RESEARCH PAPER

Biliary Cystadenoma a rare case study

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Abstract
Biliary cystadenoma is a rare benign cystic neoplasm of the hepatobiliary system with a recognized potential for malignant transformation. It accounts for less than 5% of cystic liver lesions and predominantly affects middle-aged women. Clinical presentation is often nonspecific, including abdominal pain, palpable mass, nausea, or, less commonly, obstructive jaundice, making preoperative diagnosis challenging. Radiological imaging such as ultrasound, computed tomography (CT), and magnetic resonance imaging (MRI) typically reveal a multilocular cystic lesion, but definitive diagnosis requires histopathological examination.
We report a rare case of biliary cystadenoma in a patient presenting with nonspecific abdominal symptoms. Imaging studies demonstrated a cystic hepatic lesion, initially suspected to be a simple cyst or other hepatic pathology. Surgical resection was performed, and histopathological analysis confirmed the diagnosis of biliary cystadenoma. Complete surgical excision remains the treatment of choice due to the risk of recurrence and malignant transformation. This case highlights the importance of considering biliary cystadenoma in the differential diagnosis of cystic liver lesions and emphasizes the role of early diagnosis and appropriate surgical management for optimal outcomes

Key Words: Biliary cystadenoma, Hepatic cystic neoplasm, Liver cyst, Obstructive jaundice, Multiloculated cyst, Case report, Surgical resection

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Introduction

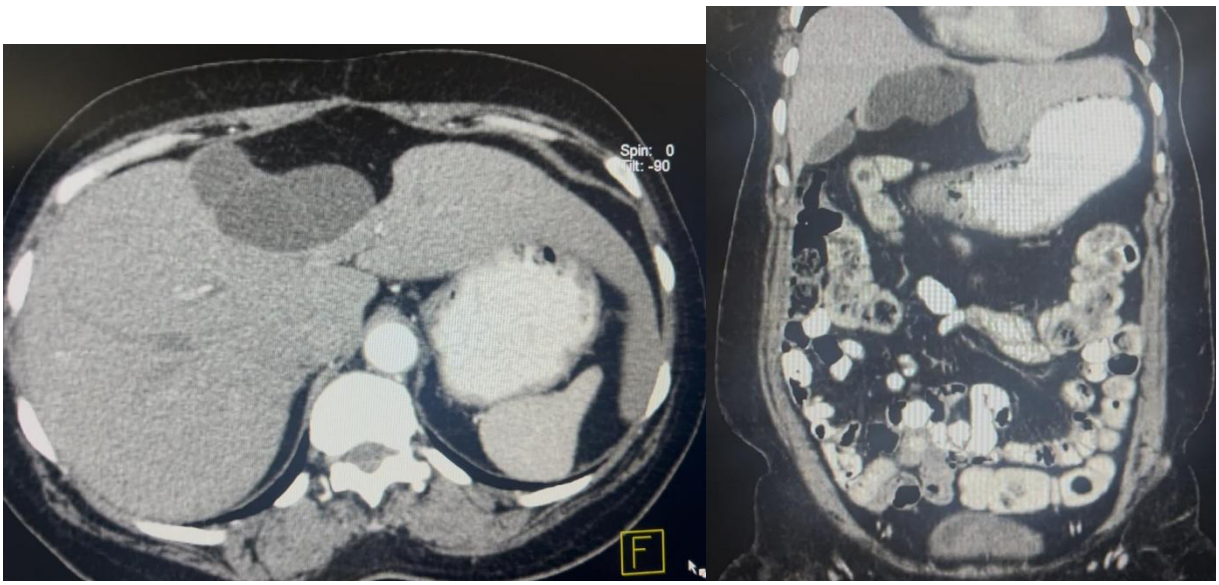
Biliary cystadenoma (BCA), a rare (<5%) benign cystic tumor of the liver, originates from either an aberrant bile duct or directly from primitive hepatobiliary stem cells with a lining of the mucin-secreting columnar or cuboidal epithelium. It constitutes around 85% intrahepatic, most commonly in the right lobe in liver (55%),followed by the left lobe (29%) and rarely bilobed (16%) and extrahepatic being sparse in 15% of cases. The large multiloculated histologic pattern is further divided into 2 types according to the presence or absence of mesenchymal (ovarian-like) stroma. The clinical presentation is primarily asymptomatic.

Those who are symptomatic present with mainly abdominal pain and distension (55%-90%) with derangement of liver function in around 20% of the cases. It can result in complications such as obstructive jaundice, hemorrhage, cyst rupture, or malignant transformation. Ultrasonography, CT,and MRI remain the primary diagnostic modalities hence the definite treatment is complete surgical resection.

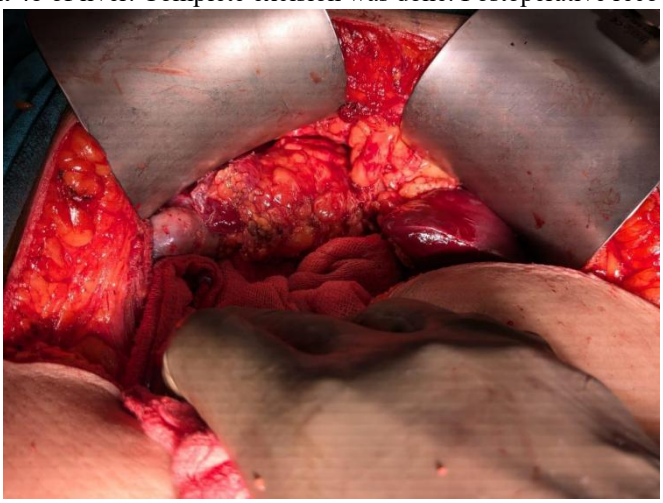
Case Report

We report a case of a 57 year old female with complaints of gradually increasing painless upper abdomen swelling for last 2 years. . Patient was a known case of hypertension on regular medications. She was treated case of Ca Left breast carcinoma.She had history of partial cyst excision decompression for the presumed hydatid liver disease elsewhere (22 months back). Histopathology of the excised cystic wall reported it as benign mucinous cystadenoma.

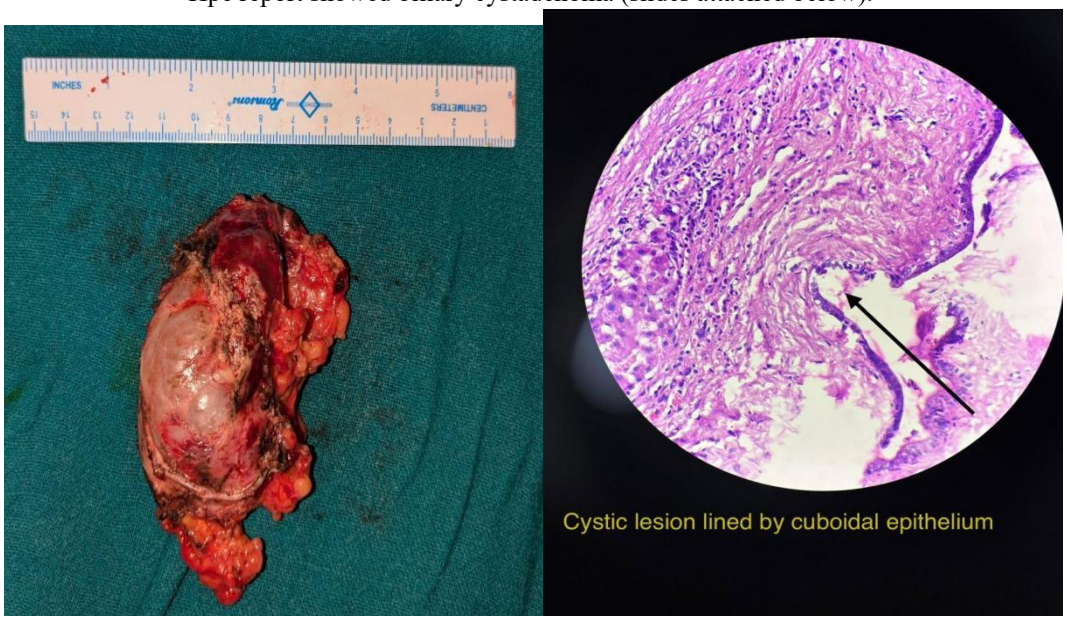
Examination revealed mildly tender smooth surfaced firm epigastric mass extending into right hypochondrium. Upper margins of the mass was not palpable. Well healed transverse scar of previous surgery was present overlying the mass. Biochemical evaluation was within normal limits.
Cect Scan showed cystic lesion 6 x 3 cm with lobulated margins and internal thin septations in segment IV of liver- in a operated case of mucinous cystadenoma, possibility of recurrence of same appears likely.
(Figure).

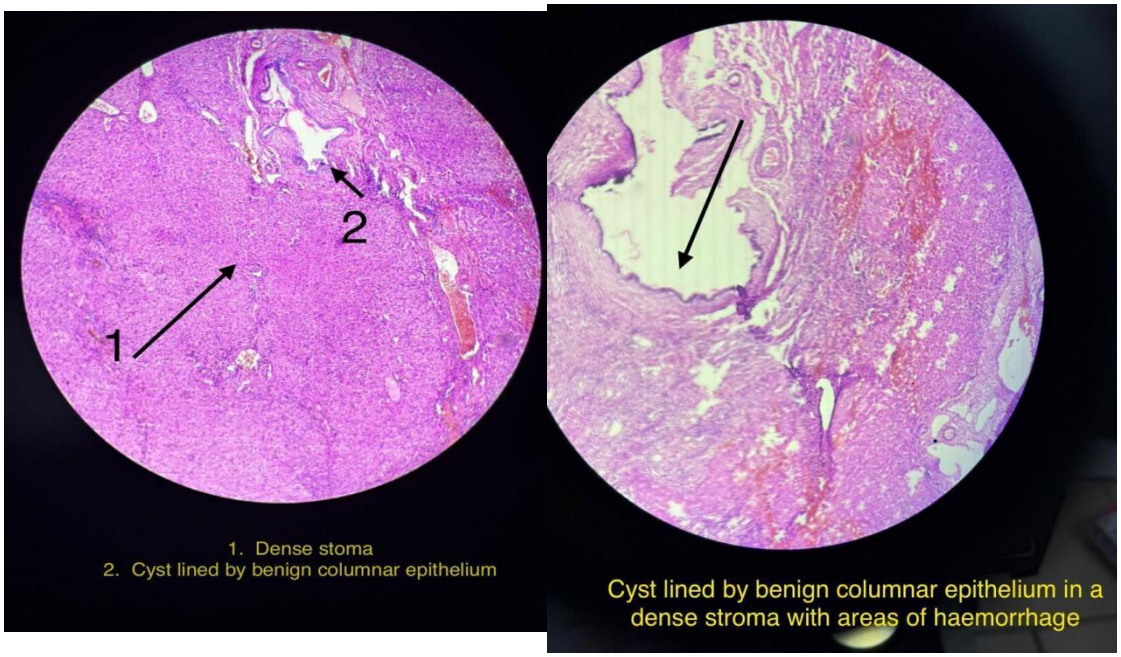


After evaluation patient was taken up for surgery Intra Operative findings revealed of - omental adhesions to biliary cystadenoma segment 4b of liver. Complete excision was done. Postoperative recovery was uneventful.



Pt discharged after 3 days .
Hpe report showed biliary cystadenoma (slides attached below).





Clinical Discussion

Biliary cystadenoma is a very rare, benign cystic tumor of the liver, Most papers report an incidence of less than 5% of all hepatic cystic lesions [A1, A2]. Biliary cystadenomas originate from the biliary epithelium. They are intrahepatic in 85 % of cases, extrahepatic rarely, and their localization in the gallbladder is exceptional [C2]. Etiology of cystadenomas remains unclear, but it may be associated with residual foregut or gonadal epithelial tissues in the liver, stemming from abnormal embryonic development [C7].

More common in middle aged females (in our case 57 year old), it is a slow growing tumor and most patients are asymptomatic thus the tumor gets the time to evolve over a long period of time thus most of the tumors are large at diagnosis. Nonspecific symptoms may be present, such as abdominal mass with pain, distension or vomiting. The escalating and extensive utilization of imaging frequently results in the incidental identification of this condition in patients who may be asymptomatic(B9), like in our case where patient on recurrence of cystadenoma was asymptomatic and was incidentally diagnosed while undergoing routine ultrasound. Biliary cystadenoma (BC) can be mistaken for several other cystic liver pathologies. These include simple liver cysts, hydatid cysts, polycystic liver disease, and cystadenocarcinoma[C2], making radiological diagnosis challenging.

CT and USG are essential for diagnosing Biliary Cystic Tumors (BCTs), which usually appear on CT as well-defined cystic lesions with internal septations, while wall calcification is uncommon, the presence of papillary projections or wall excrescences is indicative of cystadenocarcinoma[B7]. A sharply demarcated anechoic mass with echogenic internal septations is the usual finding on USG.

As this tumor is notorious for recurrence complete surgical resection is the preferred treatment for BCA to prevent recurrence and limit the potential for malignant transformation [B5-B7, B11, B13]. One study found that surgical resection for Biliary Cystadenoma (BCA) is associated with a recurrence rate of approximately 20%. Furthermore, less aggressive procedures, such as fenestration/deroofing, exhibit significantly higher recurrence rates compared to formal hepatic resection[B9]. In comparison, a systematic review reported a recurrence of 5.4% after resection for BCA, while recurrence after fenestration or marsupialization varied from 81.6% to 100% for BCA which is consistent with our case where patient was misdiagnosed as hydatid cyst and underwent deroofing which on histopathological examination was reported as cystadenoma.

Post-operative follow-up is recommended to detect short-term (deep collection, biliary fistula) and long-term (recurrence, malignant transformation) post-operative complications.

Conclusion

BC are rare, generally slow-growing, benign lesions that are often asymptomatic and incidentally found. Key differentials include hydatid cyst, simple cyst, liver abscess, and cystic metastasis.The diagnosis of BC should be considered in cases of multilocular cystic lesions in the liver, particularly recurrent cysts.Radiological modalities like USG, CT and MRI yield important information but cannot reliably distinguish BCA from other cystic lesions.

The recommended treatment for any suspected BC is complete resection, as it is extremely difficult to distinguish it from cystadenocarcinoma preoperatively. The study of our observation underlines two rules in the management of cystic lesions of the liver: any suspicious hepatic lesion must be completely resected, and confirmation of the diagnosis is always histological.

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