luminal occlusion, volvulus, perforations, appendicitis and intussusception [1, 6]. Ascariasis-induced intestinal obstruction is a frequent complication in children with heavy worm load. It can be complicated by intussusceptions, perforation, and gangrene of the bowel [7]. The intestine has an immense capacity for dilatation. It has been claimed that it can accommodate >5000 worms without any symptoms [8]. It is thus unlikely that direct pressure by a few roundworms can produce duodenal perforation. The commonest complication of ascariasis is intestinal obstruction due to a worm bolus [9]. The obstruction may be acute or subacute. Acute upper airway obstruction due to roundworms has also been reported [6]. Acute appendicitis and appendicular perforation can occur as a result of worms entering the appendix. In ascariasis, the cause of perforation of the small intestine remains controversial, with two main theories. In the tropics, patients consistently have histories of diseases associated with the ulceration of the intestines such as typhoid enteritis, tuberculosis, and amebiasis. During extreme conditions, such as inflammation, starvation, or worm bolus obstruction, some parasites are believed to migrate into the ulcers and to cause perforations [11]. Another possible explanation is that the large worm bolus can lead to pressure necrosis and gangrene [12]. The bowel, diseased in this way, becomes susceptible to rupture by the burrowing action of the worm [7, 13]. A close monitoring and early surgical intervention in those with toxemia and features of peritonitis may salvage bowel and reduce mortality. Most of the morbidity and the mortalities are usually seen in children presenting with volvulus and peritonitis [1] which was also the case in the present study.

CONCLUSION

Roundworm infestation, even though a rare cause, should always be borne in mind as a cause of perforation in patients with nonspecific abdominal pain especially in temperate and tropical countries. Use of high resolution ultrasound can be helpful in diagnosing the presence of worms, its complications and in evaluating response to treatment.

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