Intestinal obstruction due to ascariasis A case report.

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Abstract

Introduction: Parasitic infection caused by Ascaris lumbricoides is the most common infection in the world; approximately one-quarter of the world's population is infected. This is most common in rural areas where health infrastructure is deficient, where it is associated with increased morbidity at the pediatric age.

Case: Among the main complications of this pathology is intestinal obstruction, which can lead to surgical resolution.

Conclusions: This article describes the clinical report of a pediatric patient who was diagnosed with acute abdomen due to probable appendicitis. After its approach and management, the definitive diagnosis was an intestinal obstruction caused by ascariasis, requiring surgical treatment in addition to antiparasitic therapy.

Keywords: DeCS: Ascaris lumbricoides, parasitosis, intestinal obstruction.
Introduction
Ascaris lumbricoides is an intestinal nematode that produces one of the most common helminth parasites worldwide, mainly on the Asian, African, and South American continents. [1]. Its transmission occurs through ingestion of water or food contaminated with roundworm eggs, and symptoms can occur during the late-stage adult worm or early-stage larval migration. The diagnosis is based on imaging findings of the parasite, peripheral eosinophilia, and epidemiological exposure to parasite eggs, thus requiring treatment through anthelmintic therapy. These patients may also present complications such as intestinal obstruction, hepatobiliary involvement, pancreatitis, and malnutrition [2]. Ascariasis is the most common cause of acute abdominal surgical emergencies that occur in children between 1 and 5 years of age and require surgical and antiparasitic treatment [3].

Clinical case
The clinical case of a 2-year-old, 6-month-old male patient who lives in the rural area of Guayaquil is presented. A 24-hour clinical picture characterized by crampy abdominal pain located in the right iliac fossa was accompanied by an unquantified thermal increase and vomiting of food content on 2 occasions. This patient was considered to have acute abdomen due to probable appendicitis. She was admitted to the Emergency Department with dehydration data. Similarly, biometrics were used to draw attention to leukocytosis (23.59 × 10⁹/L), predominantly to neutrophils (81%), anemia (with a hemoglobin of 10 gr/dl), hematocrit (31.8%), reactive thrombocytosis (592000 uL), elevated acute phase reactant (CRP) (21.4 mg/L), imaging studies with abdominal X-ray showing air-fluid levels, and loop distension predominantly in the central intestinal tract, with tubular images that could correspond to volvulus due to obstruction by lumbricoid ascaris and abdominal ultrasound with a report of distended intestinal loops with internal loop fluid, within which tubular images were observed with movements as seen in parasitosis (ascaris). and mesenteric nodes of 8 mm.

Fasting, intravenous analgesia, and evaluation by the Pediatric Surgery Service were prescribed in the presence of intestinal obstruction with a parasitic cause, indicating that diagnostic laparoscopy was warranted with the probability of laparotomy to carry out ascaris ball removal. Finally, an exploratory laparotomy was performed with intestinal resection, intestinal anastomosis, and taxing to remove the lumbricoid ascaris ball from the intestinal lumen, washing, and drainage in the abdominal cavity. The following findings were obtained: obstruction by a ball of lumbricoid ascaris 15 cm from the ileocecal valve that causes intestinal volvulus with necrosis of 20 cm of the intestinal loops; Ascaris tangles at the level of the Treitz angle; proximal jejunum, duodenum and descending colon; and purulent fluid in the cavity 100 ml.

Figure 1. Abdominal X-ray revealed air-fluid levels and distension of the intestinal loops.

Figure 2 Abdominal ultrasound: Tubular images with movements such as parasitosis are observed.
He moved to a critical area for postsurgical management, presenting a positive transsurgical balance, with bleeding of approximately 481 cc, where he needed oxygen support through a nasal cannula for 48 hours and dynamic management of intravenous fluids. In his first postsurgical hours, crystalloid loads up to 40 cc/kg and fluids at a flow rate and half of their basal requirements, analgesia, fasting with gastric protection, and triple antimicrobial regimen were applied.

At 72 hours postsurgery, he went to the hospitalization room and fasted for a total of 5 days, after which he resumed her diet and was able to receive antiparasitic treatment via piperazine for 3 days. On the 6th day after surgical management, an abdominal ultrasound of the control subject without pathological findings was performed, and the drain was removed; 12 days later, antibiotic therapy based on ceftriaxone, metronidazole, and ten days of amikacin was administered.

Before discharge, control laboratory tests were performed for patients with decreased leukocyte and platelet counts and negative PCR results.

A small intestine biopsy revealed transmural infarction and acute and chronic inflammatory processes in the intestinal wall secondary to intestinal volvulus.

**Discussion**

Ascarisiasis is a global health problem that is considered among the ten most common intestinal parasitic infections and is predominant in Asian, African, and South American countries. A low socioeconomic environment, overcrowding, shortages of drinking water, and poor hygiene conditions are the main risk factors [2, 4, 5].

This parasitaemia produces an asymptomatic infection, where its clinical presentation will depend on the degree of obstruction, the evolution of which will be acute or subacute, requiring medical or surgical treatment [3, 6, 7].

The main clinical manifestations include abdominal pain, bloating, fever, and sometimes the expulsion of the ascaris through the rectum or mouth. In cases of intestinal obstruction, the clinical picture is abrupt due to partial or total intestinal occlusion caused by the formation of an intraluminal tangle of helminths [8, 9].

Complementary studies have reported peripheral eosinophilia in 5 to 12% of patients in the early symptomatic period. Simple abdominal radiography can reveal the accumulation of adult Ascaris, which can cause the formation of a ball, and ultrasound may reveal echogenic intestinal tubular structures; moreover, at the direct examination of feces, the presence of roundworm eggs can occur [2, 8].

Treatment for this parasitic infection relies on anthelmintic therapy involving the use of benzimidazoles and derivatives (albendazole and mebendazole), which can cause the death of the parasite, and the use of piperazine, which can cause flaccid paralysis of the helminth. While conservative management of complications such as intestinal obstruction can be used, a nasogastric tube can be used, and fluid replacement can be used; in the case of complete obstruction without an excellent response to the regimen, surgical resolution is needed to perform an emergency exploratory laparotomy in the presence of an acute abdomen [9, 10, 11].

We consider this clinical case to be interesting because it involves a preschooler who was treated for acute abdomen with a first diagnostic impression of appendicitis. However, with a history of living in a rural area where hygienic conditions were probably not adequate, as well as the imaging findings of the roundworm ball that produced an intestinal infarction.
obstruction, where it was necessary to perform an exploratory laparotomy as part of the pertinent treatment.

Conclusions
Ascariasis is one of the most common parasitic infections in children worldwide and can lead to complications such as intestinal obstruction and require immediate surgical management. This case report is based on the importance of timely diagnosis and treatment of the pathology, which led to a satisfactory result and good clinical outcome.

References


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