

## A CASE OF BILIARY ASCARIASIS TREATED MEDICALLY

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**SUMMARY :** *In former years, the choice of therapy for biliary ascariasis was endoscopic removal with the help of biopsy forceps or a snare, or if the parasite had invaded a long segment of the biliary tree, balloon catheter extraction with or without endoscopic sphincterotomy. We administered 100 mg/day of mebendazol for two weeks before performing endoscopic sphincterotomy and balloon extraction in our case of ascariasis in the common bile duct and the gallbladder and conclude that this is an easy and harmless method for the removal of such parasites.*

**Key Words :** *Ascaris Lumbricoides, Biliary System, Mebendazol.*

### INTRODUCTION

In endemic regions of the world, *Ascaris lumbricoides* is a frequent cause of biliary tract disease (7). If suspected, diagnosis is possible using ultrasonography and/or endoscopic cholangiopancreatography (ERCP) (1, 2, 14, 16). *Ascaris lumbricoides* can easily migrate to the common bile duct from the intestine, and it has been suggested that endoscopic sphincterotomy makes the biliary tree more accessible to the worms (5). Biliary ascariasis causes cholangitis, pancreatitis and intrahepatic bile stone formation (4, 7, 8, 13, 15). Ascariasis is also an aetiological factor for acute pancreatitis and the overall mortality rate is reported to be 3 % (8). In former years when endoscopic therapeutic manoeuvres were not yet possible, the treatment of biliary ascariasis was surgical removal of the worm by choledocotomy (17). Recently, piperazine citrate infusion through an endoscopically placed cannula (6), and endoscopic extraction of the worm with the use of a snare, basket or balloon catheter (3, 9, 10,

12) have been used following administration of an oral antihelminthic drug (mebendazol) for two weeks without any endoscopic manoeuvre.

### MATERIAL AND METHOD

A 12- year-old boy was admitted to hospital with right upper quadrant pain, nausea and vomiting which had been present for two days. Physical examination revealed right upper quadrant tenderness. The leucocyte count was  $14.000 / m^3$ , 90 % being neutrophils. The serum alkaline phosphatase value was just above the upper limit of normal; other liver function tests and urinary sediment examination were normal. Ultrasonography revealed slightly dilated biliary ducts and a few motile, long echogenic structures without acoustic shadows within the bile duct and the gallbladder (Fig. 1, 2). ERCP demonstrated moving, linear filling defects, one in the common bile duct (Fig. 3) and one in the gallbladder. The diagnosis of biliary ascariasis was made and mebendazol 100 mg/day was administe-

red for two weeks. After the treatment, all the complaints disappeared and all laboratory tests were returned normal levels.



Fig - 1 : Ultrasonographic demonstration of the motile, linear and long echogenic structures without shadows in the common bile duct.



Fig - 2 : Ultrasonographic demonstration of long, linear and echogenic structures without shadows in the gallbladder.

## RESULTS

During treatment the patient improved clinically and repeated ultrasonography and ERCP showed normal bile duct and gallbladder with no ascaris (Fig. 4, 5). Two more ultrasonographies were performed with 6-week intervals and no pathology was noted.

## DISCUSSION

Real time ultrasonography can effectively demonstrate ascaris as motile, tubular, nonshado-



Fig - 3 : Cholangiogram showing a linear filling defect in the common bile duct.



Fig - 4 : Cholangiogram, performed two weeks after the first, shows normal common bile duct and gallbladder.

wing, echodense structures within the biliary tree, but (11) air in the biliary tree may obscure these findings. ERCP is a sensitive diagnostic procedure revealing the parasite as tubular filling defects within the biliary tree (10). In former years the treatment for biliary ascariasis was surgical removal (17), because the known antihelminthic drugs have no or very limited effect on biliary ascariasis. Apart from its diagnostic value, ERCP offers therapeutic possibilities. There are several reports of endoscopically removed ascaris with the help of biopsy forceps or a snare, but actually the parasite is partially situated in the distal common bile duct and a part protrudes through the ampulla of Vater in to the duodenum thus making it easier to grasp (12). In those cases

where the parasite is entirely situated in the biliary tree and the gallbladder, snare, basket or forceps extraction is not possible. Piperazine citrate infusion through an endoscopically placed cannula in to the biliary tree (3, 6, 9, 10) or balloon catheter extraction with or without endoscopic sphincterotomy (12) are advised as alternatives. In our case, the parasite was entirely confined within the bile ducts. We decided to administer 100 mg/day of mebendazole for two weeks before performing endoscopic sphincterotomy and balloon extraction. Our rationale was the knowledge that in the majority of cases, the parasite, being agile and motile, migrates out of the biliary tree in to the intestine within a period of few hours to weeks (7). We planned to repeat the ERCP two weeks after completing the mebendazole treatment and if the parasite remained in the biliary tree, to perform endoscopic sphincterotomy and balloon extraction. This is an easier and harmless way of management.

In conclusion, we suggest trying mebendazole 100 mg/day before any endoscopic therapeutic intervention if the worms are situated completely within the biliary ducts or the gallbladder.

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