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Case Report

Biliary ascariasis: an unusual cause of acute cholecystitis

Guillermo A. Macías-González*, Alberto Santillán-Arroyo

Department of General Surgery, Instituto Mexicano Del Seguro Social, Querétaro, México

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***Correspondence:**
Dr. Guillermo A. Macías-González,
E-mail: memo.26amg@hotmail.com

ABSTRACT

Ascariasis is one of the most common gastrointestinal parasitic infections in developing countries. In humans, these parasites reside in the jejunum but can lodge in any part of the small intestine and can migrate to the biliary tract. We present the case of a 45-year-old female patient, with no relevant history, from a rural town in Mexico, who presented to the emergency department for abdominal pain in the right hypochondrium, nausea and vomiting of one week's evolution, acute cholecystitis was suspected and an ultrasound of the liver and biliary tract was requested, which reported acute cholecystitis and ascaris was observed in the gallbladder, was evaluated by the general surgery service and cholecystectomy was performed, anthelmintic treatment was started, the patient was cured without complications and was discharged home after 48 hours.

Keywords: Ascariasis, Cholecystitis, Cholecystectomy

INTRODUCTION

Ascariasis is a helminthic infection of parasitic origin, causing gastrointestinal parasitic infections worldwide, which could account for up to 33% of all parasitic infections affecting the gastrointestinal tract.[1] They usually lodge in the small intestine, most frequently in the jejunum, but can migrate to any other site of the gastrointestinal tract and even extraintestinal such as the biliary tract, causing problems such as biliary obstruction, cholecystitis and even hepatic abscesses.[2] The study of first choice for the diagnosis of cholecystitis caused by ascaris is abdominal ultrasound of the liver and biliary tract.[3]

CASE REPORT

A 45-year-old female, with no relevant medical history, poor hygienic-dietary habits, came to the emergency department for presenting abdominal pain in the epigastrium and right hypochondrium, continuous, colicky, with irradiation to the ipsilateral shoulder, accompanied by chills and sometimes nausea and vomiting, without improvement of symptoms with the intake of analgesics.

On physical examination, the patient had normal vital signs, chills, nausea, positive McBurney's sign, peristalsis present, and the rest of the examination was normal. Ultrasound of the liver and biliary tract was requested and reported: gallbladder of 8.33×3.80×2.91 cm, volume of 48.27 ml, inside there was probable ascaris with movement, wall 0.45 cm, intra and extrahepatic biliary tract without dilatation, laboratories with haemoglobin of 11.0 mg/dl, leucocytosis of 20,000/mm^3 (neutrophilia of 75%). Medical management with anthelmintic is started.

An evaluation by the general surgery service was requested, clinical data of acute cholecystitis were found and surgical management was decided, open cholecystectomy was performed with Kocher type incision, findings: gallbladder measuring 10×4×4 cm, 3 mm wall, cystic duct of 4 mm, cystic artery of 2 mm, in its interior live ascaris of 10 cm in length was observed. The patient was discharged on the second postoperative day without complications.

Figure 1: Presence of ascaris inside the gallbladder.

Figure 2: Living organism is observed inside the gallbladder.

Figure 3: Living organism is observed.

DICUSSION

Ascariasis is a parasitic infection caused by the parasite *Ascaris lumbricoides*, which usually lodges in tropical areas, the most common cause for acquiring this infection is poor hygienic dietary habits.[4] The adult form of the parasite is mobile and this causes it to migrate to the biliary tract, lodging in the main biliary tract or migrating to the gallbladder or even to the liver, this happens with a relatively low frequency, with cases of up to 2.1% reported in endemic areas.[5]

Clinical manifestations may vary from person to person, usually the symptoms occur when a large amount of parasites are found in the body. Symptoms will occur according to the stage in which the parasite is found, in the larval stage it usually affects the lung causing pulmonary manifestations, while in the adult or worm form it most frequently affects the gastrointestinal tract causing non-specific symptoms such as abdominal pain, nausea, vomiting, diarrhea, or extraintestinal symptoms such as cholecystitis, pancreatitis, or cholangitis.[6]

In the case of patients with biliary ascariasis, ultrasound of the liver and biliary tract is the study that is performed initially in most patients because it is widely available, it is inexpensive, has considerable sensitivity and specificity, it is noninvasive, the characteristic finding is the presence of the adult worm inside the gallbladder that occasionally shows movements.[7] As for the treatment of biliary ascariasis, there is medical and surgical treatment, reserving the former for mild cases and the latter for patients with poor response to medical treatment or in those who present complications, in which case endoscopy or cholecystectomy could be considered on an individualized basis in each patient.[8]

CONCLUSION

Ascariasis is one of the parasitic infections that most frequently affects the gastrointestinal tract, its prevalence increases in tropical regions and is associated with poor hygienic dietary habits. Extra-intestinal manifestations are less common, but usually affect the lung, pancreas, liver and biliary tract. The diagnosis of vesicular ascariasis is usually established with ultrasound of the liver and biliary tract, with high sensitivity and specificity to identify helminths within the gallbladder and data of acute cholecystitis. Treatment can be medical or surgical depending on the severity of the clinical picture and biological status of the parasite, in our case cholecystectomy was chosen because of the presence of acute cholecystitis and the presence of live helminths inside the gallbladder. The prognosis is usually favorable in most patients.

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