Multiple biliary stones due to round worm fossil

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Abstract
An obese lady of 40, reported to SOPD of Moulana Bhasani Medical College Hospital on 27/10/2004 with the complaints of repeated attacks of colicky abdominal pain in the right hypochondrium associated with fever, vomiting and intermittent jaundice for five years. Clinically she was anemic & non-icteric. Ultrasonogram of whole abdomen revealed dilated intrahepatic and proximal CBD and ERCP revealed stones in CBD and CHD. She underwent open surgery for the removal of biliary stones by cholecystectomy and choledocholithotomy basing upon per operative findings on 02/11/2004 followed by T-tube placement in CBD. After exploration of CBD, a round worm fossil with multiple stones and biliary sludge were removed. She had an uneventful post-operative recovery. The patient was discharged from the hospital on 15th post-operative day after observing satisfactory post-operative T-tube cholangiogram.

Key word : Secondary biliary stones. Round worm fossil.

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Introduction
Stones develop de novo within the bile ducts are called 'Primary duct stone'. Such stones are commonly encountered in the tropics where they may be secondary to infestation of the biliary tree by Ascaris lumbricoides and Clonorchis sinensis. They also occur in any condition that causing prolonged biliary obstruction. Approximately 15% of the patients with stones in the gall bladder are found to harbour calculi within the bile duct. Common bile duct stones are usually accompanied by others in the gall bladder, but in 5% of cases the gall bladder is empty. The number of duct stones may vary from one to more than hundred. Most cholesterol stones develop within the gall bladder and reach the duct after traversing the cystic duct, these are secondary stones. Pigment stones may have a similar pedigree or more often, develop de novo within the common bile duct. These are primary stones. About 60% of common bile duct stones are cholesterol stones and 40% are pigment stones. 50% patients with choledocholithiasis remain asymptomatic.

Case Report
Hosne Ara Begum of 40 years, a married, fatty lady from Ashkona, Uttara, Dhaka, admitted to MBMCH, Uttara, Dhaka on 27/10/2004 with complaint of acute abdominal pain in right hypochondrium associated with fever and vomiting. She had similar episodes of abdominal pain for five years with intermittent jaundice. Pain was colicky in nature and clinically she was moderately anemic and non-icteric. She had no history of HTN, DM or Br. Asthma. Routine blood report was normal except a raised ESR (140mm 1st hour) & serum alkaline phosphatase (210 U/L) with low Hb% (10 gm/dl). Diagnosis of biliary obstruction was made after clinical
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examination, laboratory and radiological investigations. Basing upon USG & ERCP findings she underwent open surgery on 02/11/2004 for the removal of primary stones by choledocholithotomy, but during per-operative primary survey gall stones were felt and cholecystectomy was performed in addition to choledocholithotomy. After exploration of CBD, a roundworm fossil with multiple stones and biliary mud or sludge were removed from the hugely dilated CBD. After a considerable duct wash by normal saline through plain rubber catheter T-tube was inserted in the CBD. Abdomen was closed in a standard manner followed by abdominal drainage. Tissue histopathology report was suggestive of chronic cholecystitis.

Discussion
Cholelithiasis is the presence of stones within the biliary tree, occurring about 15% of patients with cholelithiasis. In Western nations, almost all stones are derived from the gall bladder although both cholesterol and pigmented stones can form de novo anywhere in the biliary tree. In Asia, there is a much higher incidence of primary ductal and intrahepatic stone formation. Usually pigmented choledocholithiasis may be asymptomatic or may cause symptoms from-

1. Obstruction,
2. Pancreatitis,
3. Cholangitis,
4. Hepatic abscess,
5. Secondary biliary cirrhosis &

6. Acute calculus cholecystitis.

Carcinoma of the gall bladder is very frequently superimposed on a chronically inflamed organ that contains stones. It is an uncommon form of cancer and there may be little causal relationship between the stones and the subsequent malignancy. Gallstones are found in about three-quarters of cases of cancer of the gall bladder, nevertheless, carcinoma is a rare complication of this very common condition.

Hepatobiliary and pancreatic diseases are most commonly caused by direct mechanical obstruction of the pancreato-biliary system from the adult roundworm migrating across the ampulla of vater. As a result, patient infected with roundworm can present with biliary colic (50%), tender hepatomegaly (50%), acute cholangitis (24%), acalculas cholecystitis (13%), acute pancreatitis (6%) and occasionally hepatic abscess. In addition, dead worm or ova may serve as a nidus for the formation of pigment stone, which can lead to recurrent pyogenic cholangitis after the active infection has been treated successfully. The diagnosis of ascariasis is made with identification of an adult worm, larvae or egg from a patient's stool. Mild to moderate peripheral eosinophilia is associated with the larval stage of ascaris infection but is absent during the intestinal infestation with adult worm. The serum alkaline phosphatase level usually rises and may be the only chemical abnormality in patient without jaundice in case of cholelithiasis. Trans-abdominal USG, CT Scan or MRI can be useful in diagnosis of
hepatobiliary ascariasis. Ultrasound has the advantage of being readily available, inexpensive and capable of real-time imaging. In a large retrospective review, ultrasonography correctly diagnosed the presence of worms in 52% patients. ERCP has also been used successfully to aid in the diagnosis of difficult cases. ERCP is the primary therapeutic modality in biliary obstruction caused by ascaris infestation. Complete clearance can be obtained in the majority of patients and is strongly recommended to avoid leaving a nidus for future stone formation\textsuperscript{10}. All patients diagnosed with ascaris infection should receive antihelmintic therapy.

Conclusion
Roundworm fossil induced stone in biliary apparatus actually happened in those patients who have intestinal ascariasis. It needs reasonable time for the formation of fossil. Mrs. Hosne Ara gave the history of recurrent attack of acute abdominal pain during her five years disease course. She roamed from one physician to another but much attention was not paid for the diseases. Definitely, during entrance of the viable roundworm in the CBD she had acute abdomen like symptoms but it was not detected at that time. The end result was the formation of roundworm fossil with multiple biliary stones. Lastly she reported in the Department of Surgery of MBMCH where open surgery was performed and biliary stones with roundworm fossil were removed. Intestinal ascariasis is prevalent in Bangladeshi rural people having poor primary health education as well as substandard sanitary facilities. Improvement of sanitary facilities and primary health care education may be beneficial for the prevention of the diseases.

References