

HISTOPATHOLOGICAL FINDINGS IN CHOLECYSTECTOMY SPECIMENS IN INDUSTRIAL POPULATION OF NORTHERN INDIA**Dr. Seema Chadha, Dr. Rakesh Kumar*, Dr. Shilpa Ruhela, Dr. Awantika Tiwari and Dr. Sanjeev Singhal**H.NO. 1754(2nd Floor), Sohanganj Gali, Kolhapur Road, Malkaganj, New Delhi-110007.***Corresponding Author: Dr. Rakesh Kumar**

H.NO.1754(2nd Floor), Sohanganj Gali, Kolhapur Road, Malkaganj, New Delhi-110007.

Article Received on 16/03/2020

Article Revised on 05/04/2020

Article Accepted on 26/04/2020

ABSTRACT

Background: Gallstone disease is commonly found requiring cholecystectomy. Different histopathological findings are seen in Gall bladder removed after cholecystectomy. They range from inflammatory- acute or chronic, metaplasia, dysplasia, benign hyperplasia and malignancies. The aim of our study was to see different histopathological findings in cholecystectomy specimens. **Material and Methods:** A retrospective study was conducted in our hospital from 2017 to 2018.413 cholecystectomy specimens received in our department were studied. The clinical data was retrieved from hospital records and histopathological findings were confirmed after examining the slides. **Results:** Total of 413 cases were examined consisting of 111males (26.87%) and 302 females (73.12%). Age varying between 13 to 84 years and mean age in our study was 48.04 years. The most common pathology was chronic cholecystitis seen in 369 cases (89.3%), acute cholecystitis in 19 cases (4.6%), metaplasia – pyloric and intestinal in 68 cases (16.46%) and also other variants of chronic cholecystitis. Malignancy was seen in 7 cases (1.6%). **Conclusion:** Our study showed wide spectrum of histopathological findings in gallstone disease ranging from benign to the presence of carcinoma in 7 cases(1.6%).

INTRODUCTION

Gallstone disease is most common disease of the biliary tract.^[1] The prevalence of gallstone disease varies with age, gender, ethnic group, environmental and dietary habits. In India, it is more common in Northern part of India than Southern India.^[2,3]

Cholecystectomy is the treatment for gallstones and gall bladder recurrent disease presently. Different histopathological findings are seen in cholecystectomy specimens the commonest being chronic cholecystitis. Other findings seen were acute cholecystitis, xanthogranulomatous cholecystitis, follicular cholecystitis, adenomyomatous hyperplasia, reactive atypia, dysplasia, metaplasia, cholesterosis, calcification and malignancy. Gallbladder cancer has highest incidence rates reported for females in Delhi (21.5/100000).^[3] Incidence among females is one of the highest in the world. Therefore the histopathological examination of cholecystectomy specimen is very important. The purpose of our study was to find histopathological findings of all cholecystectomy specimens received in our hospital.

MATERIAL AND METHODS

A retrospective study was conducted on 413 cholecystectomy specimens received in our department in year 2017 to2018. Clinical data was retrieved from hospital record and histopathological slides were

reviewed. Cholecystectomy specimen received in the laboratory were fixed in formalin the detailed grossing was done and sections were taken from fundus, body, neck and cystic lymph node, if present. In addition sections were taken from any abnormal area, thickening, ulceration or polyp. The sections 4-5µthick were cut and stained with H&E stain and studied under the microscope.

RESULTS

During our study 413 cholecystectomy slides were reviewed. The age of the patient in our study ranged from13 to 84 years. The mean age of patients was 48.04 years. There were111 males(26.87%) and females were 302(73.12%).[Table1]

Gallstones were found in 393 cases (95.15%) and no stones were found in 20 cases (4.84%). The most common clinical diagnosis was chronic cholecystitis. On ultrasound Malignancy was suspected in 5 cases and one case presented with gall bladder polyp.

All cases were examined and categorized into their microscopic pattern.Chronic cholecystitis was the most common finding found in 369 patients(89.34%), Acute cholecystitis is found in 19 cases(4.6%), Adenomyomatous hyperplasia is found in 4 cases(0.96%), follicular cholecystitis in 6 cases(1.45%),

Xantho granulomatous cole cystitis in 8 cases(1.9%) and Adenocarcinoma in 7 cases(1.69%).[Table2]

Other associated findings were cholesterolosis in 82 cases (19.8%), pyloric, intestinal metaplasia in 68 cases(16.46%), mild to moderate dysplasia in 26 cases(6.29%) and severe dysplasia in 1 case, associated calcification in 2 cases(0.48%). Cystic lymph node was seen in 56 cases (13.55%) out of which 54 cases showed reactive hyperplasia and metastatic lymph node were seen in 2 cases (0.48%). No lymph node was received in 357 cases (86.44%).

Table 1.

S. No.	Age Group	No. Of Cases
1.	11-20	19
2.	21-30	44
3.	31-40	53
4.	41-50	84
5.	51-60	143
6.	61-70	60
7.	71-80	09
8.	81-90	01
TOTAL		413

Table 2.

S no.	Histopathological Findings	No. of Cases
1	Chronic Cholecystitis	369
2	Acute Cholecystitis	19
3	Follicular Cholecystitis	06
4	Adenomyomatous Hyperplasia	04
5	Xanthogranulomatous Cholecystitis	08
6	Adenocarcinoma	7
TOTAL		413

DISCUSSION

Gallstone disease is the most common surgical disorder requiring cholecystectomy. The histopathological examination is required for diagnosis and deciding the future course of management of the patient. The estimated prevalence of gallstone disease in India is between 2%-29%. The disease is 7 times more common in Northern than Southern part of India.^[2] In our study the majority of patients were between mean age was 48.04(Table1). Age of patients in our study was higher than the results obtained by Khanna et al^[4], Tyagi et al,^[5] Singh et al,^[6] who reported the mean age of 42.5, 43.6 and 45.3.

In our study 73.2% of patients are females, female to male ratio is 2.7:1, in the other studies the higher number of females 85% are affected,^[7] and 86.54% in study by Mohan et al,^[2] Female sex hormones, sedentary lifestyle, reduced level of cholesterol reductase and increased level of HMG-CoA reductase with increase with age results in increased cholesterol secretion and saturation of bile.

Gallstones are present in majority of cases diagnosed as chronic cholecystitis which is the commonest finding in our study 89.34% comparable to other study 87% by Singh A et al,^[7] Acute on chronic cholecystitis was seen in 4.6% of cases which was comparable to studies from West,^[8] but it was slightly higher compared to other studies by Singh A et al⁷ 2%, and 2.7% in study by Khan S.^[9]

Associated findings of cholesterolosis was found in 19.8% cases which was higher than in other study 10% by Mohan et al,^[2] Xanthogranulomatous cholecystitis was seen in 1.9% cases in our study which was comparable to 2.3% in study by Mohan et al.^[2] Follicular cholecystitis was 1.45% which was comparable to above study.

Adenomyomatous hyperplasia is seen in 4 cases (0.96%)

Metaplasia (Pyloric, intestinal or both) is seen in 16.46% of cases which was comparable to study by Singh A et al^[7], Dysplasia ranged from mild to moderate in 26 cases (6.29%) to and severe dysplasia in one case.

Cystic lymph node was resected in 56 cases (13.55%) out of which 54 cases(13.07%) showed reactive hyperplasia and two showed metastasis(0.48%).

There were 7 cases(1.69%) of carcinoma in our study all of them were Adenocarcinoma comparable to study by Mohan et al^[2] (1.09%). The incidence of gallbladder carcinoma has been reported to be between 0.19% and 3.3%.^[10] Out of 7 cases five were males and two were females.

3 cases were T1stage, 2 cases each of T2 AND T3 Stage. The mean age of carcinoma was 56.4 years.

CONCLUSION

The histopathological findings in our study were quite diverse. The commonest was chronic cholecystitis which was associated with varied histopathological findings acute on chronic cholecystitis, cholesterolosis, adenomyomatous hyperplasia, metaplasia-pyloric, intestinal or both, dysplasia and carcinoma. Other variants of chronic cholecystitis were also seen like Xanthogranulomatous cholecystitis and follicular cholecystitis. The finding of incidental carcinoma in unsuspected cases reinforced the importance of histopathological examination of all cholecystectomy specimens.

REFERENCES

1. M, Lal & S, Raheja & Bhowmik, K.T. (2018). Carcinoma Gallbladder-Epidemiological Trends in a Tertiary Hospital in North India. Archives of Surgical Oncology. 04.10.4172/2471-2671.1000131.
2. Mohan H, Punia RP, Dhawan SB, Ahal S, Sekhon MS. Morphological spectrum of gallstone disease in

- 1100 cholecystectomies in North India. *Indian journal of surgery*, 2005 Jun 1; 67(3).
3. Sharma RK, Sonkar K, Sinha N, Rebala P, Albani AE, Behari A, Reddy DN, Farooqui A, Kapoor VK. Gallstones: a worldwide multifaceted disease and its correlations with gallbladder carcinoma. *PloS one*, 2016; 11(11).
 4. Khanna R, Chansuria R, Kumar M, Shukla HS. Histopathological changes in gall bladder due to stone disease. *Indian J Surg*, 2006; 68: 201-4.
 5. 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.
 6. Singh UR, Agarwal S, Misra K. Histopathological study of Xanthogranulomatous cholecystitis. *Indian J Med. Res*, 1989; 90: 285-8.
 7. Singh A, Singh G, Sharma Deepika. Histopathological changes in gallbladder mucosa associated with cholelithiasis. *Niger J Surg*, 2019; 25(1): 21-25.
 8. Weeden D. Diseases of gallbladder. In: Mac Sween RM, Anthony PP, Scheur PJ, Bun AD, Portman BC, editors. *Pathology of Liver*, 3rd.
 9. Khan S, Jetly S, Husain M. Spectrum of histopathological lesions in cholecystectomy specimens. A study of 360 cases at teaching hospital in South Delhi.
 10. Zhang WJ, Xu GF, Zou XP, Xang WB, Yu JC, Wu GZ et al. Incidental gall bladder carcinoma diagnosed during or after laproscopic cholecystectomy. *World J Surg*, 2009.