HELMINTHIC GUT OBSTRUCTION

(A Case Report)

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Introduction

An aggregation of *Ascaris lumbricoides* is sometimes the cause of low small intestinal obstruction in children, usually under 10 years of age, and those living in or near tropics [1]. In majority of the cases, obstruction is partial and responds favourably to conservative treatment. Complete obstruction commonly follows an attempt to deworm a heavily infested child. It paralyses the worms and so makes them even more likely to form a ball and obstruct the gut.

We report 2 cases of small gut obstruction in children resulting from infestation with round worms.

Case Report

Case 1

A 9-year-old male child was admitted with acute intestinal obstruction of one day duration. He had past history of several mild attacks of central abdominal pain and vomitings and had passed ascaris per rectum several times.

On examination the child was found to be malnourished with a haemoglobin of 9.5 gm per cent. Abdominal examination revealed a 8 cm diameter firm, moderately tender, mobile mass in the centre of abdomen. There was no visible peristalsis. Signs of peritoneal irritation were absent. Bowel sounds were increased.

Plain radiograph of abdomen in standing position showed multiple air-fluid levels. The patient was put on nasogastric suction and intravenous fluids for 12 hours but the obstruction failed to resolve. Laparotomy was performed which revealed entire length of jejunum and proximal half of ileum packed with a solid mass of ascaris. An attempt to break up the ball of worms and milking them distally into caecum failed. Three 2 cm size openings were made on the antemesenteric border of healthy gut over the mass and worms were removed from the lumen with forceps (Fig 1). These openings were closed transversely in two layers. Child was dewormed with a single dose of piperazine citrate 4 gm on 3rd post-operative day and made an uneventful recovery.

Case 2

A 7-year-old male child presented with severe abdominal pain, repeated vomitings and constipation. He was found to be dehydrated and pale. Abdomen was slightly distended and tender.

Bowel sounds were increased. Investigations revealed haemoglobin 8 gm per cent, TLC-12,500/ cu mm, DLC- P 80, L 8, E 12. Urine examination was normal. Plain radiograph of abdomen showed multiple air-fluid levels. Laparotomy was performed. Small intestine was dark red with multiple bluish patches spread over 3 feet of the jejunum about 2 feet distal to duodenojejunal flexure. Multiple worms were felt within it.

Gut was wrapped in a warm moist abdominal pack and patient was administered pure oxygen for 3 minutes. With this normal colour of intestine returned and bluish patches disappeared.

Worms were pushed distally into the caecum and ascending colon. Abdomen was closed without drain. Deworming was done with piperazine citrate as mentioned in case 1. Postoperative period was uneventful and patient was discharged on 10th day.

Discussion

Ascaris is cosmopolitan in distribution. It is established that about one fourth of the world's population is infected. Prevalence rates of the order of 50 to 75 per cent have been registered in many Asian and Latin American countries [2].

Adult worms remain in the lumen of the intestine, where they obtain food by employing pharyngeal and oesophageal muscles to suck the liquid nutrients in

Fig. 1 : Kneading of the bolus of worms was unsuccessful. Worms are being removed through enterotomies made on healthier part of the gut.

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intestinal fluid. In many individuals their presence cause no remarkable manifestations. Slight dietary alterations or disturbed digestion may cause the worms to pass spontaneously per anum or to be vomited, and at times passed through the nares. The most common symptoms are vague abdominal discomfort and acute abdominal colicky pain in epigastric region [3].

Heavy infestations can cause intestinal obstruction, partly or completely. Children of impoverished shanty towns are most heavily infected, but in only some of them is the infection so heavy that it obstructs the gut. In India round worms account for 1.5 to 7 per cent of all cases of intestinal obstruction [4].

Various factors are responsible for producing intestinal obstruction. Obstruction of the lumen by an entangled bolus of worms is the most common mechanism. Volvulus and intussusception are two other mechanisms by which intestinal obstruction is produced. The intestinal loop loaded with the bolus of round worms undergoes torsion and gives rise to volvulus. Intussusception results from hyperperistalsis induced by the irritating effect of round worms. Kumar et al have suggested that the excretory products of the worm produce spasm of ileocaecal valve making it a closed loop obstruction [5]. Toxins released by the ascaris produce intestinal ischaemia and infarction resulting in necrotic patches in the intestinal wall [6]. These pre-gangrenous and gangrenous changes are

seen in the bowel wall with or without obstruction or perforation. Diffuse ischaemia of small bowel without any evidence of mechanical obstruction has been observed by Maudar et al [7].

To conclude, a high index of suspicion is necessary for early recognition of an infrequent cause of intestinal obstruction in paediatric age group. An aggressive management strategy must be undertaken as done in the 2 cases reported to prevent gangrene of small bowel.

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