

ASSESSMENT OF ROUTINE HISTOPATHOLOGY OF GALLBLADDER AFTER ELECTIVE CHOLECYSTECTOMY FOR GALLSTONES

Anubhav Garg¹, Alka Dixit Vats^{2*}

¹Assistant Professor, Department of Pathology, Rama Medical College Hospital & Research Centre, Hapur, Uttar Pradesh, India.

²Associate Professor, Department of Pathology, Rama Medical College Hospital & Research Centre, Hapur, Uttar Pradesh, India.

Received : 08/11/2022
Received in revised form : 01/12/2022
Accepted : 17/12/2022

Keywords:
Gallbladder, cholecystectomy, pathological.

Corresponding Author:
Dr. Alka Dixit Vats,
Email: dralka27@gmail.com
ORCID: 0000-0002-3121-4859

DOI: 10.47009/jamp.2023.5.1.147

Source of Support: Nil,
Conflict of Interest: Nondeclared

Int J Acad Med Pharm
2023; 5 (1); 708-710



Abstract

Background: To assess routine histopathology of gallbladder after elective cholecystectomy for gallstones. **Materials and Methods:** A sum total of eight- six gall bladder specimens in age ranged 18 – 50 years of either sex after elective cholecystectomy for gall stones were enrolled. Clinical features were recorded. Open/laparoscopic cholecystectomy was performed. All gallbladder specimens were sent for histopathology. Routine histopathological examination with H and E stained slides were performed. **Result:** Age group 21-30 years comprised of 7 males and 5 females, 31-40 years had 10 males and 8 females, 41-50 years had 9 males and 11 females, 50-60 years had 6 males and 14 females and >60 years had 4 males and 12 females. A non-significant difference was observed ($P > 0.05$). Common presenting symptoms were pain in upper abdomen in 86, nausea and vomiting in 30, intolerance to spicy food in 53 and mass in right hypochondrium in 24 cases. A significant difference was observed ($P < 0.05$). Histopathological diagnosis was chronic cholecystitis in 48, acute cholecystitis with mucocele in 20, acute cholecystitis with empyema in 12, malignancy in 4 and polyp in 2 cases. A significant difference was observed ($P < 0.05$). **Conclusion:** The histopathological spectrum of gallbladder after cholecystectomy shows variation. Incidental diagnosis of carcinoma gallbladder is not rare, therefore routine histopathology of all cholecystectomy specimens should be performed.

INTRODUCTION

Some non-modifiable risk factors for gallstones are female sex, increased age, genetics and ethnicity.^[1] Modifiable risk factors are obesity, rapid weight loss, the metabolic syndrome, certain diseases such as cirrhosis and Crohn disease, gallbladder stasis and lifestyle.^[2] Gallstone disease is rare in childhood, but becomes more frequent in adults with similar risk factors, particularly obesity.^[3] Cholecystectomy is the first line surgical management of symptomatic gallstones. Open Cholecystectomy had been recognized over centuries to be the standard. In 1980s, open cholecystectomy with a small incision was introduced as an alternative to laparoscopic cholecystectomy.^[4]

Despite the incidence of gall bladder carcinoma in Asian countries is much higher than the Western world, there are some tertiary hospitals with the practice of discarding the gallbladder specimen when appears macroscopically unremarkable, this practice depends on the assumption that GBC is

always associated with naked-eye abnormalities.^[5] At the same time, this selective approach is justified by claiming that it reduces patient's financial liabilities and pathologist's workload.^[6] This contradicts to the worldwide practice where gallbladder specimen is invariably sent for histological analysis for the sole purpose of identifying discrete carcinoma in early stage. So, histopathological analysis is therefore mandatory if we consider the high prevalence of carcinoma up to 12% and it can be neglected if 0.3% prevalence is considered.^[7] Considering this, we performed routine histopathology of gallbladder after elective cholecystectomy for gallstones.

MATERIALS AND METHODS

A sum total of eight- six gall bladder specimens in age ranged 18 – 50 years of either sex after elective cholecystectomy for gall stones were enrolled. Patients with evidence of carcinoma gall – bladder and gallbladder showing gross abnormalities suggestive of localized infiltrative malignancy were

excluded. Ethical clearance certificate was obtained after obtaining written patient consent. Demographic data was entered in case sheet. A thorough abdominal examination was carried out. Clinical features were recorded. Open/laparoscopic cholecystectomy was performed. All gallbladder specimens were sent for histopathology. Routine histopathological examination with H and E stained slides were performed. Results were tabulated and assessed statistically using Mann Whitney U test. P value less than 0.05 was considered significant.

RESULTS

Age group 21-30 years comprised of 7 males and 5 females, 31-40 years had 10 males and 8 females,

41-50 years had 9 males and 11 females, 50-60 years had 6 males and 14 females and >60 years had 4 males and 12 females. A non-significant difference was observed ($P > 0.05$) [Table 1].

Common presenting symptoms were pain in upper abdomen in 86, nausea and vomiting in 30, intolerance to spicy food in 53 and mass in right hypochondrium in 24 cases. A significant difference was observed ($P < 0.05$) [Table 2].

Histopathological diagnosis was chronic cholecystitis in 48, acute cholecystitis with mucocele in 20, acute cholecystitis with empyema in 12, malignancy in 4 and polyp in 2 cases. A significant difference was observed ($P < 0.05$) [Table 3].

Table 1: Distribution of patients based on age group and gender

Age group (years)	Male	Female	P value
21-30	7	5	0.92
31-40	10	8	
41-50	9	11	
50-60	6	14	
>60	4	12	
Total	36	50	

Table 2: Presenting symptoms

Symptoms	Number	P value
Pain in upper abdomen	86	0.05
Nausea and/or vomiting	30	
Intolerance to fatty food	53	
Mass in right hypochondrium	24	

Table 3: Histopathological diagnosis

Histopathological diagnosis	Number	P value
Chronic cholecystitis	48	0.03
Acute cholecystitis with mucocele	20	
Acute cholecystitis with empyema	12	
Malignancy	4	
Polyp	2	

DISCUSSION

It is advisable to avoid discarding gallbladder specimens without histopathological analysis. Selective approach for sending these specimens to the laboratory results in missing discrete pathologies like premalignant benign lesions such as porcelain gallbladder, carcinoma-in-situ and early carcinomas.^[8] Early carcinoma of gallbladder notoriously remains undiagnosed without histopathology as it neither produces clinical symptoms or signs nor provides any clues on ultrasound assessment.^[9,10] Cholecystectomy performed with provisional diagnosis of benign diseases based on clinical, ultrasonological and computerized tomographic scanning misses a significant number of early malignant lesions of gallbladder.^[11] We performed routine histopathology of gallbladder after elective cholecystectomy for gallstones.

Our results showed that Age group 21-30 years comprised of 7 males and 5 females, 31-40 years had 10 males and 8 females, 41-50 years had 9

males and 11 females, 50-60 years had 6 males and 14 females and >60 years had 4 males and 12 females. Khan et al.^[12] found that the mean age of the patients was 39.52 ± 12.38 years. Among 250 patients, 75 (30%) were males and 175 (70%) females. The mean duration of disease was 5.61 ± 2.75 months. Gallbladder carcinoma on routine histopathology after elective cholecystectomy was observed in 18 (7.2%) patients whereas 232 (92.8%) patients did not have gallbladder carcinoma. All of the 18 patients who had carcinoma were females which showed a highly significant difference. Among 153 cases with < 7 mm stone size, carcinoma was observed in 11 patients and in 97 cases with ≥ 7 mm stone size, carcinoma was observed in 7 cases. Among 124 cases with < 5 months of duration of disease, carcinoma was observed in 9 patients and in 126 cases with ≥ 5 months of duration of disease, carcinoma was observed in 9 cases. Among 93 cases with < 2 stones, carcinoma was observed in 7 patients and in 157 cases with ≥ 2 stones, carcinoma was observed in 11 cases. Statistically insignificant difference was

found between the duration of disease, number and size of stones and carcinoma of the patients.

Our results showed that common presenting symptoms were pain in upper abdomen in 86, nausea and vomiting in 30, intolerance to spicy food in 53 and mass in right hypochondrium in 24 cases. Siddiqui et al,^[13] enrolled 220 patients with symptomatic gallstones. Most of the patients were females (88%). Ninety two per cent patients presented with upper abdominal pain of varying duration. All specimens were sent for histopathology. Two hundred and three of the specimens showed evidence chronic cholecystitis, 7 acute cholecystitis with mucocele, 3 acute cholecystitis with empyema and one chronic cholecystitis associated with poly. Six gallbladders (2.8%) showed adenocarcinoma of varying differentiation along with cholelithiasis. Histopathological diagnosis was chronic cholecystitis in 48, acute cholecystitis with mucocele in 20, acute cholecystitis with empyema in 12, malignancy in 4 and polyp in 2 cases. Hasan et al,^[14] in their study histopathological examination of gallbladder specimens showed that chronic cholecystitis was found in 296 out of 444 total cases (66.7%), acute cholecystitis in 52 cases (11.7%), and other associated usual findings in 85 cases (19%), three cases (0.7%) of incidental carcinomas and other three cases (0.7%) of dysplasia. Eosinophilic carcinomas were detected in two cases (0.45%), gallbladder complete septum was found in one case, and one case of Phrygian cap anomaly. All patients with gallbladder carcinoma were diagnosed incidentally during the histopathological examination.

Samad reports an incidence of 1.1% of malignancy in patients who underwent cholecystectomy for presumed chronic cholecystitis with cholelithiasis.^[15]

CONCLUSION

The histopathological spectrum of gallbladder after cholecystectomy shows variation. Incidental diagnosis of carcinoma gallbladder is not rare, therefore routine histopathology of all cholecystectomy specimens should be performed.

REFERENCES

1. Ayyaz M, Waris M, Fahim F. Presentation and etiological factors of cancer gall bladder in patients undergoing cholecystectomies at Mayo Hospital, Lahore. *Ann King Edward Med Coll.* 2001; 7: 138-40.
2. Nawaz T, Khan R, Malik A, Anwar I, Younus M. Incidence of carcinoma gall bladder in cholelithiasis. *Pak J Surg.* 2000; 16 (3): 33-6.
3. Kumar A, Aggarwal S, Berry M, Sawhney S, Kapur BM, Bhargava S: Ultrasonography of carcinoma of the gallbladder: an analysis of 80 cases. *J Clin Ultrasound* 1990, 18(9):715-720.
4. Bazoua G, Hamza N, Lazim T. Do we need histology for a normal – looking gallbladder? *J hepato-biliary – pancreat Surg.* 2007; 14 (6): 564-8.
5. Hsieh J, Tsao W, Tang H, Hsu C, Wu K. Primary carcinoma of the gallbladder: a review of 10 years of experience at Tri-Service General Hospital. *Zhonghua yi xue za zhi. Chinese Med J; Free China ed.* 1993; 51 (3): 193-9.
6. Pradhan SB, Dali S. Relation between gallbladder neoplasm and Helicobacter hepaticus infection. *Kathmandu Univ Med J.* 2004; 2 (4): 331-5.
7. Channa NA, Soomro AM, Ghangro AB. Cholecystectomy is becoming an increasingly common operation in Hyderabad and adjoining areas. *Rawal Med J.* 2007; 32 (2): 128-30.
8. Ali SA, Tahir SM, Soomoro AG, Siddiqui AJ, Memon AS: Open cholecystectomy without intraperitoneal drainage. *J Ayub Med Coll Abbottabad* 2010, 22(2):29-31.
9. Laghari AA, Talpur KAH, Malik AM, Khan SA, Memon AI: Laparoscopic Cholecystectomy in complicated gallstone disease. *J Liaquat Uni Med Health Sci* 2008, 7(1):18-24.
10. Memon W, Khanzada TW, Samad A, Kumar B: Histopathology spectrum of gallbladder specimens after cholecystectomy. *Pak J Med Sci* 2011, 27(3):533-536.
11. Malik AM, Khan A, Sheikh U, Sheikh S, Laghari AA, Talpur KA: Changing spectrum of gallstone disease: an experience of 23 cases less than 10 years of age. *J Ayub Med Coll Abbottabad* 2008, 20(4):34-36.
12. Khan UA, Iqbal M, Aslam I, Gondal KM, Alam S. Importance of routine histopathology of gallbladder after elective cholecystectomy for gallstones. *Annals of King Edward Medical University.* 2016 May 21;22(2).
13. Siddiqui FG, Memon AA, Abro AH, Sasoli NA, Ahmad L. Routine histopathology of gallbladder after elective cholecystectomy for gallstones: waste of resources or a justified act?. *BMC surgery.* 2013 Dec;13(1):1-5.
14. Hasan A, Nafie K, Aldossary MY, Ismail A, Monazea K, Baheeg M, Rady K, Elhawary R, Ibrahim AA. Unexpected histopathology results following routine examination of cholecystectomy specimens: How big and how significant?. *Annals of Medicine and Surgery.* 2020 Dec 1;60:425-30.
15. Samad A. Gall bladder carcinoma in patients undergoing cholecystectomy for cholelithiasis. *J Pak Med Assoc.* 2005; 55 (11): 497.