# Manifestation of hydatid cyst of liver with pancreatitis, cholangitis and jaundice: A case report

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## Abstract

Hydatid disease or echinococcosis, a systemic zoonosis is caused by Echinococcusgranulosus larvae. This is a common disease found all over the world, especially in the Mediterranean region. We report a 40 year old male with no known comorbids who came with complaints of fever with rigors and chills, right hypochondriac pain, and yellow discolouration of the sclera. A CT scan abdomen with endoscopic retrograde cholangiopancreatography (ERCP) gave a diagnosis of hydatid cyst of the liver with pancreatitis, cholangitis and jaundice due to involvement of the biliary tree and common bile duct ERCP was done and a stent was placed after which the patient was referred to general surgery department where the resection of cyst was performed under general anaesthesia. Pancreatitis was managed conservatively. We could not find any case reported in the literature, which showed manifestation of hydatid cyst of liver with pancreatitis, cholangitis and jaundice simultaneously, which made us report this case.

**Keywords:** Hydatidcyst, Pancreatitis, Hepatobiliary fistula.

## Introduction

Hydatid disease or echinococcosis, a systemic zoonosis caused by Echinococcusgranulosus larvae, is endemic and a common health problem in the Mediterranean region, where there is a close association among sheep, dogs, and humans.[1-3] Hydatid disease can occur anywhere in the body. The liver (45-75%) and the lungs (10-50%) are the most affected, with involvement of other anatomical regions such as the brain, spine, kidneys, heart, spleen, adrenal gland, and musculoskeletal system.[3]

Since hydatid cysts grow slowly, a considerable portion of affected patients may remain asymptomatic for years. In symptomatic patients, however, the symptoms are varied and depend on location, size, and position relative to neighbouring organs.[4,5] Clinical tools routinely used to diagnose Hydatid Cyst are ultrasonography (USG), computed tomography (CT) along with serological testing whereas magnetic resonance cholangio-pancreatography (MRCP), endoscopic retrograde cholangio-pancreatography (ERCP) are used as imaging modalities for complicated hydatid cyst indicating cysto-billiary fistulas and collection.[5] In this case we will be presenting a rare manifestation of hydatid cyst of liver with pancreatitis, cholangitis and jaundice due to formation of Hepatobiliary fistula.

## Case Presentation

On 20th October 2015, a 40 years old male patient came to Liaquat National Hospital, department of Gastroenterology, with no known comorbids. He complained of fever with rigors and chills, right hypochondriac pain, yellow discoloration of sclera for 12 days. Pain was severe in intensity and associated with vomiting and fever. His past medical history showed recently diagnosed Hydatid Cyst in peripheral hospital in Quetta. No intervention was done. He was advised

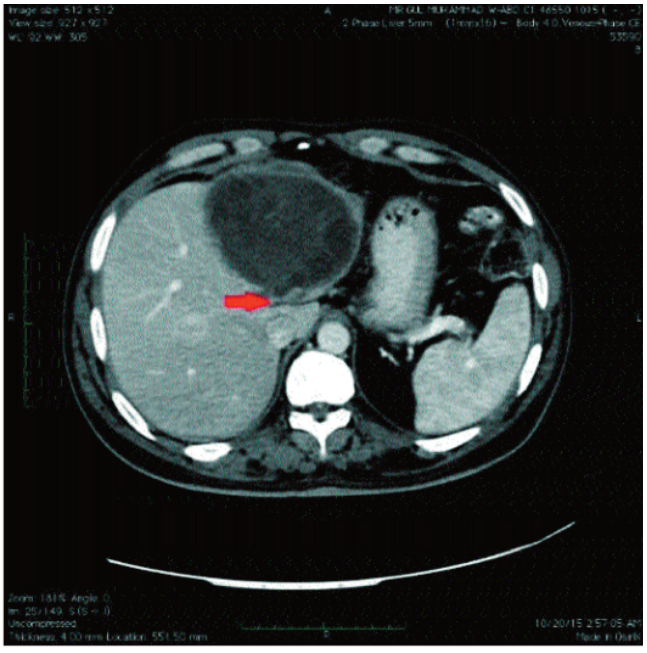

**Figure-1:** CT scan showing a large hydatid cyst and a fistula commutating between hydatid cyst and the biliary system.

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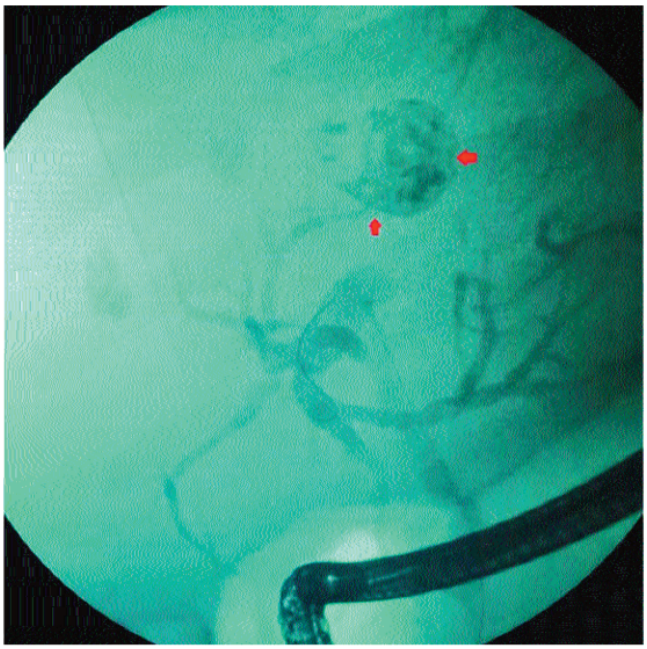

**Figure-2:** Cholangiogram showing a cystic lesion present in the liver which is having communication with the right intrahepatic duct.

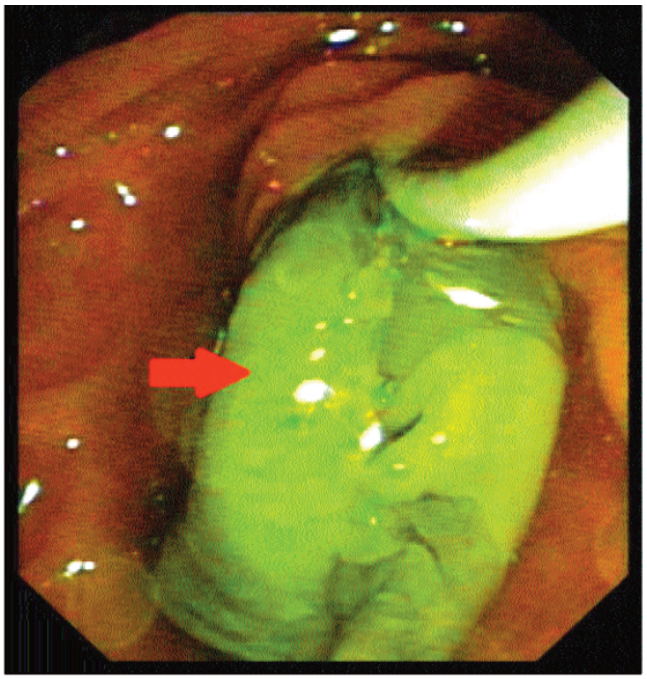

**Figure-3:** ERCP was done. Arrow is indicating, hydatid cyst is coming out from the ampullary orifices during balloon sweeping.

Tab Albendazole (800mg/day in two divided doses).

On Examination, patient was conscious, well oriented with time, place and person. The Blood Pressure was 110/70 mmHg, he was Tachycardiac, Tachypneic and had fever (101°F) with jaundice (yellow) sclera. On abdominal examination hepatomegaly was found along with right hypochondriac and epigastric tenderness. Rest of the examination was unremarkable.

Investigations showed Hb: 11gm/dl, Total Leucocyte Count was 23,000 with of Platelets count of 140,000, Urea, creatinine and electrolyte (UCE) were within normal limits. The Serum Amylase levels were: 450(normal range 40-140U/L) and Serum Lipase levels were: 392. LFTs showed Tb: 7.78, Direct: 6.5, Indirect: 1.28, ALT: 32, Alkaline: 312 Gamma GT: 220. HBs Ag and Anti HCV were negative. CT abdomen showed a large hypodense area, with thick enhancing walls and internal septations in left lobe of liver. There were multiple rounded hypodense areas within it arranged at the periphery measuring 9.7 ×9.7×9.6cm (AP×TS×CC) (Figure-1). Pancreas appeared diffusely swollen, largely hypodense and enlarged, which signified that the pancreas was swollen and the patient had pancreatitis. Gall bladder was of normal thickness, with no evidence of gall stones. There was a significant peri-pancreatic fat streaking. Findings were most likely due to acute severe pancreatitis along with hydatid cyst. Possibility of biliary communications was high.

ERCP was performed, cholangiogram (Figure-2) showed filling defect in distal CBD and a communication between intra-hepatic biliary duct with the hydatid cyst. Sphincterotomy was performed. Balloon sweep done, hydatid cyst membrane was removed and sent for microbiology analysis which confirmed the hydatidcyst (Figure-3). Plastic stent was placed and good flow of bile was noted. The pancreatitis settled and the general surgical team performed de-roofing surgery of the cyst and fistula was repaired.

## Discussion

Cystic hydatid disease usually affects the liver (50-70%) and less frequently the lung, the spleen, the kidney, the bones, and the brain.[6] Clinical presentation is the result of pressure generated by the cyst on adjacent structures, and depends largely on the size and anatomic location of the cyst. Although hydatid cysts disease commonly arises from the liver, but the complications such as cholangitis and jaundice due to the involvement of biliary tree is rare. In this case multiple complications were manifested with the hydatid cyst of liver, including pancreatitis, cholangitis and jaundice simultaneously. Intrabiliary rupture of a hepatic hydatid may occur in 2 forms: an occult rupture and frank rupture. In our case occult rupture is seen in which only the cystic fluid drains to the biliary tree and is observed in 10-37% of the patients. Intrabiliary rupture occurs in the right hepatic duct (55-

60% cases), left hepatic duct (25-30% cases), hepatic duct junction, common bile duct (CBD), or cystic duct (8-11%); perforation into the gallbladder may be observed in 5-6% of cases. The incidence of rupture into the biliary tree ranges between 3 and 17%.[7-9] The rupture of the hydatid cyst in the biliary ducts and the migration of the hydatid material in the biliary tree lead to the apparition of other biliary complications like: cholangitis, sclerosis odditis, hydatid biliary lithiasis etc.[6] In our case involvement of biliary tree and common bile duct was seen leading to cholangitis and jaundice.

There are several causes of acute pancreatitis present in literature, two of which may relate to our case are extrinsic compression of pancreatic head (hippokriate) and the Endoscopic retrograde cholangiopancreatography (ERCP), when used to treat gallstones (d & C pancreatitis). But no evidence of exact cause of pancreatitis was identified. Why acute pancreatitis manifested with cholangitis and jaundice in a patient with hydatid cyst of liver needs further exploration and study.

The diagnosis is most easily set by ultrasound or other imaging techniques such as CT Scanor MRI, combined with case history. Serology tests such as ELISA or immunoblotting can be used in addition, being 80-100% sensitive for liver cysts but only 50-56% for lungs and other organs.[10] The definitive diagnosis of liver echinococcosis requires a combination of imaging, serologic, and immunologic studies. Routine laboratory tests are rarely abnormal occasionally eosinophilia may be present in the presence of cyst leakage, or may be normal. Serum alkaline phosphatase levels are raised in one third of patients.[11] in our case multiple imaging techniques were used to reach up to a definitive diagnosis, pictures of which are given above the discussion. Alkaline phosphatase levels were also raised.

ERCP was done and stent was placed after which the patient was referred to general surgery department where the resection of cyst was undertaken under general anaesthesia. Pancreatitis was conservatively managed. After removal of cyst the patient was called for follow up in OPD. Another ERCP was done after 3 months for the removal of stent. Cystobiliary fistula was closed. Patient is lost to follow up.

## Conclusion

Manifestation of hydatid cyst of liver with cholangitis, jaundice and pancreatitis, due to involvement of biliary tree and common bile duct leading to cystobiliary fistula is a rare case. It is difficult to diagnose the cyst at an early stage, as the hydatid cyst remains asymptomatic until the development of complications. However early intervention is required by ERCP for better prognosis of this disease.

**Consent of Patient:** Written informed consent of patient is taken for publishing this case and ethical approval letter was taken from head of gastroenterology department.

**Disclaimer:** None to declare.

**Conflict of Interest:** None to declare.

**Funding Disclosure:** None to declare.

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