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Original Article

Detection of Gallbladder Carcinoma Incidentally After Laparoscopic Cholecystectomy for Cholelithiasis, in a Tertiary Level Hospital

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Abstract

Background: Carcinoma of gallbladder is a rare disease but extremely variable by geographical region and racial-ethnic group. The incidence of intra or postoperative incidental carcinoma of gallbladder diagnosed is estimated 0.2 and 2.8.

Objective: To detect incidental gallbladder carcinoma after laparoscopic cholecystectomy & to correlate it with age variable and findings of gallbladder pathology postoperatively.

Methods: A total 960 patients of gallbladder stone/cholelithiasis were carried out laparoscopically by laparoscopic cholecystectomy in the Department of Surgery of Dhaka National Medical College Hospital retrospectively during the period from January 2017 to December 2020.

Results: Incidental gallbladder carcinoma were diagnosed in 3(0.41%) out of 960 patients undergone laparoscopic cholecystectomy.

Conclusion: Gall bladder carcinoma is rare disease with poor prognosis. The use of meticulous laparoscopic technique seems to be important for the diagnosis and avoidance of early complication of the disease and microscopic examination is very much important for the depth of invasion, range of mucosal spread and lympho-vascular involvement.

Keywords: Cholelithiasis, Incidental gallbladder carcinoma, Laparoscopic cholecystectomy.

Introduction

Gallbladder carcinoma is a rare but high malignancy neoplasm with incidence rate of 0.3-1.5%.[1-3] The incidence of intra or post-operative incidental gallbladder carcinoma diagnosis is estimated between 0.2 and 2.8% in this group, 15-30% of patients prove to be asymptomatic at the time of presentation, without clinical evidences of intra or preoperative neoplasm.[1-3] Gallbladder carcinoma is the sixth most common gastrointestinal malignancy worldwide.[4] Complete surgical removal is the only modality that can provide a chance of cure. However, the overall prognosis of patients with gallbladder carcinoma has been dismal because the majority of cases have been judged to have unresectable disease at presentation because it is very difficult to diagnose GBC (Gallbladder Cancer) preoperatively. Gallbladder cancer, incidentally diagnosed during pathological examination of gallbladder specimen after cholecystectomy performed for other indication, is defined as incidental gallbladder carcinoma (IGC).[5-9]

Methods

A total 960 patients with chronic cholecystitis due to cholelithiasis where wall thickness is within normal limit underwent laparoscopic cholecystectomy done during the period from January 2017 to December 2020 in the Department of Surgery of DNMCH. We excluded preoperative malignancy from this study. We have taken history, then physical examination, then investigation like Liver function test, S. Bilirubin, SGPT, S. Alkaline Phosphatase, Prothrombin time, Ultrasound of HBS & Pancreas, Renal function test. Also postoperative findings of gallbladder after laparoscopic cholecystectomy was documented in each of the cases. All the specimens of gallbladder were sent for histopathological examination. The histological slides were reviewed for all the cases.

Results

A total of 960 patients underwent laparoscopic cholecystectomy in our Department of Surgery during the study period of 4 years. 3 cases (0.41%) were confirmed histologically as carcinoma gallbladder (adenocarcinoma) incidentally.

Table-I: Incidental Gall bladder carcinoma: Age and Sex distribution with duration of symptoms of 3 patients have been summerized

Sl. No.	Age (years)	Sex	Total duration of symptoms
1	65	Female	Chronic right upper abdominal pain for 2 years
2	55	Female	Chronic right upper abdominal pain for 4 years
3	58	Female	Chronic right upper abdominal pain for 5 years

Table-II: Incidental Gall Bladder Carcinoma: Operative procedure and findings with microscopic and pathologic stage.

Sl. No.	Operative Procedure	Postoperative Findings	Pathological Grading & Staging
Case-1	Laparoscopic Cholecystectomy	Multiple gallstones with thick walled gallbladder was found	Well differentiated adenocarcinoma, Pathological stage pT1a (Intramucosal)
Case-2	Laparoscopic Cholecystectomy	Multiple gallstones with thick walled gallbladder was found	Moderately differentiated adenocarcinoma, Pathological stage pT1a (Intramucosal)
Case-3	Laparoscopic Cholecystectomy	Multiple gallstones with thick walled gallbladder was found	Well differentiated adenocarcinoma, Pathological stage pT1a (Intramucosal)

Case-2 showed moderately differentiated adenocarcinoma. Case-1 and Case-2 showed well differentiated adenocarcinoma. After the histological diagnosis, all the 3 patients were referred to the Cancer Hospital, Mohakhali, Dhaka.

Discussion

Gallbladder carcinoma (GC) is the most common malignancy of the biliary tract and the sixth most common malignancy of the gastrointestinal tract worldwide.[10] It is an aggressive and late symptomatic disease and most of the patients are treated at advanced stages. The prognosis is usually dismal and the 5 years survival rates have been reported to be less than 5% for the more advanced stages.[9,11] The countries with higher incidence of gallbladder cancer include Chile, Poland, India and Japan. A high incidence of this cancer has been reported among women in northern India (21.5/100000) and among female Native American Indians (14.5/100000).[12,10]

The early stage of carcinoma is typically diagnosed incidentally because of the inflammatory symptoms which are related to the coexistent cholelithiasis or cholecystitis.[1] Incidental gallbladder carcinoma (IGBC) is the carcinoma of gall bladder which is suspected for the first time during cholecystectomy or which is found on the histological examination of the gallbladder.[2,8] With the increasing widespread acceptance of LC (Laparoscopic Cholecystectomy) and the difficulties in diagnosing gallbladder carcinoma preoperatively, the number of cases of IGBC during and after LC has increased.[4,6] The female gender and advanced age are the demographic risk factors for GBC. All the three cases of the incidentally detected gallbladder carcinoma in this series were females and their average age was 58 years. A review of literature showed that 0.19% to 3.3% of the patient who underwent laparoscopic cholecystectomy for cholelithiasis were found to have carcinoma of gall bladder.[1-5] In a study of LC(Laparoscopic Cholecystectomy) cases from the Indian metropolis of Kolkata,reported an incidence of 0.59% of IGBC.[7] The present study which was based on DNMCH (Dhaka National Medical College Hospital) showed an incidence of 0.41% of IGBC among laparoscopic cholecystectomy cases over a period of 4 years.

GBC (Gallbladder Carcinoma) either remains asymptomatic for a longtime or it presents with non-specific symptoms like pain in the abdomen, vomiting, anorexia, jaundice, a gall bladder mass and fever. In this study, 3 patients presented with the features of chronic calculus cholecystitis. The association of GBC with cholelithiasis and chronic gallbladder inflammation is well known. It has been presumed that a longstanding chronic inflammation which is caused by cholelithiasis plays a role in the tumor progression and that carcinogenesis and gallstones are seen in 54-97% of the patients of GBC.[11,13] However, while most of the patients of GBC will have a history of cholelithiasis, only 0.3-3% of the patients with gallstones develop GBC. In this series all the 3 patients who were detected to have IGBC had symptomatic gallstone disease for which LCS were undertaken.[12,14] The other risk factors includea porcelain (calcified) gallbladder, a typhoid carrier state and gall bladder polyp.[12-14]

The ultrasonographic findings in early stage GBC (Gallbladder Carcinoma) are subtle, with considerable overlaps with the findings of acute and chronic cholecystitis. The features such as thickened gall bladder wall, gallbladder stones or CBD stones, a gallbladder mass and a pericholecystic collectionare not characteristics of GBC and they can be associated with cholecystitis.[15] Multiple gallstones with thickened

gallbladder were seen in all the 3 cases of IGBC (incidental gallbladder carcinoma) in this series.

Surgical resection with curative intent in post laparoscopic cholecystectomy gallbladder carcinoma is: for stage T1a surgery is not proved to be necessary but watchful follow up only seems to be required.

Conclusion

In our study, incidental gallbladder cancer was found to be 0.41%. Female gender, advanced age, multiple stones and wall thickness > 3 mm were common in our series. Gall bladder cancer runs a short course with poor prognosis. The use of meticulous laparoscopic techniques seems to be important for the diagnosis and avoidance of early complication of this disease.

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