

# Gallbladder Ascariasis: A Case Report

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## Abstract

Ascariasis, the most common helminthic infection is caused by *ascaris lumbricoides*. Usually the adult worm lives in the small intestine. Rarely it migrates through the papilla of Vater and may enter the common bile duct. We are reporting a case of gall bladder ascariasis. Presence of *Ascaris lumbricoides* in gallbladder is rare entity as it is difficult to reach there due to narrow and tortuous cystic duct.

## INTRODUCTION

Ascariasis is the most frequent helminthic infection in humans (1). The causative organism is *Ascaris lumbricoides* which normally lives in the lumen of small intestine (1, 2). From the intestine, the worm can invade the bile duct or pancreatic duct but invasion into the gallbladder is quite rare because of the anatomical features of the cystic duct which is narrow and tortuous (3). We report a case of gallbladder ascariasis due to its rare presentation.

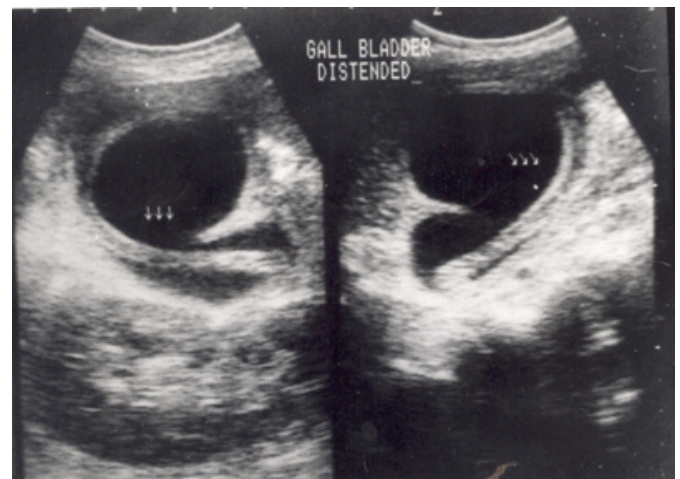
## CASE REPORT

A 30 years female presented with pain in the right upper abdomen and epigastric region with jaundice for 6 days. History of nausea and vomiting was also present. Prior history of passage of worms in the stool was present. On general examination jaundice was present. Abdominal examination revealed mild tenderness in the right hypochondrium. Liver function test shows raised serum bilirubin (4mg %) and alkaline phosphatase (400IU/L). USG abdomen revealed dilated gallbladder without any evidence of cholecystitis with tubular echogenic non-shadowing image in the gallbladder lumen and CBD.

Diagnosis of gall bladder and CBD ascariasis was made. Patient was treated conservatively and albendazole (400mg) given once a week for three consecutive doses. Patient responded well to the treatment and liver function test and ultrasound abdomen performed after three week revealed no worm in the gall bladder without any evidence of cholecystitis.

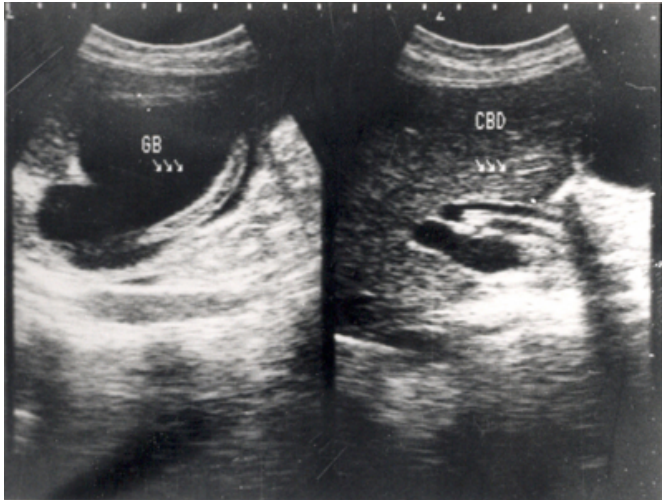
## Figure 1

Figure 1: Ultrasound showing round worm in gallbladder



**Figure 2**

Figure 2: Ultrasound showing round worm in gallbladder and CBD



**DISCUSSION**

*Ascaris lumbricoides* has a tendency to migrate through natural body orifices and enter Wirsung's duct and common bile duct through papilla of Vater (4). The female parasite is more prone to penetrate through the orifices particularly if the previous sphincterotomy or bilioenteric anastomosis was performed (5, 6). The biliary ascariasis is more common in female. Pregnant women may be more susceptible due to relaxant effect of hormones on the smooth muscle of the bile ducts (7, 8). The presentation of biliary ascariasis is similar to the cholelithiasis, acute cholecystitis, choledocholithiasis, acute pancreatitis and ascending cholangitis (9, 10). The round worm may be present both in the CBD and gallbladder in the same patient at a time as in our case.

The ultrasound is diagnostic in biliary ascariasis. They present like linear echogenic image without acoustic shadow in the lumen of gallbladder and CBD (10, 12). The findings of erratic, non directional, zigzag movements are characteristic of live worm (11). The gallbladder may be normal or show signs of acute cholecystitis. Dilatation of biliary duct may be present if worm obstructs the CBD. The other method for the diagnosis of biliary ascariasis includes oral cholecystography, intravenous cholangiography and ERCP. All these test are not very diagnostic. Thus ultrasound is quite sensitive in the diagnosis and can also be used for follow up. The presence of ova in stool is not necessary as the infection may be caused by the male worm. The diagnosis is usually suspected if the patient belongs to the endemic area.

Biliary ascariasis has a good response to conservative

treatment like bowel rest, antispasmodic and antihelminthic drugs. Worms within the biliary tract are not killed by the antihelminthic drugs. Successful treatment is possible if the worm returns to the small intestine where they are exposed to adequate concentration of drug. The conservative treatment fails usually in the presence of dead worm, concomitant stones or stricture which prevents the returning of worm in the duodenum (13).

Endoscopic removal of worm treatment has become the treatment of choice for the CBD ascariasis in which the medical management has failed. Sphincterotomy should be avoided as it appears to predispose to recurrent infestation by the worms (13, 14). Even after endoscopic removal, an antihelminthic drug has to be given. Although biliary ascariasis responds well to medical management but most of the gallbladder ascariasis needs surgical treatment (7). All patients who do not respond to conservative or endoscopic treatment should be treated with surgery. But in our case patient has responded to the medical management and showed no evidence of cholecystitis or worm in follow up.

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## **Gallbladder Ascariasis: A Case Report**

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