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NORTH INDIA BASED STUDY OF HISTOPATHOLOGICAL CHANGES IN GALLBLADDER OF CHOLELITHIASIS SPECIMENS

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Abstract:
Gallbladder stone is a very common disorder of the gall bladder. This disorder is known to produce histopathological changes in the gallbladder. Gallstone is predisposing factor for the development of the malignancy of the gallbladder.
Materials and Methods: This retrospective study was conducted on 100 cases of cholecystectomy specimens. All the specimens were collected from the Surgery Department and fixed in 10% formaline.All the specimen were examine both macroscopically and microscopically to observe if there any changes.
Results: This study has shown higher incidence of stones in the gall bladder in 3rd and 4th decade of life. This study has been compare and correlated with available literatures.
Conclusion: During the process of formation of gallstone, there will be pathological changes in the epithelium of gallbladder that may play an important role.
Key Words: cholecystitis, cholecystectomy, pathological changes, malignancy.

1. INTRODUCTION:

Gall bladder is a pear shaped organ attached to the posterior aspect of the right hepatic lobe. In adults it measures 10cm in length and 3-4 cm in width, the wall thickness is less than 1-2 mm. Gallstone disease affects 10-15% of the western population, with an annual incidence of 1 in 200[(1)]. Gall bladder is known for the formation of gall stone resulting. As result of cholecystitis there may be changes in mucosa of gall bladder such as hyperplasia, metaplasia, and malignancy. Cholelithiasis has been described as a disease of civilization.[(1)]

2. MATERIAL AND METHODS:

This study was conducted in Department Of Anatomy and Department of Pathology, Saraswati medical college Unnao. Gallbladder of 100 patients aged between 20 years to 60 years were obtained from Department of General Surgery Saraswati Medical College, Unnao, Lucknow. The specimens obtained were carefully washed with 0.15 N saline, then fixed into 10% formalin then processed for light microscopy. The sections were cut and stained in H & E stain for studying the general histology. Different histological findings were noted in cholelithiasis gallbladder which were compared with each other. The observations were noted in pre-designed proforma.

3. RESULTS:

Total 100 cholecystectomy specimen were received from surgery department. The age was from 20 to 60 years. About one fourth of the cases were between 21-30 (28%) & 31-40 years (28%) followed by 41-50 (23%) & >50 years (21%) (Table-1). Majority of the cases were females (85%) (Table-2).

GROSS FEATURE: Majority of the serosa was observed to be smooth (68%) followed by congested (32%), (Table-3). Majority of the serosa thickness was observed to be ≤2 mms (63%) (Table-4). Normal mucosa was in 48% of the cases followed by Hemorrhagic (26%), Atrophic (19%) and Necrosed (7%) (Table-5).

MICROSCOPIC FEATURE: Normal epithelium was seen in 9 specimen (9%), Atrophied (29%) was the most common microscopic findings (Table-6).

Table 1: Age distribution of the cases

Age in years	No. (n=100)	%
21-30	28	28.0
31-40	28	28.0
41-50	23	22.0
>50	21	22.0

Table 2: Gender distribution of the cases

Gender	No. (n=100)	%
Male	15	15.0
Female	85	85.0

Table 3: Distribution of the cases according to serosa

Serosa	No. (n=100)	%
Congested	32	32
Smooth	68	68

Table 4: Distribution of the cases according to serosa wall thickness

Wall thickness (mm)	No. (n=100)	%
≤2	63	63.0
>2	37	37.0

Table 5: Distribution of the cases according to gross changes in mucosa

Mucosa	No. (n=100)	%
Atrophic	19	19
Hemorrhagic	26	26
Necrosed	7	7
Normal	48	48

Table 6: Distribution of the cases according to microscopic findings

Microscopic findings	No. (n=100)	%
Normal epithelium	9	9
Atrophied	29	29
Dysplasia	4	4
Fibrosed	6	6
Hyperplasia	16	16
Intestinal metaplasia	3	3
Malignant	1	1
Pyloric Metaplasia	18	18
Ulcerated	14	14

4 DISCUSSION:

In the present study, about one fourth of the cases were between 21-30 & 31-40 years (28%) followed by 41-50 (23) & >50 years (21%). Almost similar to findings had been reported by Khan et al (2013)[2] in which the age of the patients ranged from 14 to 70 years. Maximum number of patients was in the third decade of their life. The average age of these patients in India is a decade younger than in the west (Tandon, 1988)[3]. The exact cause of this is not known although may be due to genetic predisposition.

Our study has shown the incidence more in female than in male, which is similar with findings of Zahrani and Mansoor [4]. Other studies have also shown female predominance among patients of gallstone disease. However, they have reported a slightly higher female to male ratio as compared to our study (Mohan et al, 2005;[5] Tyagi et al, 1992[6]). Female sex hormones and sedentary habits of most women in India expose them to factors that possibly promote the formation of gallstones (Tandon, 1988[3]; Baig et al, 2002[7]). Metaplasia (intestinal) was noted in three cases (3%), which is almost similar to a study from the middle-east (Zahrani and Mansoor, 2001)[4]. In our study Atrophied epithelial was the most frequent found in 29%. Epithelial hyperplasia was found in 16% Baidya et al showed 46.2% of hyperplasia in his study[8]

In the present study 63% of the gallbladders show wall thickness ≤ 2mms. This study similar to the Baidya et al, 2012[8]. In a study, the normal wall thickness was seen in 533 cases (72.8%). Increased wall thickness (>3 mm) was evident in 199 cases (27.2%)[5,2]. A prospective study by Srikanth *et al*[9]. showed gall bladder carcinoma in only 2 out of 60 (3.3%) cases of patients presenting with thickened gall bladder wall (>4 mm). only one case out of 100 showed Malignance wall thickness varied 4mm-6mm that is more similar with Silk YN et al [10]. Srikanth et al[8] found no statistically significant difference between the incidence of malignancy in patients with or without thick-walled gall bladder

5 CONCLUSIONS

The present study shows female predominance, where majority of patients were in 3rd and 4th

decade of life this indicate that cholecystitis is becoming common in younger age group. In this study normal epithelium were found in 12% and rest 88% showed the alteration of the epithelium. This alteration indicates a relationship between pathological changes of the epithelium of gall bladder and gall stone.

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