Distal Cholangiocarcinoma with Coexistent Biliary Ascariasis

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Dear Sir,

A 45 year old woman was evaluated for recurrent episodes of epigastric pain and vomiting for 1 year. She had undergone cholecystectomy 10 years back. She was anemic, jaundiced, and had a palpably distended stomach. CT scan of the abdomen showed a mass in the distal common bile duct invading pancreas and duodenum causing proximal biliary dilatation and gastric outlet obstruction. There were multiple enlarged retroperitoneal lymph nodes. With a provisional diagnosis of distal cholangiocarcinoma causing obstructive jaundice and gastric outlet obstruction, the patient was planned for palliative biliary bypass and gastrojejunostomy. On laparotomy, there were two small liver secondaries in addition to the findings on the CT scan. On exploration of common hepatic duct, an adult live *Ascaris* worm was found (Fig. 1). A Roux-Y hepaticojejunostomy with gastrojejunostomy was performed as a palliative procedure. One of the liver nodules was biopsied and this revealed metastasis from cholangiocarcinoma.

On the 7th postoperative day, she developed seizures and became comatose. CT scan of the head revealed a space-occupying lesion suggestive of metastasis in the right frontoparietal region with cerebral edema. Despite supportive care, she succumbed to her illness on the 12th postoperative day. Biliary ascariasis is characterized by migration of adult worm into the biliary tree and presents with biliary colic, acalculous cholecystitis, pancreatitis, cholangitis, biliary strictures, and hepatic abscesses [1, 2].

Fig. 1 Operative photograph showing ascaris worm being extracted from the common bile duct

Almost 30% of patients with biliary ascariasis have a prior history of cholecystectomy [3]. Following cholecystectomy, there follows a dilatation of the common bile duct (CBD) as well as a rise in the levels of cholecystokinin, which in turn leads to relaxation of the sphincter of Oddi. Our patient had also undergone cholecystectomy ten years back. Ultrasonography has been shown to be an extremely useful tool in the diagnosis of biliary ascariasis. However, this test requires a high index of suspicion. Khuroo et al [4] have reported a sensitivity of 86% for this test in detecting the ascaris worm. The ultrasonography and CT scan in our patient did not reveal the presence of the worm in the CBD. The intraluminal mass partially obstructing the biliary duct may have obscured the parasite and its writhing movements

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may not have appreciated on ultrasonography. Biliary clonorchiasis and opisthorchiasis have been found to have an etiological association with cholangiocarcinoma [5]. Whether *Ascaris lumbricoides* might have a similar etiological role is debatable? The association of biliary ascariasis and cholangiocarcinoma is rare, and such a speculation cannot be made with the available evidence.

Our patient had an advanced disease and was operated because she had both biliary and duodenal obstruction. Unfortunately, she developed complications postoperatively due to undetected cerebral metastasis and succumbed to her disease. In the hindsight, a combined biliary and duodenal stenting might have been a better modality of treatment for her. However, the patient's financial condition did not allow such an option to be exercised.

The crux of the message is that biliary ascariasis can occasionally be a surprise finding while operating on a patient with cholangiocarcinoma. It may be a mere

association in this case, however its etiological correlation with the disease needs to be further explored.

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