IMAGE

Incidentally detected acalculous tubercular cholecystitis: A rare case report with a comprehensive review of literature

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Abdominal tuberculosis (TB) is one of the most common type of extrapulmonary TB, and its prevalence in developing countries is as high as 12%.[1] TB of the gall bladder (GB) is a rare entity with less than 120 cases reported in the English literature with only three case reports of tuberculous cholecystitis without gall stones.[2,3] GBTB was first reported by Gaucher in 1870.[4] Preoperative diagnosis of GBTB is difficult, which further highlights the importance of routine histopathological examination of all cholecystectomy specimens. Here, we report a case of incidentally detected GBTB in a 56 year male who underwent surgery with a preoperative diagnosis of cholecystitis.

A Fifty six year male presented with complaints of pain in abdomen for the past 9 months associated with nausea and vomiting. There was a history of jaundice 3 months back. The patient denied any history of TB. The general and abdominal examination was not significant. Laboratory investigations including hemogram, liver function test, and chest x-ray were normal.

Magnetic resonance cholangiopancreatography (MRCP) showed diffuse thickening of the GB wall with post-contrast scan enhancement, however, portal vein and common bile duct were not dilated [Figure 1a]. Overall features were suggestive of acute cholecystitis. Open partial cholecystectomy was performed. Grossly, GB measured 4 × 2 cm with a wall thickness of 4 mm. On cut section, the mucosa was predominantly ulcerated, however, no stones were found [Figure 1b]. Microscopic sections revealed marked ulceration of lining mucosa with multiple epithelioid cell granulomas, Langhans giant cells, and foci of caseous necrosis [Figures 2 and 3a]. Stain for Acid fast bacilli (AFB) was positive [Figure 3b]. Diagnosis of tubercular cholecystitis was rendered. On evaluation, no foci of TB were found at any site. The patient was started on anti-tubercular therapy for 6 months. Postoperative period of the patient was uneventful.

GBTB constitutes 1% of the abdominal TB.[2] GBTB often affects females in the age group of 30 years. Route of infection is either through adjacent caseating lymph nodes, peritoneal tubercles, or hematogenous. The GB is relatively resistant to TB due to the inhibitory effect of bile on mycobacterium TB. The factors contributing to the development of GBTB are cholelithiasis and cystic duct obstruction. Most cases of GBTB are associated with gall stones. Abdominal TB involving terminal ileum and ileocaecal junction hinders absorption of bile in blood circulation. Interruption of enterohepatic circulation leads to a decrease in the concentration of bile salts and phospholipids and thus causing gall stone formation.[5] It has also been postulated that tuberculous bacilli form a nidus for calculus formation.

Risk factors include high endemic regions, prior history of pulmonary or extrapulmonary TB, and immunosuppression. The present case did not have any history of pulmonary or extrapulmonary TB and immunosuppression.

GBTB, a rare entity, is difficult to differentiate from other GB diseases such as GB malignancy and xanthogranulomatous cholecystitis. Patient with GB malignancy presents with pain, anorexia, weight loss, and elevation of CA 19-9 levels.[6] CA 19-9 levels are often raised in patients with xanthogranulomatous cholecystitis. Radiological investigations such as computed tomography (CT)/MRI are necessary in such scenario. Radiological findings in malignancy include an

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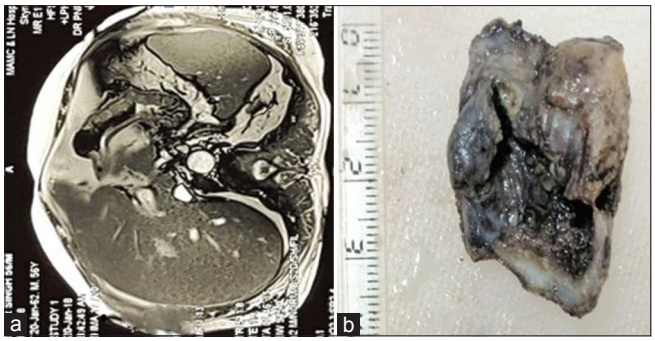

Figure 1: (a) MRCP showing diffuse thickening of the gall bladder wall. (b) Gross: cholecystectomy specimen

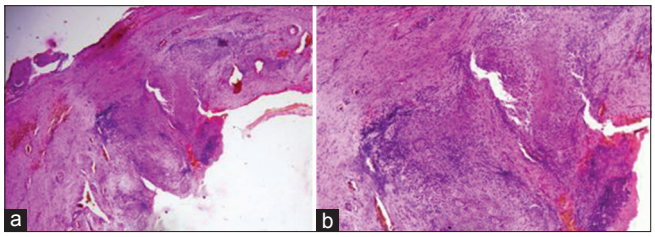

Figure 2: (a) H and E sections showing marked ulceration of lining mucosa with multiple epithelioid cell granulomas (200×). (b) H and E sections showing multiple epithelioid cell granulomas with Langhans giant cells (400×)

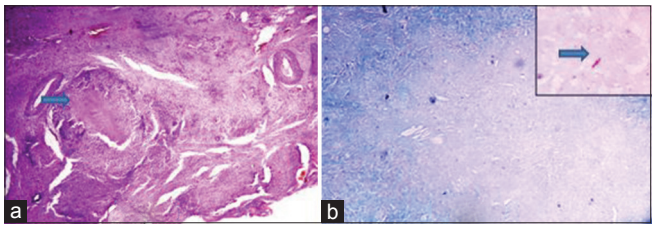

Figure 3: (a) H and E sections showing foci of caseous necrosis with granulomas (400×). (b) Sections showing positive AFB stain (200×) and inset (600×)

intraluminal mass, invasion into adjacent organs, or thickening of the GB wall.[7] CT manifestations of xanthogranulomatous cholecystitis include gallstone, pericholecystic infiltration, and diffuse thickening of the wall. Ultrasound findings of GBTB are nonspecific and CT findings can also vary from thickening of the GB wall, GB mass, and micronodular lesions as described by Xu *et al*.[2] CT findings are well correlated with the histological features, and thus, it may be a good tool in diagnosing GBTB.

The treatment protocol depends on the case being diagnosed as preoperatively or postoperatively. In an untreated patient diagnosed preoperatively, treatment includes administration of anti-tubercular treatment (ATT) with 2 months of isoniazid, rifampicin, and pyrazinamide followed by maintenance therapy for 4 months. In the presence of signs and symptoms of gall stone disease, ATT is followed by cholecystectomy.[8] Patients diagnosed postoperatively should receive ATT to avoid the peritoneal or systemic spread of infection.

To conclude, GBTB, a rare entity, can mimic other GB conditions such as malignancy and xanthogranulomatous cholecystitis preoperatively. Radiological investigations combined with clinical manifestations and histopathological examination of the resected specimen can lead to the diagnosis of GBTB. It should be considered as one of the differential diagnosis by the surgeons, especially in endemic areas. Finally, all the resected cholecystectomy specimens should be examined histopathologically to diagnose incidentally detected GBTB as found in our case.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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