Case report

Rare cause of intestinal obstruction, Ascaris lumbricoides infestation: two case reports
Ibrahim Yetim¹, Orhan Veli Ozkan¹*, Ersan Semerci¹ and Recep Abanoz²

Address: ¹Department of General Surgery, Faculty of Medicine, Mustafa Kemal University, Hatay/Turkey and ²Department of Radiology, Bafra State Hospital, Samsun/Turkey

Email: IY - yetim54@gmail.com; OVO* - veliorhan@hotmail.com; ES - ersemerci@yahoo.com; RA - drrecepabanoz@gmail.com

* Corresponding author

Received: 12 November 2008 Accepted: 3 April 2009 Published: 17 June 2009
Cases Journal 2009, 2:7970 doi: 10.4076/1757-1626-2-7970
This article is available from: http://casesjournal.com/casesjournal/article/view/7970
© 2009 Yetim et al; licensee Cases Network Ltd.
This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/3.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract
Ascaris lumbricoides is common resident of intestine especially low socioeconomic areas in the world. Complication of Ascaris lumbricoides has been reported include obstruction of the small intestine, intestinal volvulus and intussusception. We report two children with severe sequelae of intestinal obstruction.

Introduction
Ascaris lumbricoides (AL) is the most common helminth affecting humans and causing important medical and social problems especially in the under-developing countries [1,2]. AL infestation occurs in all age groups but more common in children of preschool age [3]. Obstruction of intestinal tract by a mass of AL is one of the serious and lethal complications. Early diagnosis of obstruction by ultrasonography (USG) is likely possible [1,4]. We presented two cases with intestinal obstruction induced by AL.

Case presentation
Case 1
A 4-year-old Caucasian male child of Turkish nationality was admitted to the emergency department with abdominal pain and biliary vomiting for three days. Physical examination revealed abdomen tenderness and rigidity. X-ray showed air-fluid levels indicative of intestinal obstruction. USG demonstrated masses in the intestinal lumen. Parallel paired lines like ‘railway track’ and ‘bull’s eye’ sign were seen on USG (Figure 1). At laparotomy, he had necrosis of ileal part of approximately 20 cm. The necrosis parts were resected and evacuated the two Ascaris masses. Primary end-to-end anastomosis was performed. Patient was discharged 7th day postoperatively without complication.

Case 2
A 7-year-old Caucasian boy of Turkish nationality was admitted to the emergency department with abdominal pain and vomiting for three days. His x-ray and sonographic features were similar to the first patient. At laparotomy (Figure 2), he had jejunal masses milking by enterotomies and sutured and closed primarily. There was no complication postoperatively and he was discharged 5th.

Discussion
AL is the facultative parasite and resides in human intestinal tract as a harmless inhabitant through its adult
life. Ascaris infestation affects especially children reside in socioeconomic areas and with malnutrition and immune deficiencies [5]. They live from stomach to ileocecal valve without causing any serious symptoms. When environment may become change to intolerable for their living, they migrate to more appropriate areas of intestinal tract. AL may cause serious problems at this migration including pancreatitis, cholecystitis, liver abscess, intestinal obstruction and even perforation [6,7]. Diagnosis with clinical symptoms and hematological investigation frequently is not possible. X-ray may show air fluid levels. USG may show two pairs echogenic tubular structures (railway track) longitudinally and bull’s eye horizontally [1,8]. Tubular structures may have active movements that could make diagnosis easily. USG is a simple and reliable method for diagnosis of AL obstruction [6,9], as seen in our both of cases.

The most common acute complication of AL is intestinal obstruction. The rate of mortality from intestinal obstruction is 5.7% below the age of 10 years [4]. Partial intestinal obstruction from AL may resolve spontaneously with the conservative treatment including bowel rest, intravenous fluids, and nasogastric decompressing [10]. When mechanical obstruction persists, bolus of worm acts a fixed point, and leads to intussusception or volvulus. Ascaris may also excrete neurotoxins and anaphylatoxins leading to small bowel spasticity and inflammation. These toxins may induce the mechanical obstruction as well [5,11]. Volvulus, intussusception or increasing pressure to the intestinal wall causes necrosis [12]. In case of necrosis, resection and primary anastomosis are necessary. Piperazine citrate is useful postoperatively.

In conclusion, AL should be kept in mind in preschool children with sudden-acute intestinal obstruction. USG is a very useful tool for its diagnosis.

List of abbreviations
AL, Ascaris lumbricoides, USG, Ultrasonography.

Consent
Written informed consent was obtained from the fathers of the patients for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this Journal.

Competing interests
The authors declare that they have no competing interests.

Authors’ contributions
IY and RA analyzed and interpreted the patient data. OVO and ES performed the literature review, and was a major contributor in writing the manuscript. OVO and IY performed the final editing of the manuscript. All authors read and approved the final manuscript.

References
1. Chawla A, Patwardhan V, Maheshwari M: Primary ascaridial perforation of the small intestine: Sonographic diagnosis. J Clin Ultrasound 2003, 31:211-213.
2. Akgun Y: Intestinal obstruction caused by ascaris lumbricoides. Dis Colon Rectum 1996, 39:1159-1163.
3. Steinberg R, Davies J, Millar A: Unusual intestinal sequelae after operations for ascaris lumbricoides infestation. Pediatr Surg Int 2003, 19:85-87.
4. de Silva NR, Guvay HL, Bundy DA: Morbidity and mortality due to ascaris-induced intestinal obstruction. Trans R Soc Trop Med Hyg 1997, 91:31-36.
5. Villanizarr E, Méndez 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, 31:201-205.
6. Coskun A, Ozcan N, Durak AC, Tolu I, Gulec M, Turan C: Intestinal ascarasis as a cause of bowel obstruction in two patients: sonographic diagnosis. J Clin Ultrasound 1996, 24:326-328.
7. Kucukaydin M, Oskur H, Icer M: Intestinal complications of ascaris lumbricoides in children. Erciyes Medical Journal 1989, 11:484-489.
8. Wasadikar PP, Kulkarni AB: Intestinal obstruction due to ascarasis. Br J Surg 1997, 84:410-412.
9. Peck Rj: Ultrasonography of intestinal ascaris. J Clin Ultrasound 1990, 18:741-743.
10. Rode H, Cullis S, Millar A, Cremin B, Cywes S: Abdominal complications of ascaris lumbricoides in children. Pediatr Surg Int 1990, 5:397-401.
11. Cole GJ: Surgical manifestations of ascaris lumbricoides in the intestine. Br J Surg 1965, 52:444-447.
12. Surendran N, Paulose MG: Intestinal complications of round worms in children. J Pediatr Surg 1988, 23:931-935.

Do you have a case to share?
Submit your case report today
• Rapid peer review
• Fast publication
• PubMed indexing
• Inclusion in Cases Database

Any patient, any case, can teach us something

www.casesnetwork.com