



RETROSPECTIVE STUDY OF CHOLECYSTECTOMIES IN A TERTIARY CARE HOSPITAL FOR HISTOPATHOLOGICAL SPECTRUM OF GALL BLADDER DISEASES

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ABSTRACT

Background: Gallstone is the most common disease of the gallbladder. The prevalence of gallstone disease varies with age, sex and ethnic group. Laparoscopic cholecystectomy is the treatment of choice done routinely for gallstone disease. Usually, the diagnosis given in most of the cholecystectomy specimens is quite straight forward; that is, chronic cholecystitis. Very rarely cholecystectomy specimen may reveal an unexpected gallbladder carcinoma. **Methods:** This study is a hospital based retrospective study conducted in tertiary care hospital of Nagpur, Orange city hospital over a period of 5 years from 2017 to 2021. Clinical details and histopathology reports were obtained from surgery and pathology departments of hospital. Total 168 cholecystectomies were performed in 5 years. **Results:** During five year period 168 cholecystectomies were performed. Maximum number of patients were between 40-50 years (40.47%). There were 19% males and 81% females. Chronic cholecystitis was the predominant diagnosis (91%), followed by acute on chronic cholecystitis (4.7%), Gangrenous cholecystitis (2.3%) and adenocarcinoma of gall bladder (1.7%). **Conclusions:** Histopathological spectrum of gall bladder specimen is extremely variable with chronic cholecystitis is most common diagnosis and prevalent in middle age female gender. Incidence of carcinoma is 1.7% in our study. Despite advances in diagnostic and surgical modalities, gallbladder cancer is still characterized by late diagnosis and poor prognosis except when incidentally diagnosed at an early stage after cholecystectomy for cholelithiasis. Hence, the histopathological examination of every cholecystectomy specimen is of utmost importance

KEYWORDS : Cholecystitis, Gall bladder**INTRODUCTION**

Gallstone is the most common disease of the gallbladder. The prevalence of gallstone disease varies with age, sex and ethnic group. In India, gallstone disease is 7 times more common in the north as compared to the south.[1]. Gall stones affects 10 to 15% of adult population (2). Risk factors include female sex, increasing age, pregnancy, oral contraceptives, obesity, diabetes mellitus, ethnicity, rapid weight loss(3). Laparoscopic cholecystectomy is the treatment of choice done routinely for gallstone disease. Gallbladder is one of the most frequently received specimens in any histopathology laboratory. Usually, the diagnosis given in most of the cholecystectomy specimens is quite straight forward; that is chronic cholecystitis. However, other diverse, but benign histopathological changes of gallbladder mucosa are also seen. Very rarely cholecystectomy specimen may reveal an unexpected gallbladder carcinoma. It is a rare malignancy with overall poor prognosis especially if diagnosed late in the course of the disease. Hence, the histopathological examination of every cholecystectomy specimen is of utmost importance. The purpose of this study was to determine the histopathological pattern of gallbladder lesions in cholecystectomy specimens in a tertiary care hospital.

MATERIAL & METHODS

This study is a hospital based retrospective study conducted in tertiary care hospital of Nagpur, Orange city hospital, over a period of 5 years from 2017 to 2021. Clinical details and histopathology reports were obtained from surgery and pathology departments of hospital. Total 168 cholecystectomies were performed in 5 years. The files and histopathology reports were sorted out according to age, sex and histopathological diagnosis. Statistical analysis using percentage, frequency distribution was carried out on the data obtained.

RESULTS

During the five year period A total of 978 histopathology specimens were received in pathology laboratory out of which 168 were cholecystectomies. This represents the 17.17% of total histopathology specimens. The age of the patients ranged from 21 to 78 yrs. Mean age of was 46.5 years. Maximum number of patients were between 40 to 50 years (40.47%). There were 32 (19%) males and 136 (81%) females with M:F ratio of 1:4.2 (Table 1)

All cases were sorted out according to histological diagnosis (Table 2) Chronic cholecystitis was the predominant diagnosis and reported in 153 cases (91%). Acute on chronic cholecystitis were reported in 8 cases (4.7%). Gangrenous cholecystitis in 4 cases (2.3%). While 3 cases (1.7%) of adenocarcinoma of gall bladder reported. All cases of malignancy were diagnosed incidentally.

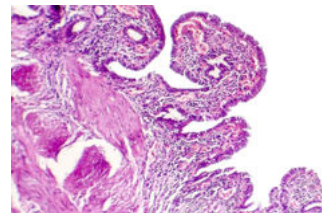
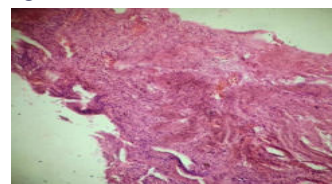
Acute on chronic cholecystitis reported in 6 female patients as compared to 2 male patients. While extensive gall bladder inflammation in the form of gangrenous cholecystitis was recorded in a significant number of male patients, 3 as compared to 1 female patient.

Table 1 (Age and sex data on Gall Bladder specimens)

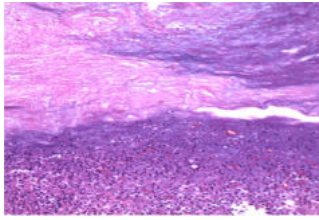
Age	Female	Male	Total	Percentage
20-30	08	3	11	6.5
30-40	12	3	15	8.9
40-50	63	5	68	40.4
50-60	30	10	40	23.8
60-70	13	9	22	13.0
70-80	10	2	12	7.1
Total	136	32	168	

Table 2 (Histoapthology data on Gall Bladder specimen)

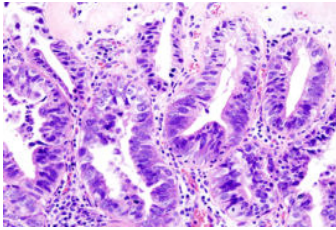
	Female	Male	Total	Percentage
Chronic Cholecystitis	127	26	153	91
Acute On Chronic	06	02	08	4.7
Gangrenous	01	03	04	2.3
Adenocarcinoma	02	01	03	1.7
Total	136	32	168	

**1. Partially opened gallbladder showing cholesterol gallstones.****2. Chronic cholecystitis, showing fibrosis and muscular hypertrophy of gallbladder wall.**

3. Acute on chronic cholecystitis with extensive ulceration of lining mucosa.



4. Microscopic image of gangrenous gallbladder



5. Gallbladder Adenocarcinoma

DISCUSSION

Histopathological features and incidence of gall bladder lesion varies depending on races, countries, and institutes. It is well known that gall bladder diseases affect more frequently women than men and is seen more frequently in middle aged population (4)

Gall stone disease is the most common surgical disorder requiring cholecystectomy. The estimated prevalence of the disease in India reported to be between 2 and 29 %, with the disease being 7 times more common in the north than in south India (1).

In our study the age of patients ranged from 21 to 78 years. Maximum patients in fourth decade of life. Most of the studies have same finding (4,5)

Male to Female ratio is 1:4.2, which is consistent with findings of other studies which have also shown female predominance (1,6,7). Female sex hormones and sedentary habits of most women in India expose them to factors that possibly promote the formation of gall stones and causing cholecystitis (1,5,8).

Incidence of chronic cholecystitis in our study is 91%, this correlates with most of the studies (4,9). Acute cholecystitis were reported in 4.7% of patients, overall 4-10% is reported by majority reports. (6,10)

Our study suggest male gender at more risk for severe cholecystitis. Extensive gall bladder inflammation in the form of gangrenous gall bladder is evident in male patients as compared to female patients, same findings documented in one study (11). The trend presented in this series warrant early surgical intervention in acute cholecystitis due to danger of gangrenous gall bladder inflammation.

There were 3 cases (1.7%) of carcinoma of gall bladder in our study. All of these were incidental findings with no radiological or pre-operative suspicion of malignancy. The incidence of gall bladder carcinoma diagnosed during or after laparoscopic cholecystectomy has been reported to be between 0.19 to 3.3% (12). Despite advances in diagnostic and surgical modalities, gall bladder cancer is still characterized by late diagnosis and poor prognosis, except when incidentally diagnosed at an early stage after cholecystectomy for cholelithiasis.

CONCLUSION

Histopathological spectrum of gallbladder specimen is extremely variable with chronic cholecystitis is most common diagnosis and prevalent in middle age female gender. The incidence of acute on chronic cholecystitis is more in female patients as compare to male patients. Gangrenous gall bladder is more common in middle age male patients. The male gender is at more risk for severe gallbladder inflammation. An early surgical intervention may be needed to prevent complications.

Incidence of carcinoma of gall bladder is 1.7% in our study. Despite advances in diagnostic and surgical modalities, gallbladder cancer is

still characterized by late diagnosis and poor prognosis except when incidentally diagnosed at an early stage after cholecystectomy for cholelithiasis. Hence, the histopathological examination of every cholecystectomy specimen is of utmost importance.

REFERENCES

- Mohan H, Punia RP, Dhawan SB, Ahal S, Sekhon MS. Morphological spectrum of gallstone disease in 1100 cholecystectomies in North India. *Indian J Surg* 2005;67:140-2.
- Laura M and Shaffer A E, Epidemiology of Gallbladder Disease: Cholelithiasis and Cancer. *Gut Liver*. 2012; 6(2): 172-87.
- Greenberger N.J., Paumgartner G (2012). Chapter 311. Diseases of the Gallbladder and Bile Ducts. In Longo D.L., Fauci A.S., Kasper D.L., Hauser S.L., Jameson J, Loscalzo J (Eds), *Harrison's Principles of Internal Medicine*, 18e. Retrieved November 08, 2014 from <http://accessmedicine.mhmedical.com.ucsf.idm.oclc.org/content.aspx?bookid=331&Sectionid=40727107>
- Tayeb M, Rauf F, Ahmad K, Khan FM. Is it necessary to submit grossly normal looking gall bladder specimens for histopathological examination? *Asian Pac J Cancer Prev*. 2015;16(4):1535-38.
- Tandon RK. Pathogenesis of gallstones in India. *Trop Gastroenterol* 1988;9:83-9.
- Zahrani IH, Mansoor I. Gallbladder pathologies and cholelithiasis. *Saudi Med J* 2001;22:885-9.
- Tyagi SP, Tyagi N, Maheshwari V, Ashraf SM, Sahoo P. Morphological changes in diseased gall bladder: A study of 415 cholecystectomies at Aligarh. *J Indian Med Assoc* 1992;90:178-81.
- Baig SJ, Biswas S, Das S, Basu K, Chattopadhyay G. Histopathological changes in gallbladder mucosa in cholelithiasis: Correlation with chemical composition of gallstones. *Trop Gastroenterol* 2002;23:25-7.
- Levy AD, Murakata LA, Rohrmann CA. Gallbladder carcinoma: Radiologic-pathologic correlation. *Radiographics*. 2001;21:29-31
- Weedon D. Diseases of the gallbladder. In: Mac Sween RM, Anthony PP, Scheuer PJ, Bun AD, Portman BC, editors. *Pathology of the Liver*. 3rd ed. New York: Churchill Livingstone; 1994. p. 513-34.
- Inui K, Yoshino J, Miyoshi H. Diagnosis of gallbladder tumors. *Intern Med* 2011, 50(11):1133-1136.
- Zhang WJ, Xu GF, Zou XP, Wang WB, Yu JC, Wu GZ, et al. Incidental gallbladder carcinoma diagnosed during or after laparoscopic cholecystectomy. *World J Surg* 2009; 33:2651-6.