

AN UNUSUAL CASE: INTESTINAL OBSTRUCTION DUE TO A PARASITIC BEZOAR IN A CHILD

ÇOCUKTA NADİR BİR OLGU: PARAZİTİK BEZOARA BAĞLI İNTESTİNAL OBSTRÜKSİYON

Gülşen EKİNGEN, M.D., Hayrünisa KAHRAMAN, M.D., Yeşim GÜRBÜZ*, M.D.,
B.Haluk GÜVENÇ, M.D.

Kocaeli University Medical School, Department of Pediatric Surgery and Pathology*, Kocaeli, Turkey
Gazi Medical Journal 2004; 15: 157-159

SUMMARY: Bezoars are an uncommon result of the ingestion of indigestible or poorly digested substances, which form a solid mass within the gastrointestinal tract. Their classification is based on their content and includes phytobezoars, trichobezoars, lactobezoars and seldomly parasitic bezoars. We report a case of intestinal obstruction caused by a bezoar due to parasitic infestation in a 10-year-old boy that was treated with successful surgical intervention.

Key Words: Intestinal Obstruction, Bezoar, Ascariasis.

ÖZET: Gastrointestinal sistem bezoarları trikobezoar, fitobezoar ve nadiren parazitik bezoar olarak sınıflandırılmaktadır. Bezoarların klinik komplikasyonu olan intestinal obstrüksiyon sıklıkla fitobezoar sonucu görülmektedir. Bu yazıda kliniğimizde, bezoarın nadir formu olan parazitik bezoara bağlı ortaya çıkan intestinal obstrüksiyon olgusu sunuldu.

Anahtar Kelimeler: Barsak Tıkanması, Bezoar, Askaris.

INTRODUCTION

Bezoars of the gastrointestinal tract consist of undigested food and they are mostly seen due to ingestion of immature fruits following gastric surgery. Bezoars are classified according to the materials of which they are composed, as trichobezoars, phytobezoars and rarely parasitic bezoars (1, 2). Important clinical and pathological features are emphasized to increase awareness of this rather uncommon cause of intestinal obstruction (2).

A serious complication of gastrointestinal bezoars is small bowel obstruction. It has been reported that intestinal obstruction occurs in 0.4-4% of phytobezoar cases (1). Intestinal obstruction due to a parasitic bezoar, however, is a very rare clinical entity. We present a case of an intestinal parasitic bezoar caused by *Ascaris lumbricoides* infestation.

CASE REPORT

An 11-year-old boy was admitted to the department of pediatric surgery with abdominal pain and bilious vomiting. It was learned that his complaints had been occurring for two weeks. On admission, his physical examination revealed a distended abdomen with a palpatory mass and tenderness in the left lower quadrant, but there was no rebound or rigidity. Increased bowel peristalsis and metallic sounds were observed.

A plain abdominal x-ray showed multiple air-fluid levels and dilated loops of small intestine, suggesting small bowel obstruction. No signs of intestinal perforation were observed. Abdominal ultrasonography revealed an intraluminal echogenic 3x2.5 cm mass located in the left lower quadrant and intra-abdominal free fluid (Fig. 1).

His routine blood biochemistry and tumor

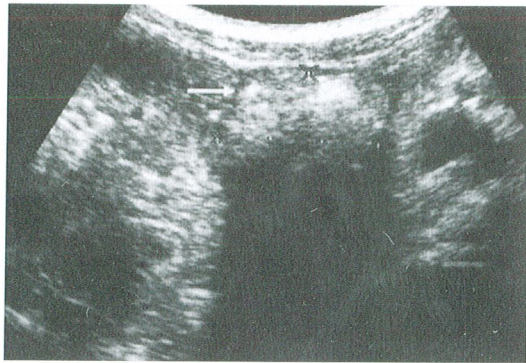


Fig. 1: Sagittal ultrasound view of the mass reveal a hyperechoic image (white arrow) in the lumen.

markers were normal but total white blood cell count was increased. Diagnostic laparoscopy was planned for the patient, whose laboratory and clinical findings suggested an intestinal obstruction. Following the placement of a laparoscopic port through the umbilicus by the cut-down technique, an exploration was carried out with a 30° camera. During the exploration, an intraluminal mass resulting in obstruction of the distal ileal segment and dilated intestinal loops proximally were observed.

Then laparotomy was performed and the intraluminal mass measuring 3x4 cm was extracted following enterotomy from the segment of the mass. Histopathological examination of the mass revealed a parasitic bezoar caused by

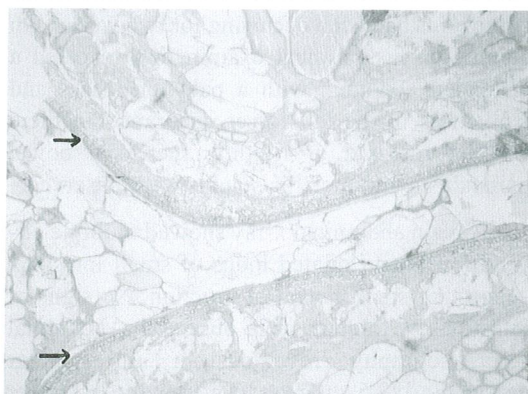


Fig. 2: The wall of two ascarides (black arrows) in the bezoar (hematoxylin and eosin).

Ascaris lumbricoides (Fig. 2).

The postoperative course was uneventful. He was discharged after five days of hospitalization with anthelmintic medical therapy.

DISCUSSION

Ascaris lumbricoides infestations are the most common parasitosis affecting humans, especially in tropical countries. Infestation can occur through accidental ingestion of embryonated eggs in polluted drinking water, food or soil. After ingestion, the eggs reach the duodenum, where intestinal juices soften the shells and free the larvae. The free larvae penetrate the intestinal wall and enter the bloodstream. Then they migrate to the lung alveolar wall and upon coughing and swallowing of the secretions free larvae migrate back to the small bowel. During this cycle complications such as intestinal obstructions have been reported due to *Ascaris lumbricoides* as parasitic bezoars (3-5). Adult *Ascaris lumbricoides* have been shown to cause intestinal perforation due to direct pressure on and irritation of the bowel wall and their migration into the peritoneal cavity results in peritonitis (3, 4).

The exact incidence of primary ascaridial perforation of the small bowel is not known. The purposed mechanism of complication is direct pressure on and irritation of the bowel wall by impacted ascaridial masses, leading to ulceration, necrosis and perforation. Primary ascaridial perforation of the small bowel is rare in the absence of predisposing intestinal disease (4). Septic shock was reported in a patient as a complication of intestinal obstruction by ascariasis.

Most reported bezoars causing intestinal perforation and obstruction are phytobezoars and trichobezoars (1). Parasitic bezoars are rarely reported to cause intestinal obstruction. On the other hand, the most frequently encountered complication of *ascaris lumbricoides* infestations is intestinal obstruction due to a worm bolus (5, 6).

Vasquez et al. showed that anthelmintic medications, especially mebendazol, increased the risk of intestinal obstruction (7). However, there were no obstructing signs of a worm bolus in our case and the intestinal obstruction was put

down to the effects of the bezoar. Furthermore, there was no history of anthelmintic medication use in our case.

Bezoar can be diagnosed by conventional abdominal x-ray, abdominal sonography and CT scan (1, 8, 9). The characteristic sonographic features of "railway track" sign and "bull's eye" appearance may help in the diagnosis of ascaris (5, 9). In our case, the sonographic examination revealed an intraluminal solid mass in the intestine. A CT scan was not performed because of the presence of intestinal obstruction signs.

An early diagnosis and surgical intervention are essential to minimize high morbidity and mortality in complications of ascaris infestation. Open surgical intervention is preferred in the treatment of intestinal obstruction due to bezoar. It is suggested that bezoars could be removed by enterotomy or manual exposition during surgery (8, 9). Nowadays, a laparoscopic surgical intervention can be carried out successfully in cases of intestinal obstruction due to bezoar (8).

A gastric bezoar was successfully removed by laparoscopic surgery. In addition, an intestinal bezoar causing obstruction was treated laparoscopically, broken down and milked through the ileocecal valve as reported by Yol et al. (10).

We preferred an open surgical approach because the mass was not identified as a bezoar before the laparotomy.

In conclusion, we recommend that bezoars be considered in patients with an intestinal obstruction who have an intraluminal solid mass, and a laparoscopic approach may be the choice of treatment for patients with a bezoar when surgery is indicated.

REFERENCES

1. Ripolles T. Gastrointestinal Bezoars: Sonographic and CT Characteristics. *Am J Roentgenol* 2001; 177: 65-69.
2. Aytac B, Cakar S. Bezoar: An uncommon cause of intestinal obstruction. *Acta Gastroenterol Belg*. 2001; 64: 295-297.
3. Akgun Y. Intestinal obstruction caused by ascaris lumbricoides. *Dis Colon Rectum* 1996; 39: 1159-1163.
4. Chawla A, Patwardhan V, Maheshwari M, Wasnik A. Primary ascaridial perforation of the small intestine: sonographic diagnosis. *J Clin Ultrasound*. 2003; 31: 211-213.
5. Silva NR, Guyatt HL, Bundy DA. Worm burden in intestinal obstruction caused by *Ascaris lumbricoides*. *Trop Med Int Health*. 1997; 2: 189-190.
6. Robles R, Parrilla P, Escamilla C, Lujan JA, Torralba JA, Liron R, Moreno A. Gastrointestinal bezoars. *Br J Surg* 1994; 81: 1000-1001.
7. Vasquez TO, Gutierrez CP, Yamazaki NMA, Arredondo SJC, Campos RT, Martinez BI. Anthelmintics as a risk factor in intestinal obstruction by *ascaris lumbricoides* in children. *Bol Chil Parasitol* 2000; 55: 3-7.
8. Wasadikar PP, Kulkarni AB. Intestinal obstruction due to ascariasis. *Br J Surg*. 1997; 84: 410-412.
9. Villamizar E, Mendez M, Bonilla E, Varon H, de Onatra S. *Ascaris lumbricoides* infestation as a cause of intestinal obstruction in children: experience with 87 cases. *J Pediatr Surg* 1996; 31: 201-204.
10. Yol S, Bostancı B, Akoğlu M. Laparoscopic treatment of small bowel phyto-bezoar obstruction. *J Laparoendosc Adv Surg Tech A*. 2003; 13: 323-326.

Correspondence to: Gülşen EKİNGEN, M.D.
Yıldız 1.cad Ziraat Müh Sitesi
3.Blok 51/20
Çankaya
06610 ANKARA - TÜRKİYE