

A pre-operative diagnostic dilemma and incidental prevalence in histopathology: Retrospective analysis of gallbladder tuberculosis

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Abstract

Background: Tuberculosis of the gallbladder is an occasional and able to cured entity. Preoperative diagnosis is a great challenging task while disease has non pathognomonic clinically and radiologically. Tuberculosis of the gallbladder is still made difficult with the gallbladder malignancy and some other gallbladder lesions. Histopathology can establish the right diagnosis of this isolated tuberculous infection of the gallbladder. Our study focus is to assess the frequency rate and pre-operative clinical pathognomonic for accurate diagnosis.

Methods: Data searched retrospectively and reviewed patient's record from January 2011 to June 2016 for tuberculosis of the gallbladder. Single center study conducted in Ziauddin University and hospital Karachi. In five years of period we had three cases of tuberculosis of the gallbladder.

Result: Retrospective analysis showed incidentally three (0.16%) cases of tuberculosis of the gallbladder out of 1,765 gallbladder specimen after cholecystectomy. Total female was 1,255 (71.1%) and male was 510 (28.8%). Female and male ratio was 1:0.4. All three (100%) patients of gallbladder tuberculosis were female with history of recurrent right upper abdominal pain, fever, nausea, vomiting and weight loss. Laparoscopic cholecystectomy performed. Diagnosis was made on histopathology.

Conclusion: There is no indicative sign and symptoms for preoperative diagnosis of tuberculosis of the gallbladder, usually depends on histopathology. For that reason all specimens of the gallbladder should be sent for histopathology to exhibit tuberculosis of the gallbladder in indigenous places. In spite of that post-operative proof is a pronounced catastrophe of diagnosis if acalculous cholecystitis, as a disease is treatable medically and surgery is inevitable.

Keywords: Tuberculosis gallbladder, retrospective study, prevalence, incidental TB, cholecystectomy, histopathology

Introduction:

Tuberculosis of the gall bladder is not occurring very often and for that reason not recorded in literature sufficiently.¹ Tuberculosis and malignancy of the gallbladder commonly linked with gallstones. Presentation of tuberculosis of gallbladder and malignancy of gallbladder also looks like same.² This infection begins in the gallbladder through intra-abdominal or hematogenous tuberculosis.¹⁻⁵ Gallbladder tuberculosis is a preoperative diagnostic dilemma and hard to ascertain from other lesions of the gallbladder. For that reason only few cases were publicized even though the first case was described in 1870.⁶

Methods:

We searched data retrospectively and reviewed patient's record from January 2011 to June 2016 for tuberculosis of the gallbladder. In five years period we found total 1,765 specimens of gallbladder after cholecystectomy. Study conducted in tertiary care single center Ziauddin University and hospital Karachi. We had three patients of gallbladder tuberculosis, all were females in sixties of their life. Presented history was predominantly recurrent right side upper abdominal pain. Laparoscopic cholecystectomy performed in all patients. Routine histopathology incidentally revealed gallbladder tuberculosis. All patients managed postoperatively with antituber-

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Table 1: Assessment of correlation of Histopathology findings with preoperative clinical and ultrasound findings

Age (years)	Gender	Sign/symptoms	Duration	Ultrasound Findings	Intra-operative findings	Histopathology Findings
1 63	Female	Right hypo-chondrial pain/ Fever	8 months	Contracted thick walled gallbladder/focal calcification at pericholecystic area/cholelithiasis	Contracted gallbladder with stones and multiple adhesions	Chronic cholecystitis/cholelithiasis/ lymph nodes show chronic granulomatous inflammation possibility of tuberculosis/no malignancy
2 66	Female	Epigastric pain/ Nausea/ Vomiting/ weight loss	6 weeks	Distended thick walled gallbladder/cholelithiasis	Distended gallbladder with stones	Chronic cholecystitis/cholelithiasis/lymph node show granulomatous inflammation consistent with tuberculosis/no malignancy
3 68	Female	Right hypo-chondrial pain/ Nausea/vomiting	3 months	Contacted thick walled gallbladder with sludge	Contracted gallbladder with adhesions/ no stones	Chronic checystitis/granulomatous inflammation/eosinophilic necrosis consistent with tuberculosis/no malignancy

culous drugs.

Results:

Herein retrospective analysis showed incidentally three (0.16%) cases of tuberculosis of gallbladder out of 1765 gallbladder specimen after cholecystectomy. Total female was 1,255 (71.1%) and male was 510 (28.8%). Female and male ratio was 1:0.4. In our study all were female patients in their sixth decade of life mean age is 65.6 years (range 5). All patients presented with duration of six weeks to eight months history of predominantly recurrent right side upper abdominal pain with fever in only one (33.3%) patient, two (66.6%) patients had nausea and vomiting. One (33.3%) patient had weight loss history. No past history of tuberculosis in all three cases and no contacts with such patients. On Physical examination two (66.6%) patients had tenderness in right upper quadrant and one patient had epigastric region. There was no proved of jaundice, no hepatosplenomegaly, nor lymphadenopathy. Laboratory test showed highly increase white blood cell count in one patient, one patient had deranged liver enzymes. Chest X-ray was normal in all patients. Ultrasound abdomen revealed thick walled distended gall bladder and multiple calculi in two patient, one patient had acalculous cholecystitis. No other considerable feature was noted. Laparoscopic cholecystectomy was done in all patients. Intraoperative findings are thick walled gallbladder was partially adhered to the omentum in one patient and the anatomy was difficult in Calot's triangle. In one patient con-

tracted gallbladder was adherent to the liver bed, given impression of gallbladder malignancy. In histopathology findings with proved of gallbladder tuberculosis, grossly the gallbladder size 8 x 4 cm with 11 mm of wall thickness, serosal surface was dull and congested, bile stained mucosa with multiple stones in one patient. One patient showed contracted irregular shaped gallbladder with focal areas of yellowish discoloration with multiple stones in histopathology findings. One patient had no stones and contracted gallbladder with sludge was identified in histopathology. Microscopic examination disclosed granulomatous inflammation, tuberculous granuloma rich in fibrous tissue with giant langhan's cells and caseation. No malignancy found in all cases. Acid fast bacilli demonstrated in all patients.

Discussion:

Tuberculosis of the gallbladder (isolated) is immensely uncommon disease.^{7,8} Tuberculosis of the gallbladder regarded as 1 % of abdominal tuberculosis. Clinically exhibit a comparatively non-specific presentation. Tuberculosis of the gallbladder usually found > 30 years of age in females.⁹⁻¹¹ In contrast to other abdominal tuberculosis, gallbladder tuberculosis is found commonly in older patients as the gallbladder is extremely resistant to the tuberculous infection, very likely expected to the inhibitory function of bile because of low vascularity of the gallbladder and up level concentration and alkalinity of the bile.¹⁸ In our study all the patients were in their sixth decade of life. Most of the previous

reported cases showed patients of tuberculous infection of the gallbladder may present with the set of clinical symptoms like pain in the abdomen, nausea, vomiting, jaundice, weight loss, and abdominal mass but right hypochondrial pain and abdominal mass may be the chief symptoms.^{9,12,13} In our study we had two patients with right upper quadrant pain, but one patient had epigastric pain. According to reported literature, tuberculosis of the gallbladder sometimes present as a characteristics of cholecystitis or gallbladder mass accompanied by obstructive jaundice as no indicative sign and symptoms of this disease.¹⁴⁻¹⁶ One study showed 70% cases of tuberculosis of the gallbladder present with gallbladder calculi. Radiological study (Ultrasound and CT scan) gives findings of an thick walled large size gallbladder with nodular lesions or soft tissue lesions, despite that these findings are not particular for gallbladder tuberculosis.¹ In our study we had two patients with gallstones and one patient had sludge in the gallbladder. In our study all patients had thick walled gallbladder in ultrasound finding. In previous reported cases, generally the gallbladder hold on to benign lesions that are vulnerable to come into being tuberculosis infection like gallbladder calculi, opisthorchiasis, disseminated gallbladder papillomas, and obstruction of cystic duct.^{9, 18-23} Gallbladder calculi and obstruction of the cystic duct observed the salient factors in the progression of tuberculosis of the gallbladder^{9, 18-20}. Literature review highlighted, infective organism *Mycobacterium tuberculosis* may be an etiology of gallbladder calculi with or without cholecystitis, especially if tuberculosis is spread to the neighbourhood lymph nodes and/or in peritoneal cavity.¹⁷ In lots of previous reported studies showed isolated gallbladder tuberculosis²⁴, in spite of that some studies showed multiple organ involvement with this infectious disease.^{9,12} Our study showed isolated gallbladder tuberculosis in all patients.

Conclusion:

There is no specific indicative sign and symptoms for the preoperative diagnosis of tuberculosis of the gallbladder, correct diagnosis usu-

ally based on histopathology. For that reason all specimens of the gallbladder should be send for histopathology after cholecystectomy to exhibit this tuberculous infection of the gallbladder. In spite of that post-operative proof is a striking catastrophe of diagnosis if acaculous cholecystitis, as a disease is treatable medically and surgery is inevitable.

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Role and contribution of authors:

Dr Irum Masood, Ziauddin University and hospital Karachi, Design the study, data collection, tabulate and write-up intro, discussion, result, conclusion

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