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HISTOPATHOLOGICAL PATTERNS OF GALL BLADDER DISEASES WITH SPECIAL REFERENCE TO INCIDENTAL CASES: RETROSPECTIVE STUDY AT TERTIARY HEALTH CARE HOSPITAL IN RANCHI JHARKHAND INDIA.

Pathology

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ABSTRACT

Background: Cholecystectomy for gall bladder dieases is the most commonly performed surgical procedure world wide. Routine examination of the gall bladder after surgery throw up interesting possibilities including carcinoma. It is the endeavour of this study to quantify the various outcomes in a tertiary level hospital. Aim : To evaluate the different histopathological patterns of gall bladder diseases and their incidences, commonest age group and male: female ratio. 2) Special emphasis was given on cases with incidental(asymptomatic) gall bladder disease and their histopathological findings were noted.

Methods: A total of 187 cases of cholecystectomy specimens were studied to evaluate the histopathological patterns with special reference to incidental asymptomatic gall bladder diseases from January 2017 to December 2017. The cases were investigated and surgically treated .The specimens were fixed in 10% formalin and sent to the department of Pathology RIMS Ranchi from department of surgery. The age, sex and other hospital details were recorded. The specimens were examined grossly and processed routinely. Sections were stained with haematoxylin and eosin. The gross and microscopic findings examined and noted. The study was aimed at assessing the need for histopathological examination in all cholecystectomy specimens.

Results : In our study out of 187 cases of which 156 cases were female and 31 cases were male. The female:male ratio was 5.03:1 in our study. Age distribution showed 16 patients were below 20 years, youngest was 14 years old. Between 21-30 there were 43 patients, between 31-40 years 45 patients, between 41-50 years there were 47 patients, between 51-60 years 28 patients and above 60 years 08 patients. Nonneoplastic to neoplastic cases which is 92.5:1 and percentage of neoplastic cases is 1.06% in our study. Histomorphological variants of the 187 cases in our study showed that maximum cases were of chronic calculous cholecystits (151cases) followed by chronic cholecystitis with adenomyosis (17 cases). 1 case of incidental adenocarcinoma of gall bladder was detected out of 2 adenocarcinoma cases . Out of the 187 cases studied, 17 cases were diagnosed with incidental gall bladder disease during routine investigation for pregnancy, ureteric colic, dysfunctional uterine bleeding and incisional hernia. Out of this 17 cases 15 patients were female and 2 patients were male (ratio 7.5:1).

Conclusions: Our study strongly recommends routine histopathological examination of all cholecystectomy specimens for detection of various variants of chronic cholecystits and also of incidental Carcinoma of gall bladder which helps in their early treatment and good prognosis.

KEYWORDS

Chronic Calculous Cholecystits, Cholesterosis, Adenomyosis, Incidental Gall Bladder Disease, Adenocarcinoma Of Gall Bladder

INTRODUCTION

Gall bladder is a pear shaped sac attached to the posterior aspect of the right hepatic lobe. In adults it measures approx 08 cm in length and 3-4 cm in width whenfully distented[1] .The wall of the gall bladder is composed of three layers mucosa, muscularis and serosa. There is no muscularis mucosa or submucosa. Anatomically gall bladder is divided into three sections the fundus, body, neck[2]. Gallbladder is the organ which stores and concentrate bile and helps in digestion of fat[3]. Gallbladder is one of the organs having a wide spectrum of diseases ranging from congenital anomalies, calculi and its complications, non-inflammatory, inflammatory to the neoplastic lesions.

Histopathological variants of gall bladder diseases includes non neoplastic and neoplastic conditions. Non neoplastc conditions are chronic calculous cholecystitis, acute calculous cholecystitis, acute acalculous cholecystitis, eosinophilic cholecystitis, follicular cholecystitis, xanthogranulomatous cholecystitis, cholecystitis granuloma, ceroid granuloma. Benign tumor and tumor like conditions are cholesterol polyps, adenomatous hyperplasia, adenomyomatous hyperplasia, papillomas, adenomas, paraganglioma etc. Malignancies of gall bladder includes most commonly adenocarcinoma and rarely adenosquamous carcinomas, squamous cell carcinoma, small cell carcinoma and sarcomas. The current changes in lifestyles of individuals pertaining to indulgement in unhealthy fat rich food, lack of exercise, obesity and sedentary lifestyles have once again focused our attention to gallstones and diseases of gallbladder. Now a day a laparoscopic cholecystectomy is the treatment of choice and done routinely for gallstone diseases. It is difficult to diagnose distinctly benign and malignant lesions of gallbladder before surgery without histopathological examination[4]. Despite the concept by people that routine histopathology of cholecystectomy specimen plays a dismal role in the management of most patients[5], it plays an important role in clinicopathologic correlation of various lesions of gallbladder and helps in diagnosing premalignant conditions like carcinoma in situ and early carcinoma.

This is the reason that each and every specimen of cholecystectomy should be evaluated in the histopathology laboratory[6]. Cholecystitis associated with cholelithiasis is common disease particularly found in fertile and fatty females in their 4th and 5th decades of age. It can also affect both male and children. Common histopathological findings in chronic cholecystitis are thickening of wall, varying degrees of mononuclear and lymphocytic infiltration and fibrosis[7].

The aim of the study was to

1) Evaluate the different histopathological patterns of gall bladder diseases and their incidences, commonest age group and male: female ratio.
2) Special emphasis was given on cases with incidental(asymptomatic) gall bladder disease and their histopathological findings were noted.

METHODS

Our study was carried out in the Department of Pathology, RIMS Ranchi India, for a period of 1 year from January 2017 to December 2017. Total of 187 cholecystectomy specimens were studied out of which 17 cases had incidental gall bladder disease. The surgically resected specimens were fixed in 10% neutral buffered formalin and embedded in paraffin. For the cases without any gross abnormality standard three sections were taken including fundus, body and neck. In cases with any growth, irregularity in the wall, calcification, necrosis etc more sections were taken. Haematoxylin and eosin staining was done. Apart from this special stains like mucicarmine, PAS and IHC was done where necessary. The asymptomatic cases were separated and their histopathology findings were also noted.

RESULTS

TABLE 1 : Showing Age Distribution Of Gall Bladder Diseases

Age group	<20	21-30	31-40	41-50	51-60	>60	Total cases
No of cases	16	43	45	47	28	08	187

Table 1 shows age distribution of gall bladder of 187 cases.16 patients were below 20 years ,youngest was 14 years. Between 21-30 there were 43 patients, between 31- 40 years 45 patients, between 41-50 years there were 47 patients, The incidence of chronic calculous cholecystitis was found to be 151 cases (80.75%) with female preponderance. between 51-60 years 28 patients and above 60 years 08 patients. So the peak age incidence was between 41-50 years followed by 31-40 years.

TABLE 2: Showing Sex Distribution.

sex	No of cases	Percentage	Ratio (female: male)
Male	31	16.58%	5.03:1
Female	156	83.42%	

Table 2 shows sex distribution of 187 cases of which 156 cases were female and 31 cases were male. The Female: Male ratio was 5.03:1 in our study.

TABLE 3: Showing Ratio Of Neoplastic And Non Neoplastic Cases

Type of lesion	No of cases	Percentage	Ratio of non neoplastic : neoplastic
Non neoplastic	185	98.94%	92.5 : 1
Neoplastic	02	1.06	
Total	187	100%	

Table 3 shows ratio of non neoplastic to neoplastic cases which is 92.5: 1 and percentage of neoplastic cases is 1.06% in our study.

TABLE 4: Showing Histomorphological Variants Of Gall Bladder Diseases.

Histomorphological Variants	Number of Cases	Percentage
Chronic Calculous Cholecystitis	151	80.74%
Chronic Cholecystitis with adenomyosis	17	9.09%
Chronic Cholecystitis With Evidence Of Cholesterosis	04	2.13%
Acute calculous cholecystitis	03	1.6%
Acute acalculus cholecystitis	02	1.06%
Chronic Cholecystitis With Evidence Of Intestinal Metaplasia	01	0.53%
Chronic Cholecystitis with choledocal cyst	01	0.53%
Chronic Cholecystitis With reactive Lympadenitis	02	1.06%
Gall Bladder Shows Poor Presentation With Autolytic Changes And Features Of Chronic Cholecystitis	01	0.53%
Chronic Cholecystitis With Dysplastic Changes	03	1.6%
Adenocarcinoma Of Gall Bladder	02	1.06%
Total	187	100%

Table 4 shows histomorphological variants of the 187 cases in our study. Maximum cases were of chronic calculous cholecystits (151 cases) followed by chronic cholecystitis with adenomyosis (17 cases). 2 cases of adenocarcinoma were detected out of which 1 case was incidental adenocarcinoma of gall bladder. Out of the 187 cases studied, 17 cases were diagnosed with incidental gall bladder disease during routine investigation for pregnancy, ureteric colic, dysfunctional uterine bleeding and incisional hernia. Out of this 17 cases 15 patients were female and 2 patients were male (ratio 7.5:1).

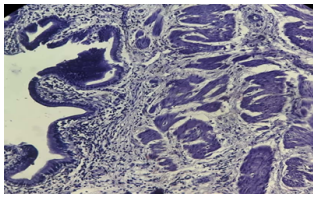

FIGURE 1 The Photomicrograph of chronic calculous cholecystitis

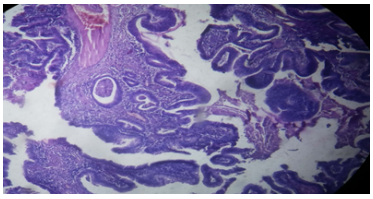

FIGURE 2 The photograph of Papillary adenocarcinoma gallbladder

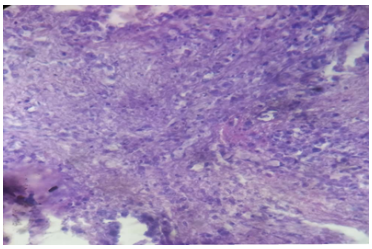

FIGURE 3 The photograph of poorly differentiated adenocarcinoma of gallbladder

DISCUSSION

Gall stone disease (cholelithiasis) is one of the most prevalent gastrointestinal diseases. Cholelithiasis is common with incidence ranging from 10% to 20% of world population. The estimated prevalence of gall stone disease in India has been reported as 2% to 9%.

Histopathology not only establishes a tissue diagnosis in gallstone disease but also contributes towards understanding its etiopathogenesis. It can also help in planning future treatment modality. Chronic cholecystitis is associated with premalignant lesions such as hyperplasia, metaplasia and dysplasia. Hyperplasia is a common pre neoplastic respose to stimulus. Microscopically cells resemble normal cells but are increased in numbers. In hyperplasia pseudo-stratification of epithelium occurs , nuclear crowding occurs, presence of tall columnar cells is there. The gallbladder epithelium is prone to various metaplastic changes, like intestinal metaplasia which lead to dysplasia sometimes. Metaplasia is the reversible replacement of one differentiated cell type with another mature differentiated cell type. Dysplasia is indicative of an early neoplastic process. In dysplasia cell maturation and differentiation are delayed. Epithelial dysplasia consist of an expansion of immature cells, with a corresponding decrease in the number and location of mature cells. In dysplasia there is pseudostratification of epithelium , nuclear crowding and disorganization of epithelium. Carcinoma of gall bladder is the most common malignancy of extrahepatic biliary tract. Carcinoma of gall bladder shows two patterns of growth : infiltrating and exophytic. Most carcinomas of gall bladder are adenocarcinomas. Some of the carcinomas are papillary in architecture and are well to moderately differentiated. others are infiltrative and poorly differentiated to undifferentiated. In our study of 187 cases, 151 cases of chronic calculous cholecystitis were detected with predominance of females. Similar findings were observed by Mondal et al[8] . In this study, females outnumbered males with female to male ratio of 5.03:1. Female predominance is also reported by similar studies[9,10]. Although there are myriad of premalignant conditions, carcinoma gallbladder has a strong association with gallstones[11]. The strong association between the two warrants attention paid to histopathology of specimen in all cases undergoing cholecystectomy for cholelithiasis, irrespective of presence or otherwise of any gross abnormalities. It is widely reported that long standing mucosal irritation by the stones cause atypical cellular changes and increased cellular proliferation. It has been hypothesized that in long standing cases, these areas of hyperplasia progress to metaplasia and carcinoma-in- situ[12]. Studies confirm presence of such changes in the vicinity of gallbladder carcinoma[13]. The incidence of malignancy in our study was 1.06%, which is similar to that reported by Khan AH[14]. Gallbladder cancer is the most common cause of death from biliary malignancies[15]. The incidence of gallbladder cancer is reported to be higher in certain geographic areas, like the Karachi to Kolkata belt in the Indian subcontinent[16-19].

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