

case report

Acute acalculous cholecystitis due to *Taenia saginata*

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Helminthic infestation of the human biliary tract is a prominent medical and surgical problem in tropical areas where these parasites are endemic.¹ The possibility of infestation with biliary parasites demands increased awareness in view of the increase in international travel and migration. Almost all causes of biliary obstruction have been seen and reported from this part of the world. Among parasitic infestations, ascariasis is the usual culprit. We report an unusual presentation of a patient with cholangitis caused by *Taenia saginata* and describe the surgical management, highlighting the existence of this rare cause of cholangitis as well as the diagnostic and therapeutic dilemma posed by it.

CASE

A 26-year-old female was admitted to the Sher-i-Kashmir Institute of Medical Sciences, Srinagar, Kashmir, with 3-day history of abdominal pain in the right upper quadrant with recurrent vomiting. The patient had no significant medical or surgical history. The patient was mildly jaundiced and her abdominal examination revealed a tender and guarded right hypochondrium. The patient had leukocytosis (white blood cell count $12.7 \times 10^9/L$, N69L26E03), a total bilirubin of $32 \mu\text{mol/L}$ and an al-

kaline phosphatase of 410 IU (normal range, 140-270 IU). Ultrasonography of the abdomen showed features consistent with biliary ascariasis (multiple echogenic non-shadowing linear strips with echoic tubular central lines that represent the digestive tracts of the worm).

The patient was admitted and placed on mebendazole in addition to intravenous antibiotics. However, she continued to be in pain and developed fever and increasing jaundice. The patient passed ascarides and proglottids with stools in the hospital. Endoscopic retrograde cholangiopancreatography (ERCP) was tried but abandoned for technical reasons as the duodenum contained numerous ascarides and papilla could not be located. A few ascarides were extracted using forceps. On the seventh day of admission the decision was taken to operate on the patient. A right subcostal incision was made. The gallbladder was quite distended with a thickened wall, thickened cystic duct and dilated common bile duct (CBD). On opening the gallbladder, a tapeworm (*Taenia saginata*) was found going into the CBD. The tapeworm could not be extracted through the gallbladder so the decision was made to explore the CBD. Finally the tapeworm was removed in total along with the gallbladder (Figures 1, 2). The head of the tapeworm was found in the gallbladder.



Figure 1. Intraoperative image showing tapeworm coming out of gallbladder.



Figure 2. Gallbladder specimen with *Taenia saginata*.

DISCUSSION

Osman et al reviewed the various biliary parasites.² *Ascaris* is the most common biliary parasite, but biliary obstruction due to a cestode was not mentioned. Tapeworm infestation has a global distribution and is endemic in Kashmir though not as common as ascariasis. *Taenia saginata*, known as the beef tapeworm, a cestode, is transmitted to humans in the form of infectious larval cysts found in the meat of cattle, which serve as the parasite's usual intermediate host. In the definitive human host, adult *T. saginata* tapeworms are large (10 m in length) and can contain more than 1000 proglottids, each capable of producing thousands of eggs. If, through poor sanitary practices, eggs released in the feces are allowed to reach grazing areas, cattle are subsequently infected with *T. saginata* cysticerci.

Symptoms are absent in most patients, but a small number report mild abdominal cramps or malaise. The proglottids of *T. saginata* are motile and occasionally migrate out of the anus, to be found in the perineum or on clothing. The patient may report seeing moving segments in the feces or passing several feet of strobila at one time. These events are often psychologically

distressing and are associated with significant anxiety. Very rarely the tapeworm may invade the ampulla of Vater and reside in the pancreatic or common bile duct.³ In our patient the tapeworm had passed through the CBD and the cystic duct and was partially lodged in the gallbladder. Only one case has been described so far in the literature and that patient had presented with acute cholecystitis.⁴ Few cases of acute pancreatitis due to *Taenia* have been described. This is the first case report where a patient presented with cholangitis due to *Taenia* in the CBD and lodged in the gallbladder. It was further complicated by the fact that the patient had ascariasis in the duodenum, which is quite common in Kashmir. The diagnosis of biliary ascariasis was made on ultrasound findings; ERCP was technically difficult.

The diagnosis of cholangitis and acalculous cholecystitis by such rare parasites is difficult, even in endemic areas but this possibility should always be kept in mind. Its presentation is like any other biliary parasite. Ultrasound and endoscopy may aid diagnosis. Treatment options may include conservative treatment, ERCP extraction, and surgery.

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