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Original Article

To Observe The Diversity Of The Clinical Presentation Of Chronic Calculus Cholecystitis

Jamal Abdul Naser[1], Shamima Jahan[2], Alamgir Hossain Sikder[3]

[1]Registrar, Department of Surgery, Dhaka National Medical College, Dhaka, Bangladesh. [2]Professor and Head, Department of Surgery, Dhaka National Medical College, Dhaka, Bangladesh [3]Associate Professor, Department of Surgery, Dhaka National Medical College, Dhaka, Bangladesh

Abstract

Background

Chronic calculus cholecystitis is an inflammatory disease which affects the gallbladder wall, accompanied by presence of gallstones in the gallbladder lumen, and reveals as biliary pain. Early and accurate diagnosis allows prompt treatment and reduces both morbidity and other complications.

Objectives

To observe the diversity of the demographic and clinical presentation of diagnosed chronic calculus cholecystitis.

Methods

This is a descriptive type of observational study which was conducted at department of Surgery, Dhaka National Medical College Hospital, over a period of 12 months from 6th December 2017 to 5th December 2018. Total 150 patients of chronic calculus cholecystitis with laboratory profile, ultrasonography proven in surgery department of Dhaka National Medical College Hospitals were included. Comparison was done by tabulation and graphical presentation in the form of tables, pie chart, bar diagrams etc.

Results

In this study, the maximum number of patients (33.33%) was between 31-40 year age group, mean age of the patient was 42.5 ± 12.94 years. Out of 150 cases (73%) cases were female and (27%) were male. Female–male ratio was 2.75:1. Large numbers of respondents came from urban area 93 (62%), followed by rural area 57 (38%). Total 54 patients were obese among them male 11(27.5%) and female 43 (39.09%). Overweight patient found 51 among them 13(32.5%) were male and 38(34.54%) were female. Nutritional status was normal in 32 patients. Maximum numbers of female patients 65 (59.09%) had history of taking oral contraceptive pill during their reproductive period. Large number of respondents were house wife (41.33%) followed by service holder (20%). Socioeconomically 77(51%) comprising the major percentage of the patients is in middle class, which is followed by poor class 46(31%) and remaining are upper class 27(18%). The highest percentage has complained of upper abdominal pain in 80%. Among them 40.66% (61/150) patients had dull aching type. Most of the patients had complaint of flatulent, dyspepsia 78.66% (118/150). Many patients also had complaints of fatty food intolerance 64.66% (97/150). Although 20% patient was asymptomatic.

Conclusion

Chronic calculus cholecystitis is a common problem in surgical practice. Patient may present with variable demographic presentation and upper abdominal pain along with flatulent, dyspepsia is the most common symptom. For early diagnosis accurate history taking, clinical examinations and investigations are vital.

Keywords: Chronic calculus cholecystitis, ultrasonography.

Introduction

Chronic calculus cholecystitis is one of the most frequent conditions requiring surgical attention and it is usually associated with multiple complications if left untreated. Chronic cholecystitis almost always arises in the setting of cholelithiasis. Patients may have a history of recurrent upper abdominal pain or biliary colic, although some patients may be asymptomatic. Microscopically, there is evidence of chronic inflammation within the gallbladder wall.[1] Factors that may increase the risk or susceptibility to gallbladder disease include gender, ethnicity, medical history, family history, and diet and nutrition.[2] Gallstones (cholelithiasis) are the most common cause of biliary

tract disease in adults, afflicting 20-30 million persons in North America. Approximately one-fifth of men and one-third of women will eventually develop cholelithiasis. In Canada, calculous disease of the biliary tract is also a major health hazard, accounting for about 130,000 admissions to hospital and 80,000 cholecystectomies annually.[3] Gallstones are hard, pebble-like structures that obstruct the cystic duct. The formation of gallstones is often preceded by the presence of biliary sludge, a viscous mixture of glycoproteins, calcium deposits, and cholesterol crystals in the gallbladder.[4] In the U.S., most gallstones consist largely of bile supersaturated with cholesterol.[5,6] This hypersaturation, which results from the cholesterol concentration being greater than its solubility percentage, is caused primarily by hypersecretion of cholesterol due to altered hepatic cholesterol metabolism.[5,7] A distorted balance between pronucleating (crystallization-promoting) and antinucleating (crystallization-inhibiting) proteins in the bile also can accelerate crystallization of cholesterol in the bile.[4-7] Mucin, a glycoprotein mixture secreted by biliary epithelial cells, has been documented as a pronucleating protein. It is the decreased degradation of mucin by lysosomal enzymes that is believed to promote the formation of cholesterol crystals.[7] Loss of gallbladder muscular-wall motility and excessive sphincteric contraction also are involved in gallstone formation.[5] This hypomotility leads to prolonged bile stasis (delayed gallbladder emptying), along with decreased reservoir function.[4,7] The lack of bile flow causes an accumulation of bile and an increased predisposition for stone formation.[4,5] Despite the availability of many imaging techniques to demonstrate the presence of gallstones, clinical judgment ultimately determines the association of symptoms with cholelithiasis and its complications.[8]

Materials & Methods

A hospital based descriptive type of observational study was conducted over a period of twelve months from 6th December 2017 to 5th December 2018 in the Department of Surgery, Dhaka National Medical College Hospital after obtaining requisite consent from the patients. Patients clinically diagnosed as chronic calculus cholecystitis with laboratory profile, Ultrasonography proven in surgery Department of Dhaka National Medical College Hospitals were enrolled for this study. The collected Data were intered into the computer and analyzed by using SPSS (version 20.1).

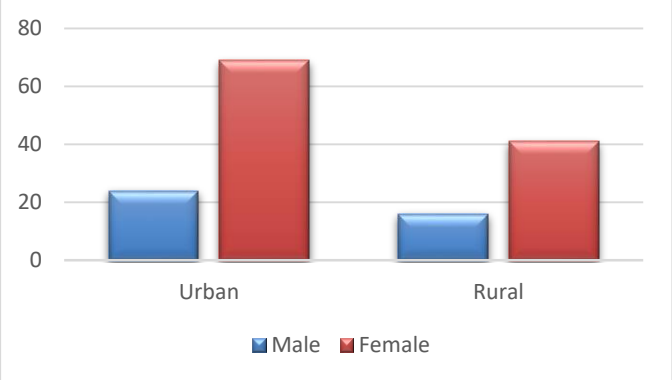
Results

Table-I: Age and sex distribution of the patients (n=150)

Age (years)	Frequency		Total
	Male (n= 40)	*Female (n= 110)*	
21-30	2(1.33%)	12(8.00%)	14(9.33%)
31-40	12(8.00%)	38(25.33%)	50(33.33%)
41-50	4(2.66%)	30(20.00%)	34(22.66%)
51-60	11(7.33%)	21(14.00%)	32(21.33%)
61-70	8(5.33%)	7(4.66%)	15(10.00%)
71-80	3(2.00%)	2(1.33%)	5(3.33%)

Maximum numbers of female patients 38(25.33%) were in age group between 31–40 years. Study shows that female patient was predominant.

Figure-I: Distribution of patients according to residence (n=150)



Large numbers of respondents came from urban area (93), followed by rural area (57).

Figure-II: Distribution of patient according to sex (n=150)

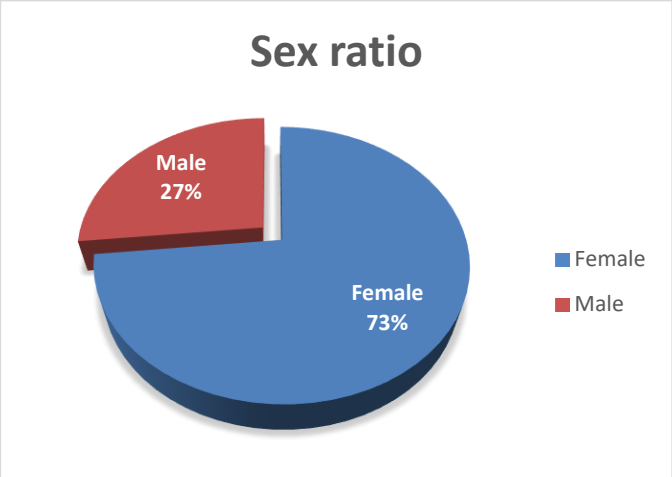


Table- II: Distribution of patients according to nutritional status (n=150)

Nutritional status BMI= weight in kg/height in meter^2	Male	Female	Total (n=150)
Underweight ≤ 18.4	2(5%)	11(7.33%)	13(8.66%)
Normal (18.5-24.9)	14(35%)	18(16.36%)	32(21.33%)
Overweight (25-29.9)	13(32.5%)	38(34.54%)	51(34%)
Obese ≥ 30	11(27.5%)	43(39.09%)	54(36%)
Total	**40**	**110**	

Total 54 patients were obese among them male 11(27.5%) and female 43 (39.09%). Overweight patient found 51 among them 13(32.5%) were male and 38(34.54%) were female. Nutritional status was normal in 32 patients.

Table- III: Distribution of the patients according to occupation category (n=150)

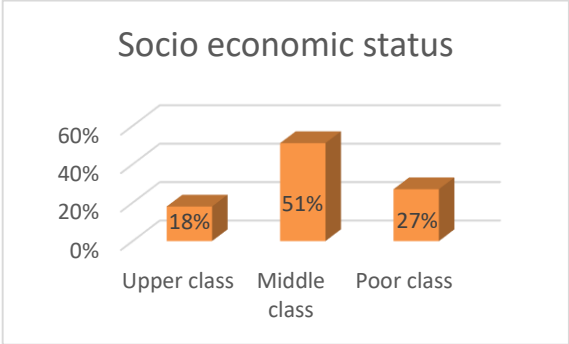
Occupation	Frequency	Percentage
Service holder	30	20.00
Business	21	14.00
Daily worker	17	11.33
House wife	62	41.33
Unemployed	15	10
Student	5	3.33

Large number of respondents were house wife (41.33%) followed by service holder (20%).

Figure- III: Distribution of female patient according to history of oral contraceptive pill taking

65 patients among 110 female had taken oral contraceptive period for variable duration

Figure- IV: Socioeconomic status of the study population (n=150)



Socioeconomically the middle class 77(51%) comprising the major percentage of the patients.

Table- IV: Distribution of patients by clinical presentation (n=150)

Symptoms/Sign:	Frequency	Percentage (%)
A. Symptoms:		
1. Asymptomatic:	30	20
2. Upper abdominal pain:	120	80%
Dull aching:	61	40.66%
Moderate colicky:	54	36%
Severe colicky:	05	3.33%
3. Fatty food intolerance:	97	64.66%
4. Flatulent, Dyspepsia:	118	78.66%
5. Fever:	10	6.66%
Low grade:	10	6.66%
High grade:	00	00
6. Jaundice:	00	00%
7.Itching:	00	00%
8. Anorexia:	03	2%
9.Weight loss:	00	00%
B. Signs:		
1.Tenderness at right upper quadrant:	17	11.33%
2.Palpable gall bladder / rt upper abdominal lump	00	00%

The highest percentage has complained of upper abdominal pain in 80%. Among them 40.66% (61/150) patients had dull aching type.

Discussion

In this study, the maximum number of patients (33.33%) was between 31-40 years age group, mean age of the patient was 42.5 ± 12.94 years. Out of 150 cases (73%) cases were female and (27%) were male. Female-male ratio was 2.75:1. Study shows that female patients predominant. Large number of respondents came from urban area 93 (62%). According to nutritional status of the patients, total 54 (36%) cases found obese. A study in Bangladesh, total 1,019 persons (316 males and 703 females) were examined. Age of them varied from 18 to 80 years with mean age of 37.22 years. Both male and females of age below 40 years were more affected. Gallstone disease was found more commonly among housewives and middle class people.[10] Another study in Bangladesh revealed out of 300 patients 254 (84.88%) were female (male: female = 1:5.52), age range 28 to 79 years.[11]In a study in Karachi, Pakistan nearly 85.4% of the participants were female. The mean ± S.D. for age was 43.8 ± 9.59. In that study, all of patients were from low socioeconomic status.[12] Gallstones and associated diseases were more common in women within 4th to 5th decade, with a maximum number of patients being 41 to 50 years.[11] Maximum number of female patients, 65 (59.09%) out of 110 had history of oral contraceptive pill taking for variable duration during their reproductive period. Significantly higher incidence of gallstones found in patient taking oral contraceptives than without contraceptives which is similar to a study conducted in Bangladesh.[13] There is increased association of gallstones in younger people (< 50 years old) with metabolic syndrome and obesity.[14]

In this study the highest percentage has complained of upper abdominal pain in 80%. Pain was dull aching type in 40.66% (61/150), moderate colicky in 36% (54/150) cases & 3.33% (5/150) had severe upper abdominal colicky pain. Most of the patients had complaint of flatulent, Dyspepsia 78.66% (118/150). Many patients also had complaints of fatty food intolerance 64.66% (97/150). Few patients had low grade fever 6.66% (10/150). On clinical examinations, tenderness at right upper quadrant was found in 11.3% (17/150). Although. Murphy's sign was negative in all patient. Liver wasn't palpable. Gallstones are present in approximately 8% of the population and many people have small gallstones without experiencing any symptoms. Only 10- 20% of these people will develop symptoms. The most common symptoms of gallstones and cholecystitis include: sudden severe pain in the upper part of your right abdomen, (biliary colic) just below the rib cage, pain that radiates to your right shoulder or back, pain that prevents you from breathing deeply, tenderness of your abdomen when it is palpitated. In cases where there is already inflammation of the gall bladder (cholecystitis) these additional symptoms might occur: nausea; vomiting; and/or fever.[15]

Conclusion

Chronic calculus cholecystitis is a common surgical problem and poses diagnostic and therapeutic challenge. It is more common among obese female housewives who had history taking oral contraceptives. Early diagnosis of chronic calculus cholecystitis is not always easy. Presentation may vary from asymptomatic to severe upper abdominal colicky pain. The decision to observe the patient until the diagnosis becomes obvious or to operate early to prevent unwanted complication represents a serious dilemma for surgeons.

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