

Endoscopic Findings of a Patient Having Cholelithiasis in SOMCH, Sylhet, Bangladesh

Mohammad Abdul Quadir^{1*}, Rezwana Mirza², Mirza Omar Beg³, Mirza Osman Beg⁴, Morshed Ali⁵, Choudhury Md. Anwar Sadat⁶, Prasen Kairi⁷

¹Assistant Professor, Department of Surgery, Sylhet MAG Osmani Medical College, Sylhet, Bangladesh

²Junior Consultant, Department of Obstetrics and Gynaecology, Sylhet MAG Osmani Medical College Hospital, Sylhet, Bangladesh

³Junior Consultant (Orthopaedic Surgery), Madhabpur Upazilla Health Complex, Madhabpur, Hobigonj, Bangladesh

⁴Associate Professor, Department of Orthopaedic Surgery, Northeast Medical College, Sylhet, Bangladesh

⁵Emergency Medical Officer, 250 Bedded General Hospital, Chottogram, Bangladesh

⁶Assistant Professor, Department of Surgery, Parkview Medical College, Sylhet, Bangladesh

⁷Registrar, Department of Surgery, Sylhet MAG Osmani Medical College Hospital, Sylhet, Bangladesh

Abstract: Introduction: Cholelithiasis is one of the most frequently encountered disease and one of the major causes of abdominal morbidity throughout world [1]. Cholelithiasis is one of the most common and costly of all digestive diseases. Common causes of upper abdominal symptoms are peptic ulcer, acute and chronic gastritis and gallstones. **Objective:** To assess the endoscopic findings of a patient having cholelithiasis in SOMCH. **Methods:** This was Retrospective Hospital based study conducted at Department of Surgery, Sylhet MAG Osmani Medical College Hospital, Sylhet, Bangladesh from January to December 2022 were (One hundred patients were included). All patients underwent OGD after being diagnosed as having cholelithiasis proved by Endoscopic. All patients above 18 years of age presenting with upper abdominal pain, dyspepsia with or without jaundice diagnosed ultrasonically as cholelithiasis and choledocholithiasis with cholelithiasis were included in the study and patients managed conservatively, patients with primary choledocholithiasis and with asymptomatic gallstones were excluded from the study. **Results:** Out of 100 subjects evaluated during the study period, 58 were females and 42 males. The most common age group affected was between 31-50 years (65%), followed by less than 30 years of age being 18% and more than 50 years being 17%. It should also be noted the higher rate of incidence (65%) in the age group of 31-50 years. Associated symptoms with cholelithiasis were pain in abdomen, which was observed in all the patients (100%). Of these, 74 patients (74%) presented with chronic upper abdominal pain and 26 patients (26%) presented with acute upper abdominal pain. Remaining 56% of the subjects had positive endoscopic findings. Endoscopic findings were positive in 56 had hiatus hernia, duodinitis, duodenal ulcer or other positive findings. Among patients with positive findings 14 had both oesophagitis as well as gastritis while 12 had both gastritis as well as gastric ulcer. All the 56 patients (100%) underwent surgery. Forty patients (71.4%) underwent laparoscopic cholecystectomy, 14 (25.0%) open cholecystectomy and 2 cholecystostomy for empyema gall bladder. Of the 56 patients 40 patients (71.4%) patient had chronic cholecystitis, 9 patients (16.07%) had acute cholecystitis, 4 patients (7.14%) had carcinoma gall bladder, 2 (3.57%) had xanthogranulomatous cholecystitis and 1(1.78%) had cholesterolosis of gallbladder. Of the 4 patients diagnosed of carcinoma gallbladder, 1 patient had carcinoma confined to muscularis mucosa with negative margins and no metastasis, hence no further surgical management was advised and the rest of the 3 patients had either metastasis or positive margins which were managed as per standard guidelines. **Conclusion:** Cholelithiasis is commonly seen in females in 4th and 5th decade mainly presenting with abdominal pain and dyspepsia. Endoscopy the most common finding was gastritis, oesophagitis and gastric ulcer in decreasing order. There was no hiatus hernia, duodinitis or duodenal ulcer in our study. Patients presenting with dyspepsia and gall-stones in rural setup should be directly treated surgically. Multiple gallstones are common and Laparoscopic cholecystectomy offers best surgical management with 6.57% of conversion rate to open cholecystectomy, with lesser complications.

Keywords: Endoscopy, Gall-stone disease, Dyspepsia.

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Research Paper

*Corresponding Author:

Mohammad Abdul Quadir
Assistant Professor, Department of
Surgery, Sylhet MAG Osmani
Medical College, Sylhet,
Bangladesh

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INTRODUCTION

Cholelithiasis is one of the most frequently encountered disease and one of the major causes of abdominal morbidity throughout world [1]. Cholelithiasis is one of the most common and costly of all digestive diseases. Common causes of upper abdominal symptoms are peptic ulcer, acute and chronic gastritis and gallstones. Incidence of gall stone disease is on a rise globally due to the vast changes in the dietary habits, life style changes associated with high junk diet consumption and increased sedentary life style [2, 3]. Its prevalence in Bangladesh is estimated to be around 2 to 28%, where it is most commonly prevalent in northern states as compared to southern states [4]. Symptomatic cholelithiasis patients usually present with right upper quadrant or epigastric pain which maybe colicky. Other symptoms include dyspepsia, flatulence, food intolerance, particularly to fats and some alteration in bowel frequency [5]. Attacks frequently occur postprandially or awaken the patient from sleep. Often times the postprandial pain maybe associated with meals that are high in fat content. Once a patient begins to experience symptoms, there is a greater than 80% chance that he or she will continue to have symptoms in the future or develop a complication. These complications may result from obstruction of the gallbladder outlet, causing acute cholecystitis, or migration of a stone into the common bile duct, causing cholangitis or pancreatitis [6]. Many problems have been associated with cholelithiasis including old age, obesity, diabetes mellitus, alcoholism, smoking and estrogen replacement therapy [7]. The natural history of asymptomatic gallstones suggests that a large number of affected individuals remain asymptomatic for life; only 1-4% per year will develop symptoms or complications of gallstones. Only 10% will develop symptoms or complications of gallstones. Only 10% will develop symptoms in the first five years after diagnosis and 20% 20 years after diagnosis. Almost all patients will experience symptoms for a period of time before they develop complications. None of the features, like number of stones, size, shape, nature, wall thickness, gallbladder contractility, patients gender or age, were found to be predictive of symptoms or complications like acute cholecystitis, obstructive jaundice, pancreatitis or gallbladder cancer [8].

MATERIALS & METHODS

This was Retrospective Hospital based study conducted at Department of Surgery, Sylhet MAG Osmani Medical College Hospital, Sylhet, Bangladesh from January to December 2022 were (One hundred patients were included). All patients underwent OGD after being diagnosed as having cholelithiasis proved by Endoscopic scan. All patients above 18 years of age presenting with upper abdominal pain, dyspepsia with or without jaundice diagnosed ultrasonically as cholelithiasis and choledocholithiasis with cholelithiasis were included in the study and patients managed conservatively, patients with primary choledocholithiasis and with asymptomatic gallstones were excluded from the study.

Baseline investigations of patients were done [haemogram, random blood sugar, liver function test, coagulation profile and sickling profile (immediate/delayed)]. Imaging studies like ultrasonography and MRCP (Magnetic resonance cholangiopancreatography) (Cholelithiasis with dilated CBD >7 mm; Raised alkaline phosphatase) were done. Using a proforma following study factors were studied and data recorded was entered into an excel sheet and analyzed using standard statistical methods. Descriptive statistics like mean and standard deviation were calculated to summarize continuous variable. Percentages were used to summarize categorical variables. Inferential statistics included tests of significance. Fischer's exact test was used for small sample size. P value <0.05 was considered statistically significant.

RESULTS

Out of 100 subjects evaluated during the study period, 58 were females and 42 males. The most common age group affected was between 31-50 years (65%), followed by less than 30 years of age being 18% and more than 50 years being 17%. It clearly shows a female preponderance (58%) among the patients admitted for cholelithiasis. It should also be noted the higher rate of incidence (65%) in the age group of 31-50 years (Table-1 & Fig-1).

Table-1: Age distribution of the patients (N=100)

Age	N	%
25-30 yrs	18	18%
31-50 yrs	65	65%
51-65 yrs	17	17%

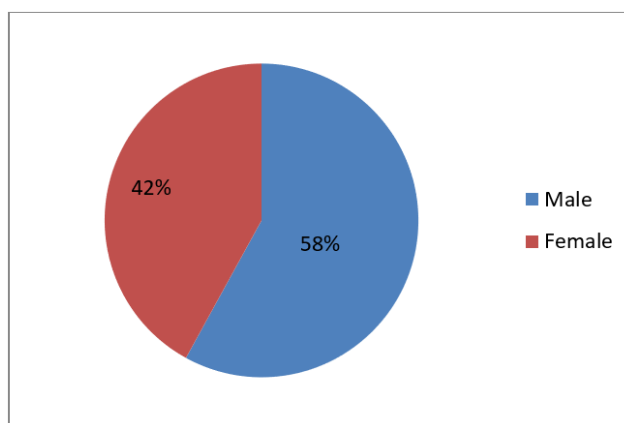


Fig-1: Sex distribution of the patients

Table 2: Clinical presentation in patients of cholelithiasis

Clinical presentation	N	%
Abdominal pain	100	100
Dyspepsia	62	62
Nausea	52	52
Vomiting	40	40
Fever	20	20
Jaundice	16	16
Pruritus	06	06

Associated symptoms with cholelithiasis were pain in abdomen, which was observed in all the patients (100%). Of these, 74 patients (74%) presented with chronic upper abdominal pain and 26 patients (26%) presented with acute upper abdominal pain. Other presentations were of dyspepsia, observed in 62 patients, followed by presentation of GI symptoms like nausea in

52 patients and vomiting in 40 patients. Fever was seen in 20 patients (20%), of which 4 patients had acute cholecystitis and 2 patients had empyema gall bladder. Jaundice was noticed in 16 patients (16%) of which 6 patients (6%) had pruritus and 13 patients had CBD calculus on ultrasonography (Table-2).

Table 3: Endoscopic findings in patients

Endoscopic findings	N	%
Hiatus hernia	0	00
Oesophagitis	14	25
Gastritis	28	50
Gastric ulcer	12	21.4
Duodinitis	02	3.5
Duodenal ulcer	0	0
Other findings	0	0

Out of the 100 subjects who underwent endoscopy, 44% of the cases were found to have normal mucosal study. Remaining 56% of the subjects had positive endoscopic findings. Endoscopic findings were positive in 56 had hiatus hernia, duodinitis, duodenal ulcer or other positive findings. Among patients with positive findings 14 had both oesophagitis as well as gastritis while 12 had both gastritis as well as gastric ulcer (Table-3). Thus, gastritis was most common

independently as well as in combination with other findings. The most common endoscopic finding was found to be Gastro-esophageal-reflux-disease (GERD) (n=28), followed by Gastroduodenal ulcer (n=15) and Gastro/Duodenitis (n=9). Other endoscopic findings were Hiatus Hernia (n=5), Gastric polyposis (n=3) and Oesophagitis (n=2). One subject had worm infestation on endoscopy.

Table 4: Operative management in patients of cholelithiasis

Surgery	N	%
Laparoscopic cholecystectomy	40	71.5
Open cholecystectomy	14	25.0
Laparoscopic cholecystostomy	2	3.5

All the 56 patients (100%) underwent surgery. Forty patients (71.4%) underwent laparoscopic cholecystectomy, 14 (25.0%) open cholecystectomy and 2 cholecystostomy for empyema gall bladder. CBD calculus was seen in 7 patients of which 4 had CBD exploration with open cholecystectomy and 3 had ERCP

guided stone removal followed by open or lap cholecystectomy and in one patient no stone was found on exploration. Of the 2 patients who underwent cholecystostomy, 1 died due to sepsis and another underwent an open cholecystectomy (Table-4).

Table 5: Comparison of postoperative complications in laparoscopic and open cholecystectomy patients

Complications	N	Laparoscopic	Open	p-value (Chi square test)
Post-operative fever	12	5/42-11.9	7/14-50.0	0.0004
Surgical site Biliary leak	06	3/42-7.14	3/14-21.4	0.0092
Biliary leak	02	0/42-0.00	2/14-14.2	0.0154

Bile leak was seen in 2 patients of open cholecystectomy group which were minor leaks that healed spontaneously while none were seen in lap cholecystectomy group. This difference of post operative complications observed in the laparoscopic and open approach was found to be statistically significant. Of the 56 patients 40 patients (71.4%) patient had chronic cholecystitis, 9 patients (16.07%) had acute cholecystitis, 4 patients (7.14%) had carcinoma gall bladder, 2 (3.57%) had xanthogranulomatous cholecystitis and 1(1.78%) had cholesterolosis of gallbladder. Of the 4 patients diagnosed of carcinoma gallbladder, 1 patient had carcinoma confined to muscularis mucosa with negative margins and no metastasis, hence no further surgical management was advised and the rest of the 3 patients had either metastasis or positive margins which were managed as per standard guidelines.

DISCUSSION

Cholelithiasis is most commonly prevalent in northern states as compared to southern states. In the present study the age of patients ranged from 17 to 72 years, with majority of the subjects falling in the age group of 30–50 years. The mean age of the patients was found to be 41.1 years. This agrees with the studies conducted by Khedkar *et al.*, and Kolla *et al.*, [2,3]. In their study, the mean age affected was 39.6 years and 38.6 years respectively. Out of 100 subjects studied, 42 were females and 58 males. This verifies the fact that gall bladder disease is more prevalent in males. However, the percentage of males being affected was slightly highest when compared to the studies conducted by Gadahire *et al.*, (males, 66.6%) and Sabitha *et al.*, (males, 67.5%) [4, 5]. Maximum patients were observed in 4th and 5th decade in present study, which is suggestive of early occurrence of gallstone disease in Bangladesh population. The decade of peak incidence in the present study is same for both genders but Selvi *et al.*, found the decade for peak incidence of cholelithiasis in females was 5th decade and 6th decade for males [9]. This difference indicates geographical variation with incidence of cholelithiasis. The present study observed the female preponderance with 68.88%. A study by Cirillo *et al.*, suggested a causal association between estrogen and gallstone disease indicating the cause of preponderance [10]. Pain in abdomen is the most

common presentation of cholelithiasis. In the present study all patients (100%) had pain, as it was an inclusion criterion. In the present study jaundice was seen in 17.4% and fever was seen in 21.4% which was more than that seen in the literature this difference may be due to small sample size [7,11]. Out of the 100 subjects who underwent endoscopy, 44% of the cases were found to have normal mucosal study. Remaining 56% of the subjects had positive endoscopic findings. Endoscopic findings were positive in 56 had hiatus hernia, duodinitis, duodenal ulcer or other positive findings. Among patients with positive findings 14 had both oesophagitis as well as gastritis while 12 had both gastritis as well as gastric ulcer. Thus, gastritis was most common independently as well as in combination with other findings. In the present study, although the number of patients with BMI >25 were 58.70% as compared to 41.30% of patients with normal BMI (<25), this difference was not statistically significant. A study by Shukrya Kamil Khalaf in 2016 stated that an increased BMI was independently associated with a higher risk of gallstones [12]. Similar findings were seen in the studies by Talseth, in Sweden, in 2016 and Stender in 2013 in which a causal association between elevated BMI and increased risk of symptomatic gallstone disease was seen [1,14]. But a study by Hui Sun *et al.*, stated that the causal association is gender specific and obese women are more significantly associated with gallstone disease compared to obese men [15]. All the 56 patients (100%) underwent surgery. Forty patients (71.4%) underwent laparoscopic cholecystectomy, 14 (25.0%) open cholecystectomy and 2 cholecystostomy for empyema gall bladder. CBD calculus was seen in 7 patients of which 4 had CBD exploration with open cholecystectomy and 3 had ERCP guided stone removal followed by open or lap cholecystectomy and in one patient no stone was found on exploration. Of the 2 patients who underwent cholecystostomy, 1 died due to sepsis and another underwent an open cholecystectomy. The percentage of patients who underwent CBD exploration with open cholecystectomy was 6.52% which was similar to that found in literature [6,16]. Also, the conversion rate found in the present study (6.57%) was similar to that found in literature [6,17]. Post-operative complications in the laparoscopic group and open cholecystectomy group were compared in the present study, it was observed that the complications like bile leak, surgical site infection

and fever were found more after the open cholecystectomy compared to the laparoscopic group and this difference was statistically different. These findings were similar to that found in studies by Barase *et al.*, and Rachamalla *et al.*, [16,18]. Histopathological evaluation was done in 54 patients (96.4%) of the 100 patients. 2 patients underwent cholecystostomy. Of the 56 patients 40 patients (71.4%) patient had chronic cholecystitis, 9 patients (16.07%) had acute cholecystitis, 4 patients (7.14%) had carcinoma gall bladder, 2 (3.57%) had xanthogranulomatous cholecystitis and 1(1.78%) had cholesterolosis of gallbladder. Of the 4 patients diagnosed of carcinoma gallbladder, 1 patient had carcinoma confined to muscularis mucosa with negative margins and no metastasis, hence no further surgical management was advised and the rest of the 3 patients had either metastasis or positive margins which were managed as per standard guidelines. Patients with gallstone disease who present with dyspepsia as at the end of 3 months postoperatively 99% patients were symptom free in our study and also to avoid unnecessary expenditure as for rural patients it is not economical because availability of endoscopy and endoscopist is not an easy affair in rural setups. Also, after operating patients were found to rid of at least one important cause of dyspepsia. And even if symptoms persist even after surgery now patient can be considered for upper GI endoscopy to rule out other causes of dyspepsia.

CONCLUSION

Cholelithiasis is commonly seen in females in 4th and 5th decade mainly presenting with abdominal pain and dyspepsia. Endoscopy the most common finding was gastritis, oesophagitis and gastric ulcer in decreasing order. There was no hiatus hernia, duodinitis or duodenal ulcer in our study. Patients presenting with dyspepsia and gall-stones in rural setup should be directly treated surgically. Multiple gallstones are common and Laparoscopic cholecystectomy offers best surgical management with 6.57% of conversion rate to open cholecystectomy, with lesser complications.

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