



Evaluation of Histopathological Changes in Gallbladder Mucosa in Relation to Gallstones with Duration

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ABSTRACT

Gallstone diseases are very common throughout the world including India. It is estimated that between 85% and 90% of patients who have gallstones remain asymptomatic and less than 20% chance to develop symptoms. There have risk of disease related complications such as acute cholecystitis, gallstone pancreatitis and choledocholithiasis. The present study was conducted on 100 patients of gallbladder diseases irrespective of gender aged between 11 to 65 years. Out of 100 patients cholecystectomy was carried out on 87 patients. 13 patients of gallbladder disease left the hospital before their full work-up. The histopathological evaluation revealed that 44 cases (50.57%) were having only chronic cholecystitis with cholelithiasis, 18 cases (20.69%) were of acute on chronic cholecystitis with cholelithiasis, 13 cases (14.94%) were of Chronic cholecystitis with cholelithiasis with Metaplasia of gallbladder mucosa, 9 cases (10.34%) were of Chronic cholecystitis with cholelithiasis with Dysplasia of gallbladder mucosa, 3 cases (3.45%) were of Chronic cholecystitis with cholelithiasis with Carcinoma gallbladder (Adenocarcinoma). Prophylactic cholecystectomy can be offered to patients having asymptomatic cholelithiasis as there is high incidence of gallstone related complications including carcinoma gallbladder.

KEYWORDS : cholecystitis, cholecystectomy, Carcinoma gallbladder (Adenocarcinoma)

Introduction

Gallstone diseases are very common throughout the world including India. In 1992, it was estimated that 10–15% of the adult population in USA had gallstones. In the U.K., the prevalence of gallstones at the time of death is estimated to be 17% and may be increasing (Russell, 2004)¹. Gallstones can be asymptomatic; it is estimated that between 85% and 90% of patients who have gallstones remain asymptomatic¹. Patients with asymptomatic gallstones have less than 20% chance of ever developing symptoms, and the risks associated with “prophylactic” operation outweigh the potential benefit of surgery in most patients^{2,3}.

Biliary colic is the common presentation of symptomatic gallstones. Biliary colic is typically a severe and episodic right upper abdominal or epigastric pain that often radiates to the back. Attacks frequently occur postprandially or awaken the patient from sleep. Once a patient begins to experience symptoms, there is a greater than 80% chance that she will continue to have symptoms. There is also a finite risk of disease related complications such as acute cholecystitis, gallstone pancreatitis and choledocholithiasis. Therefore, elective cholecystectomy is indicated after the first episode of typical biliary symptoms⁴. First described in 1882 by Langenbuch, open cholecystectomy (OC) has been the primary treatment of gallstone disease for most of the past century⁵. In the late 20th century, laparoscopic cholecystectomy was adopted rapidly around the world, and has subsequently been recognised as the new “gold standard” for the treatment of gallstone disease^{6,7}. In 1992, the National Institutes of Health (NIH)⁸ Consensus Development Conference stated that LC “provides a safe and effective treatment for most patients with symptomatic gallstones”. The purpose of this study is to assess the complication of the gallstone disease In Relation to Mucosal involvement with duration.

MATERIAL & METHOD: - Present study was conducted in the department of surgery, after approval of ethical committee. The present study was conducted on 100 patients of gallbladder diseases irrespective of gender aged between 11 to 65 years in the Department

of Surgery. Out of 100 patients cholecystectomy was carried out on 87 patients. 13 patients of gallbladder disease who did not turn up after admission in the hospital or who left the hospital before their full work-up were excluded. The admitted cases were thoroughly interrogated regarding the complaints related to the disease, duration of illness and also about any other associated disease (existing or past). The patients were examined for establishing provisional diagnosis. All these things were entered into a prescribed proforma. Then the patients were investigated biochemically and radiologically to establish final diagnosis of the disease and associated disease. Specific investigations like CT scan, ultrasound guided FNAC were done only when strongly indicated by the disease process. It has been tried to do histopathological examination of each and every specimen of cholecystectomy to know the associated histopathology of gallbladder mucosa.

RESULT: - The present study was conducted on 100 patients of gallbladder diseases irrespective of gender aged between 11 to 65 years in the Department of Surgery. Out of 100 patients, cholecystectomy was carried out on 87 patients and histopathological examination of each specimen was carried out and the results shown in Table no.1. that shows that out of 87 cholecystectomies performed, the histopathological evaluation revealed that 44 cases (50.57%) were having only chronic cholecystitis with cholelithiasis (Group-A). 18 cases (20.69%) were of acute on chronic cholecystitis with cholelithiasis (Group-B), 13 cases (14.94%) were of Chronic cholecystitis with cholelithiasis with Metaplasia of gallbladder mucosa (Group-C), 9 cases (10.34%) were of Chronic cholecystitis with cholelithiasis with Dysplasia of gallbladder mucosa (Group-D), 3 cases (3.45%) were of Chronic cholecystitis with cholelithiasis with Carcinoma gallbladder (Adenocarcinoma)- (Group-E). Table no. 2 shows that most cases of chronic cholecystitis presented either after 3 to 6 months of symptoms or after 1 year. All cases of carcinoma gallbladder presented within one year of symptoms.

TABLE No. 1:- Histopathology of cholecystectomy Speci-

mens of Gall Bladder (n= 87)

S. No.	Group	Histopathology	No.	Percent
1.	A	Only Chronic cholecystitis with cholelithiasis	44	50.57
2.	B	Acute on chronic cholecystitis with cholelithiasis	18	20.69
3.	C	Chronic cholecystitis with cholelithiasis with Metaplasia of gallbladder mucosa	13	14.94
4.	D	Chronic cholecystitis with cholelithiasis with Dysplasia of gallbladder mucosa	9	10.34
5.	E	Chronic cholecystitis with cholelithiasis with Carcinoma gallbladder (Adenocarcinoma)	3	3.45

TABLE No. 2:-Relation of Histopathology with Duration of Symptoms (Number of pts. & % of pts)

	Duration			
Histopathology of Group	up to 1 month	1-3 months	3-6 months	6 months and above
GroupA (n=44)	9(20.45%)	13(29.55%)	16(36.36%)	31(70.45%)
GroupB (n=18)	2(11.11%)	2(11.11%)	5(27.78%)	9(50.00%)
Group C (n=13)	1(7.69%)	2(15.38%)	4(30.77%)	6(46.15%)
Group D (n=9).	1(11.11%)	1(11.11%)	3(33.33%)	4(44.44%)
Group E (n=3).	0(0%)	0(0%)	1(33.33%)	2(66.67%)

DISCUSSION:- The present study was conducted on 100 patients of gallbladder diseases and Out of 100 patients, cholecystectomy was carried out on 87 patients and histopathological examination was done. Postcholecystectomy microscopic histopathological examination of 87 specimens of the gallbladder showed chronic cholecystitis

in 44 cases (50.57% of cholecystectomies); acute on chronic cholecystitis in the remaining 13 cases (14.94% of the cholecystectomies). 13 cases (14.94% of cholecystectomies) showed associated metaplasia of the gallbladder mucosa; 9 cases (10.34% of cholecystectomies) showed dysplasia of gallbladder mucosa; 3 cases (3.45% of the cholecystectomies) showed carcinoma gallbladder (adenocarcinoma). Khanna *et. al.* (2006)⁹ conducted a histopathological study of 140 consecutive gallbladders, electively resected for cholelithiasis. At microscopy, epithelial hyperplasia was observed in 83 (69%), antral metaplasia in 53 (16.5%), intestinal metaplasia in 22 (15.5%), dysplasia in 12 (8.5%) and carcinoma *in situ* in 1 specimen (0.7%). Cholelithiasis and even silent gallstones, which were asymptomatic, produced a series of epithelial pathological changes in the gallbladder mucosa, which could be precursor lesion of carcinoma gallbladder. These changes include hyperplasia, metaplasia and dysplasia. Coelho *et al* (1984)¹⁰ reported 77.4% incidence of chronic cholecystitis. Coelho observed 25% incidence of acute cholecystitis respectively, which was higher than incidence observed in the present study. Associated cholelithiasis among patients of carcinoma gallbladder was found in 89% by Gerst (1961)¹¹, 70% by Piehler and Crichlow (1978)¹², and 92% by Morrow *et. al.* (1983)¹³.

Conclusion Gallstone diseases are very common and its complications are not infrequent. Once a patient begins to experience symptoms, there is a greater chance that the patient will continue to have symptoms. There is also a finite risk of disease related complications such as acute cholecystitis, gallstone pancreatitis, mucocele, empyema, choledocholithiasis and carcinoma gallbladder. Therefore, elective cholecystectomy (open or laparoscopic depending upon the skills and facilities available) should be offered to all patients having symptomatic gallstone disease. Prophylactic cholecystectomy can be offered to patients having asymptomatic cholelithiasis as there is high incidence of gallstone related complications including carcinoma gallbladder.

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