

ABDOMINAL ANGIOSTRONGYLIASIS: A CASE WITH SEVERE EVOLUTION

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SUMMARY

A case of acute abdomen disease caused by abdominal angiostrongyliasis is reported. A 42-year-old otherwise healthy patient presented with a complaint of nine days of abdominal pain, constipation, disury, fever and right iliac fossa palpable mass. Exploratory laparotomy was performed. After surgical treatment the patient presented serious complications.

KEYWORDS: Abdominal angiostrongyliasis; *Angiostrongylus costaricensis*; Acute abdomen.

INTRODUCTION

Abdominal angiostrongyliasis (AA) is a parasitosis caused by the worm *Angiostrongylus costaricensis*. Since 1967, when the first human infection case was published^{3,17}, researches have described the epidemiology, life cycle of the parasite, and the clinical manifestations of this disease^{7,8,9,18,19,20}.

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CASE REPORT

A 42 year-old otherwise healthy white man living in Mata, State of Rio Grande do Sul, Brazil, was admitted to the emergency unit presenting diffuse abdominal pain which he had for the previous nine days. The pain has localized to periumbilical and right iliac fossa during the last five days. There was also constipation, disury, and fever (38.5 °C). At the physical examination pain was produced by superficial palpation of right iliac fossa where a localized mass was palpated, with painful abrupt decompression present in the whole region. The axillary temperature was 37.5 °C, his blood pressure was 120/80 mm Hg, and his cardiac frequency was 92 beats per minute. Laboratory studies revealed a hemoglobin of 14.5 g/dL and a white cell count of 15100/mm³, with 86.1% neutrophils, 9% band cells, 6.5% lymphocytes, 6% monocytes and 1% eosinophils. Based on the diagnostic assumption of acute abdominal inflammation, the patient was submitted to an exploratory laparotomy, which demonstrated edema of the cecum and a great amount of local inflammatory reaction. Appendix was normal. Enterocolic anastomosis after resection of terminal ileum and ascending colon was performed. Histopathologic analysis of the resected specimens showed granulation tissue, vascular congestion, edema, and intense eosinophilic infiltration (Fig. 1 and Fig. 2). On the 11th

postoperative day, the patient developed an abdominal wall abscess, which was afterwards drained. On the 16th postoperative day, anastomotic dehiscence could be observed and ileostomy was performed. On the 23rd postoperative day, an evisceration was repaired. On the 25th postoperative day, *Staphylococcus aureus* and *Acinetobacter* were isolated in sputum culture and vancomycin plus ceftazidime were administered during 14 days. On the 41st postoperative day, dyspnea, pleuritic pain, fever (tax 37.3 °C) and hypoxemia (PO₂: 70.8 mmHg; SatO₂: 94.3%) was developed. A Computed Tomography (CT) pulmonary angiography revealed bilateral pulmonary thromboembolism (Fig. 3) and anticoagulant therapy was started. Antibodies to *Angiostrongylus costaricensis* antigen were detected in

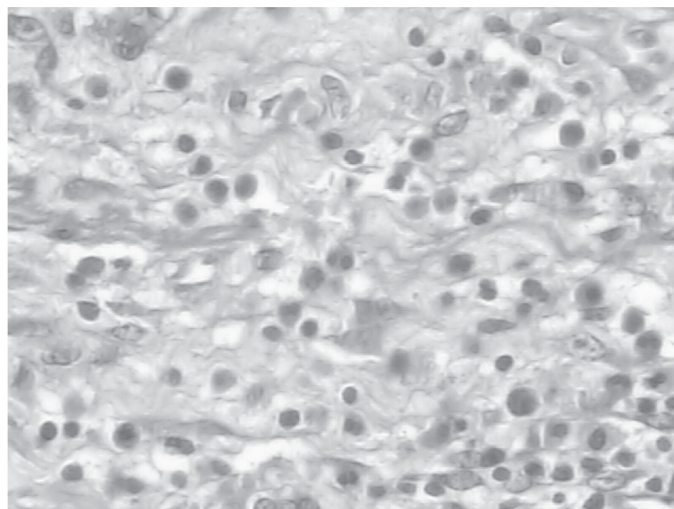


Fig. 1 - Extensive infiltrate of eosinophils.

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Fig. 2 - Section showing edema, granulomatous reaction, extensive inflammatory infiltrate, vascular congestion.

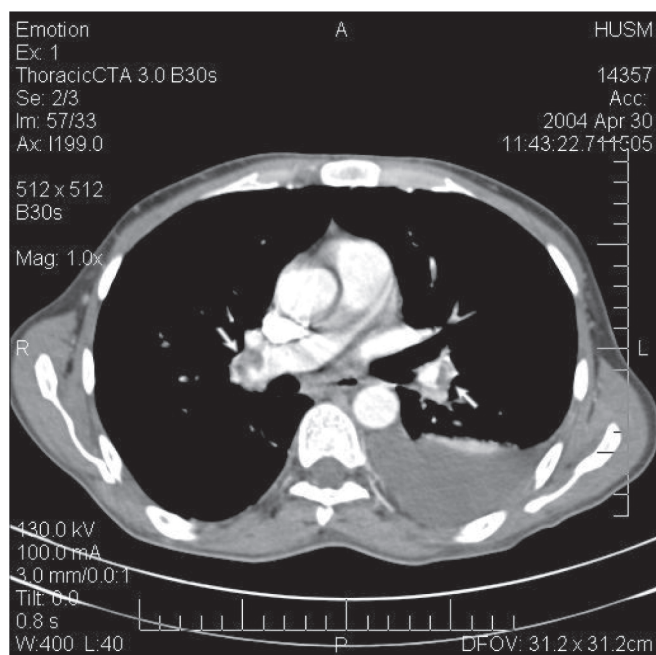


Fig. 3 - CT pulmonary angiography: bilateral pulmonary embolism (arrows).

serum by ELISA at 50th postoperative day. On the 53rd postoperative day the patient was discharged. After six months follow-up the patient has been well and no complaints are observed.

DISCUSSION

Angiostrongylus costaricensis is an intra-arterial nematode parasite of wild rodents¹¹. Man is not its definitive host, but can be accidentally

infected by ingestion of water or food contaminated with third stage larvae (L3) produced in the intermediate host, generally slugs of Veronicellidae family⁸. AA is found in the American continent, mainly in Central America^{4,5,13,21,22}, having been considered a problem of public health in Costa Rica¹⁶. Brazil, the country with the second largest number of reported diagnosed cases, has most of the reported diagnosis in patients from Rio Grande do Sul (RGS). This zoonosis presents peculiar geographic distribution. In RGS, the majority of cases has been found in the north of state and with rare occurrences in its central region, where the patient of the reported case lives^{1,2,9,14,19}.

The most affected individuals are asymptomatic or oligosymptomatic. Abdominal pain, fever, anorexia, malaise, nausea, vomits and intestinal habit alterations are the most frequent symptoms. Presentation of palpable mass in the right iliac fossa also can occur. Usually, these clinical manifestations may end abruptly and reoccur at relapsing episodes for many months^{8,12}.

The ileocecal region is the most affected by parasite^{3,10,17}. Areas of necrosis and congestion or intestinal wall thickening are found due to the presence of adult worms and eggs in terminal branches of mesenteric vessels. Thrombotic phenomena in the injured vessels endothelium also can occur and frequently are associated with degenerated worms. Microscopically, massive eosinophilic infiltration compromising all layers of the intestinal wall, eosinophilic granulomatous reaction and eosinophilic vasculitis affecting arteries, veins and lymphatics may be observed^{8,11}.

The described case presented with an acute abdomen disease with surgical indication. Exploratory laparotomy evidenced the presence of normal appendix and intense inflammatory reaction in the cecum suggestive of ileocecal valve neoplasia. AA was suspected after the histopathologic analysis of the surgical specimen, which presented intense edema, local inflammatory process, vascular congestion, granulomatous reaction and massive transmural eosinophilic infiltration in the ileocecal region. The diagnostic hypothesis was reinforced by revision of clinic aspects and a positive ELISA IgG, a 76.2% sensitive and 91.1% specific immunoenzymatic test that employs crude antigens of female worms⁶.

During postoperative evolution the patient presented, initially, local complications due to the surgical process. Nosocomial pneumonia was treated with antibiotic therapy by 14 days. On the 41st postoperative day massive bilateral pulmonary embolism was diagnosed evidencing the severity of this case, probably associated with vascular complications. The usual complications of this parasitosis are inflammatory thickening of the intestinal wall leading to intestinal obstruction or perforation, both requiring surgical intervention. The evolution of these patients is satisfactory, with a death rate by peritonitis and sepsis ranging from 1.3%¹³ to 7.4%⁹.

In conclusion, AA is a disease with unspecified clinical manifestations, often misdiagnosed due to being unknown and that is currently clinically untreatable¹⁵. Because it is potentially fatal and presents an undefined natural course, should be considered differential diagnostic in patients with acute abdominal disease.

RESUMO

Angiostrongilíase abdominal: um caso com grave evolução

É relatado um caso de abdome agudo causado por angiostrongilíase abdominal. Um paciente de 42 anos, previamente hígido, apresentou queixa de nove dias de dor abdominal, constipação, disúria, febre e uma massa palpável na fossa ilíaca direita. Uma laparotomia exploradora foi realizada. Após o tratamento cirúrgico o paciente apresentou graves complicações.

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