

Case Report of Large Simple Hepatic cyst

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Abstract: Most liver cysts are benign, even though early diagnosis plays vital role for proper treatment of parasitic or cancerous subtypes. Simple hepatic cysts may be isolated or multiple and may vary from a few millimeters to several centimeters in diameter. Giant cysts of the liver are uncommon. A 60 years female patient was malnourished and pale. Vitals were stable. On per abdomen examination, a mass felt in right hypochondria region extended up to right lumbar region associated with tenderness, firm in consistency. On percussion it was dull. CT scan revealed a large hypodense lesion in segment VI & VII completely replacing and compressing the right lobe of liver, measuring approximately 21 X 13 cm. No evidence of obvious calcifications. During surgery, large hepatic cyst was noted involving right lobe and left lobe of liver and right dome of diaphragm. Falciparum ligament appears thinner than usual. From this hepatic cyst 2.5 liters of fluid was drained out. Histopathological findings noted were cyst wall showing fibrous tissue, lymphocytes, small ducts lined by cuboidal epithelium and few hepatocytes attached to cyst wall suggestive of simple hepatic cyst. Accurate diagnosis will help for prompt management. Even though most of the hepatic cysts are benign, better to undergo investigations such as CT, Histopathology examination to rule out differential diagnosis and to alleviate any further complications.

Keywords: CT scan, Giant, Simple, Liver cyst.

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I. Introduction

Liver cysts fall in to several categories with varying causes, diagnosis and treatment such as simple cysts, echinococcosis, cystadenoma and cystadenocarcinoma, polycystic disease [1]. Approximately 5% of population had liver cysts (Hepatic cysts). There may be a slight female predilection. Simple hepatic cysts are cystic formulation containing clear fluid that does not communicate with the intrahepatic biliary tree.

Most liver cysts are benign, even though early diagnosis plays vital role for proper treatment of parasitic or cancerous subtypes. Commonest liver lesions are simple hepatic cysts, occurring in 2-7% of the population. Simple hepatic cyst may show a slight female predilection [2]. Simple hepatic cysts are common benign liver lesions without any malignant potential. They can be diagnosed on ultrasound, CT and MRI.

Simple hepatic cysts may be isolated or multiple, vary in size from a few mm to several centimeters in diameter. These are benign developmental lesions that do not communicate with biliary tree. Usually hepatic cysts contain serous fluid cavity lined by cuboidal epithelium and with underlying rim of fibrous stroma [3].

The cause for simple hepatic cyst is unknown, but they are believed to be congenital in origin [4]. Usually simple cysts are asymptomatic, Large cysts can produce atrophy of the adjacent hepatic tissue while huge cysts can cause complete atrophy of a hepatic lobe with compensatory hypertrophy of the other side [5].

We here report a case of giant simple hepatic cyst presenting as huge abdominal mass and supported by Histopathological lesion and CT findings.

II. Case History

A 60 year old female hailing from rural area with low SES background, cooley by occupation came to Government General Hospital, Department of General Surgery, Anantapuramu. She presented with complaints of enlarging mass per abdomen since 3 years, associated with pain over abdominal mass, loss of appetite. No history of vomiting, jaundice, fever, decreased urinary output, pedal edema, chest pain, and cough. She is an old case of pulmonary tuberculosis. No history of any renal problems, bleeding disorders, Diabetes mellitus, hypertension, thyroid, CAD.

On examination patient was malnourished and pale. Vitals were stable. On per abdomen examination, a mass felt in right hypochondria region extended upto right lumbar region associated with tenderness, firm in

consistency. On percussion it was dull. Based on these clinical findings; arrived at a probable diagnosis of either parasitic cyst (Echinococcosis) or simple hepatic cyst or benign lesion of liver.

Blood investigations showed Hemoglobin - 10.3 g/dl, Total leucocytic count - 8000 cells/mm³, ESR - 32 mm/hour, blood urea - 45 mg/dl, serum creatinine - 1.3 mg/dl, BT - 3' 00", CT - 4' 30", serum bilirubin - 1.1 mg/dl, Na⁺ - 140 mmol/L, K⁺ - 4.2 mmol/L, Cl⁻ - 102 mmol/L, Random Blood sugar - 153 mg/dl. Liver function tests and Renal function tests are within normal limits. Radiological investigations (USG, CT) done. CT scan revealed a large hypodense lesion in segment VI & VII completely replacing and compressing the right lobe of liver, measuring approximately 21 X 13 cm. No evidence of obvious calcifications.

Patient underwent laparotomy surgery with marsupialization and closure under thoracic paravertebral block. During surgery, large hepatic cyst was noted involving right lobe and left lobe of liver and right dome of diaphragm. Falciparum ligament appears thinner than usual. From this hepatic cyst 2.5 liters of fluid was drained out, which is sent to laboratory for further investigations. Histopathological findings noted were cyst wall showing fibrous tissue, lymphocytes, small ducts lined by cuboidal epithelium and few hepatocytes attached to cyst wall suggestive of simple hepatic cyst. The stomach and the small intestine were normal. Other viscera were intact.

Postoperative visits were followed for about 12 weeks and it was eventful. There was no recurrence of cyst or ascites noted.

Fig 1. Female patient presented with huge abdominal mass in right hypochondriac region



Fig 2. CT film showing hypodensity lesion involving right lobe of liver

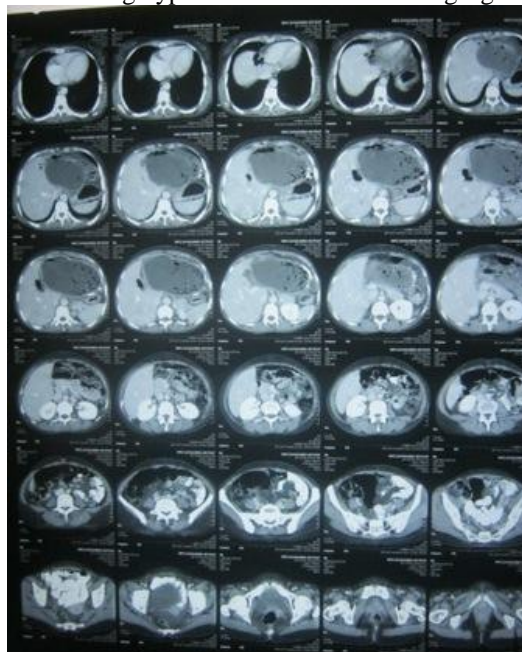


Fig 3. Showing Giant simple cyst during surgery



III. Discussion

Simple hepatic cysts can occur anywhere in the liver, however there may be a predilection towards the right lobe of liver [6]. Simple hepatic cysts may be isolated or multiple and may vary from a few millimeters to several centimeters in diameter. Giant cysts of the liver are uncommon.

Liver cysts are usually asymptomatic and have no clinical significance. Isolated hepatic cysts are commonly detected incidentally on abdominal ultrasonography or CT [7]. These cysts often present a diagnostic challenge. Now – a – days use of radiological investigations are increasing inturn aids in the diagnosis of a symptomatic hepatic cystic lesions [8]. Usually hepatic cysts are benign, but there is a great need to differentiate from other cysts such as echinococcosis, cystadenoma and cystadeno carcinoma, as therapy differs and also to avoid further complications [9].

Simple non-parasitic hepatic cysts are congenital and are supposedly triggered by chromosome 16. During embryogenesis, aberrant bile duct cells may form by a failure in connection of intra hepatic ductules to extrahepatic ducts. These congenitally aberrant bile ducts can result in simple hepatic cysts. Simple cysts are lined by bile duct epithelium with a thin underlying rim of fibrous stroma with clear, Bile – like fluid [10,11].

The prevalence of simple cysts increases with age and its ranges from 2.5% to 18% [12]. There may be a slight female predilection. Berhirwani Retal [13] documented as a few patients presented with abdominal pain, early satiety, nausea and vomiting; growing mass results in these manifestations.

Cowels RA observed a palpable mass on per abdomen examination in solitary hepatic cysts patients[14] . Larger cysts are prone to rupture haemorrhage [15]. Venous thrombosis due to compression of inferior vena cava also may be a life threatening complication.

In most of the studies, laboratory findings are almost normal. A small fraction of patients with simple hepatic cyst may have raised serum γ - glutamyltransferase (γ GT) [16] or elevated serum cyst fluid levels of carcinoembryonic antigen (CEA) and cancer antigen 19-9 (CA 19-9) [17].

Radiological investigations are useful in the detection and characterization of hepatic lesions. When compared to CT and MRI, USG has better advantages for diagnosing simple hepatic cysts such as most accurate, non invasive and cost effective. Maurice Asuquo et al [18] from calabar found a giant hepatic cyst in a 58 years old lady with a good nutritional status, documented as an enlarging abdominal mass with easy satiety. Reported a cyst involving liver segment IV, extended exophytically into the abdomen and compressed liver segments II and III, draining 4.6 litres of fluid, Burch JC reported lrgest simple hepatic cyst contained 17 liters of fluid [19].

Most of the simple hepatic cysts are asymptomatic, usually donot require treatment, can follow such patients by “wait – and – see” policy. So, preferred treatment for symptomatic patients is aspiration – sclerotherapy [20]. Laparoscopic or open surgical fenestration techniques are also effective treatments [21].

Various modalities of treatment of simple hepatic cysts include percutaneous aspiration with or without injection of sclerosing agents, internal drainage with cysto-jejunostomy, laparoscopic or open fenestration and surgical cystectomy[22]. Laparoscopic Management is a modern technique which has brought a many advantages. It can be preferred for simple hepatic cysts except for the cysts which are giant, displacing other organs.

Prevalence of hepatic cyst based on autopsy studies was 0.1-0.5% and 2.5% based on ultrasonography by Ozbalei et al [23]. Hiroyuki kashiwagi et al [24] did a scarless surgery through transvaginal approach by laparoscopic fenestration, using a hybrid NOTES [Natural Orifice Transluminal Endoscopic Surgery) procedure for a huge liver cyst. Postoperative course was uneventful and there is no recurrence. [Hiroyuki Kashiwagi, Hidemitsu Ogino. Scarless surgery for a huge liver cyst.A case report.International Journal of Surgery Case Reports. 2017;39:328-331.

IV. Conclusion

In the present study, an elderly female patient presented with abdominal mass associated with pain. CT scan revealed a large hypodensity lesion in the right lobe of liver, supported by histological findings. Surgery revealed a giant simple hepatic cyst with 2.5 liters of fluid. Many scarless surgeries with minimal disadvantages are available even for giant cysts. Accurate diagnosis will help for prompt management. Even though most of the hepatic cysts are benign, better to undergo investigations such as CT, Histopathology examination to rule out differential diagnosis and to alleviate any further complications.

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