

Case Report

Gallbladder ascariasis: a case report and review of literature

Azwa Janjua*, Muhammad Zeeshan Sarwar, Muhammad Shahid Farooq,
Sadaf Iftikhar, Syed Asghar Naqi

Department of Surgery, King Edward Medical University, Mayo Hospital, Lahore, Pakistan

Received: 16 August 2021

Revised: 12 September 2021

Accepted: 14 September 2021

*Correspondence:

Dr. Azwa Janjua,

E-mail: azwamunim@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Ascaris Lumbricoides uncommonly presents as a cholecystitis due to anatomical considerations. Despite that it presents 2.1% of the hepatobiliary ascariasis. Patients usually have vague symptoms of vague abdominal pain sometimes with fever, mimicking cholecystitis. Ultrasonography (USG) helps in definite diagnosis. We present a case of 50 years old female with gallbladder ascariasis for which cholecystectomy was done successfully.

Keywords: Cholecystitis, Gallbladder ascariasis, *Ascaris lumbricoides*

INTRODUCTION

Ascaris lumbricoides is the most common parasite infecting human populations around the globe.¹ Jejunum is the most common abode for the worm, from where they can travel anywhere along the hepatobiliary tree upto gallbladder which is quite uncommon due to narrow and tortuous nature of cystic duct.² Despite that it accounts for 2.1% of the hepatobiliary ascariasis.³ Complications include pyogenic cholangitis, hepatic abscess, bowel obstruction, gallstones and pancreatitis.⁴ Patients usually present as acute cholecystitis commonly confirmed via Ultrasonography (USG), Computerized tomography (CT) scan or Magnetic resonance imaging (MRI) for the presence of worms.¹

CASE REPORT

50 years old female presented to surgical ER with the complaints of aggravation pain right upper abdomen and fever for 4 days. She had been experiencing such pain on and off for past couple of months which was relieved by oral medication. There was no history of jaundice, pica or passage of worms in stool. On examination, patient was of

normal built anxious with no signs or jaundice, anemia. On abdominal examination, right hypochondrium was mildly tender without palpable liver or gallbladder. Blood work showed a hemoglobin of 11.4 mg/dl, white cells 8400/dl, neutrophil count of 66%. Serum amylase levels of 2692 U/l. Rest was unremarkable. Liver profile was also in normal range. Ultrasonography revealed normal liver size, texture and parenchyma with normal intrahepatic biliary channels without any focal defect. CBD and portal veins of normal caliber. Gallbladder contained an echogenic linear tubular structure extending upto neck (most likely dead ascaris) without any stone, mucosal irregularity or pericholecystic fluid. Magnetic resonance imaging (MRI) showed few thin tortuous bands of soft tissue intensity in gallbladder cavity suggesting possibility of worms. She was not given pre-operative anthelmintic drugs as worms were dead already. Cholecystectomy was planned and performed by head of the surgical unit under general anesthesia via laparoscopic technique in reverse Trendelenburg position. On cut opening the specimen; dead ascaris could be appreciated (Figure 1). Surgery and post-operative period were uneventful and patient was discharged on 1st post-operative day on antihelminthic

medication. Histopathology was consistent with per operative findings.



Figure 1: Dead ascaris from gallbladder.

On follow up, patient is perfectly fine without any complications.

DISCUSSION

Ascaris lumbricoides, usually an asymptomatic intestinal helminth, manifests less commonly as cholecystitis.⁵ This worm may travel from the jejunum to the duodenum and through the sphincter of Oddi ascends the bile duct (common scenario) and sometimes into the gallbladder via cystic duct. Cystic duct has a relatively shorter caliber so it sticks there most of the times causing outflow obstruction and cholecystitis due to stasis.⁶ Other complications include biliary colic, gallstones, pancreatitis, obstructive jaundice, sepsis and liver abscess.¹

Patients with worms in gallbladder present with non-specific symptoms as mild abdominal pain and low-grade fever. Blood work and stool examination is also unremarkable most of the times; as was in our case; so only modality conclusive of diagnosis is imaging.⁷ USG remains the initial modality of choice being non-invasive and cheap. As USG is operator dependent modality, CT and MRI can assist in making a diagnosis. But for a worm in Common bile duct (CBD), Endoscopic retrograde cholangiopancreatography (ERCP) should be preferred as it serves both diagnostic and therapeutic purposes.^{1,7}

Worms on USG usually appear as echogenic structures, usually linear, with a central anechoic line with erratic movements if alive.⁸ Our patient had the features same as that of dead worm and MRI endorsed the findings.

Different medical treatments have been tried before the surgical management of the condition i.e., Metronidazole, mebendazole and piperazine citrate. None of them was useful for gallbladder ascariasis. Piperazine is effective for

a worm in CBD that too via nasobiliary drain. Due to its small absorption from gastrointestinal tract, Mebendazole is also not effective.⁵

Our patient already had a dead *Ascaris* in her gallbladder so medical treatment was not given and we proceeded with laparoscopic cholecystectomy.

CONCLUSION

Right hypochondrial pain can be due to worms in gallbladder as well although rare. Medical treatment before surgery depends on status of worm, dead or alive. A meticulous consideration is required regarding management which differs from patient to patient.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Alhamid A, Aljarad Z, Ghazal A, Ahmad M, Ahmad ST, Majed S et al. Successful Elimination of Gallbladder Ascariasis by Conservative Therapy, Followed by Cholecystectomy due to Developing Cholecystitis. *Case Reports in Gastrointestinal Medicine*. 2018;1-4.
2. da G. Bahú M, Baldisserotto M, Custodio CM, Gralha CZ, Mangili AR. Hepatobiliary and Pancreatic Complications of Ascariasis in Children: A Study of Seven Cases. *J Pediatr Gastroenterol Nutr*. 2001;33(3):271-5.
3. Khuroo MS, Zargar SA, Yattoo GN, Dar MY, Javid G, Khan BA. Sonographic findings in gallbladder ascariasis. *J Clin Ultrasound*. 1992;20(9):587-91.
4. Sharma P, Shetty B, Shetty P. Ascariasis cholecystitis: An unusual cause. *J Min Access Surg*. 2008;4(4):108.
5. Elaldi N. An unusual cause of cholecystitis: a worm in the bag. *Emergency Medicine Journal*. 2003;20(5):489-90.
6. Khusroo MS, Zargar SA, Mahajan A. Hepatobiliary and pancreatic ascariasis in India. *Lancet*. 1990;335:1503-6.
7. Danacı M, Belet Ü, Selçuk M, Akan H, Baştemir M. Ascariasis of the gallbladder: radiological evaluation and follow-up. *Pediatr Radiol*. 1999;29(2):80.
8. Gomez NA, Leon CJ, Ortiz O. Ultrasound in the diagnosis of roundworms in gallbladder and common bile duct. *Surg Endosc*. 1993;7(4):339-42.

Cite this article as: Janjua A, Sarwar MZ, Farooq MS, Iftikhar S, Naqi SA. Gallbladder ascariasis: a case report and review of literature. *Int Surg J* 2021;8:3144-5.