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ABSTRACT

Ascaris lumbricoids is the most common helminthes in tropical areas of developing countries around the world. Intestinal obstruction due to *A. lumbricoids* is a well known and serious complication in children. We report a case of six yrs female child with intestinal obstruction, who underwent laparotomy and enterotomy to remove the worm masses. Early diagnosis and surgery prevented complications and saved the life of patient.

Keywords: Acute, *Ascaris Lumbricoides*, helminths, Intestinal obstruction

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INTRODUCTION

Intestinal obstruction is the most common complication of *Ascaris lumbricoids*. The largest proportion of ascariasis is found in school children whereas, in infant and pre-school age, complications are frequently seen.¹ The highest prevalence is seen in tropical and sub-tropical areas.² Those patients who report with ascaridial obstruction are very alarming and challengeable for the surgeons due to the fear of strangulation, intestinal gangrene and their migratory habit and tendency to explore orifices and ducts leading to a variety of other dangerous complications and poor prognosis.

CASE DETAILS

A six years old girl presented to emergency department of National Medical College Teaching Hospital, Birgunj with abdominal pain and not passing stool and flatus for two days. She had three episodes of vomiting and had

expelled ascaris through mouth three days back. De-worming was done nine days back.

Her general condition was fair with mild dehydration and pulse rate of 96/min, respiration rate 18/min. She was afebrile. Abdomen was soft, distended, non-tender with intra-abdominal tubular mass extending from left hypochondrium to right iliac fossa. The mass had 'crepitative sound' on deep palpation. Bowel sound was high pitched. Other systemic examinations were normal. Laboratory parameters were normal with haematocrit 38%, leukocyte count 12000 cmm, Na⁺ 136 mmol and K⁺ 4.2 mmol. Distended bowel loops were seen on abdomen x-ray. Ultrasonography (USG) of abdomen revealed multiple tubular loops in small bowel.

Patient underwent exploratory laparotomy. Surgery revealed distended segment of ileum approximately 25 cm, congested and densely packed with adult ascaris (Figure 1). Proximal and distal segment of ileum was collapsed. Enterotomy was performed to remove the knotted bowel of ascaris (Figure 2). Patient had uneventful recovery and was discharged on 7th post operative day.

Figure 1: Small bowel obstructed by ascaris with collapsed proximal and distal bowel



Figure 2: Extracted adult live worms after enterotomy



DISCUSSION

In developing countries like Nepal, there is a problem of clean portable, piped water supply and people use river or lakes for washing, cleaning, ablution and even drinking. Many people do not have access to toilets, and use 'open field' which contaminates food chain predisposing to infestation with helminthes.

Ascariasis is more common in pediatrics age group (2-10 years), in tropical and subtropical areas.^{3, 4} Approximately two million people get infested and 20,000 deaths occur every year in endemic area.²

Clinical illness depends on parasitic load and patients may be asymptomatic or present with malnutrition, chronic abdomen pain, nausea, vomiting, abdomen distension and acute intestinal obstruction. Many patients have history of expulsion of ascaris per rectum or mouth.² The factor that leads to intestinal obstructions are massive number of worms, interlace and coiled up behavior, secretion of neurotoxin and peristaltic contraction.⁵

Diagnosis of roundworm obstruction is suspected on history and symptoms of intestinal obstruction, which is supported by abdomen x-ray showing air fluid levels and multiple linear images of *Ascaris lumbricoides* in dilated intestinal loops. USG is diagnostic with hyperechoic mass of coiled up worms with or without acoustic shadow.⁶

Majority of the patients without sign and symptoms of peritonitis can be treated effectively by conservative management, with nil by mouth, intravenous fluid, nasogastric tube aspiration, rectal enemas of glycerin plus liquid paraffin enema and piperazine salt through nasogastric tube together with close clinical and with serial abdomen x-ray monitoring.²

Surgical procedures performed in intestinal obstruction caused by *Ascaris lumbricoides* are manual advancement, enterotomy, intestinal resection, appendectomy.^{1, 8}

CONCLUSION

Roundworm infestation is common in developing countries, and most of the intestinal obstruction caused by it can be managed conservatively, but surgery is necessary in selected cases.

As prevention is most important aspect of this disease, the author would like to suggest some important recommendations to highlight the issues of population sanitary hygienic education (mainly the risk groups), Implementation of anthelmintic medication program and to empower the authorities and leaders about the intestinal parasitism.

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