

Incidence of Cholelithiasis in Different Age Group

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ABSTRACT

Objective: In this study our main goal is to evaluate the incidence of cholelithiasis in different age group.

Method: This prospective study was done at Department of Surgery, Rangpur Medical College Hospital Rangpur, Bangladesh from 1 July 2006 to 30 June 2008 where total 200 patients were evaluated, of which 48 patients were male and remaining 152 patients were female.

Results: In the study most of the patients were female 76% and 60.72% female patients took hormonal contraceptives. Also, 75% male patients had multiple stones whereas female had 71.71%.

Conclusion: From our study we can conclude that, cholelithiasis is the commonest disease of hepatobiliary system which is more common in female than male. In female the peak age group is 31-50 years where as in male it is 41-60 years. Various etiological factors are responsible for development of

cholelithiasis. Further study is needed for better outcome.

Keywords: Cholelithiasis, Hormonal Contraceptives, Hepatobiliary System.

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INTRODUCTION

Cholelithiasis is the most common disease of hepatobiliary system. In 1992, it was estimated that 10-15% of the adult population in the USA had gallstones (20 million people) and that 600000 underwent cholecystectomy.¹

Data on the prevalence of gallstones in the USA indicate that only 30% of people with Cholelithiasis come to surgery.²

The vast majority of subjects (more than 85%) are asymptomatic.¹ Every year about 2% (1-3%) of people develop gallstones and about 2% (1-3%) of people become symptomatic, usually biliary colic rather than one of the complications of gallstone diseases.^{2,3}

The incidence of gallstones rises with age, so that between 50 and 65 years of age about 20% of women and 5% of men are affected.²

In an Italian study, 20% of women had gallstones and 14% of men had gallstones. In a Danish study, gallstone prevalence in persons aged 30 years was 1.8% for men and 4.8% for women; gallstone prevalence in persons aged 60 years was 12.9% for men and 22.4% for women. But no age is immune. It is uncommon for children to form gallstones. Children with gallstones are more

likely to have congenital anomalies, biliary malformation and diseases or hemolytic diseases.³

Risk factors for gallstones include age, exogenous estrogen intake, obesity, frequent fasting, rapid weight loss, lack of physical activity, diabetes mellitus, diseases associated with increased hemolysis (eg; sickle cell disease), cirrhosis and certain medications (eg; octreotide, estrogen, fibrates).³

Diagnosis of gallstones has become much more easier now a days because of introduction of various improved investigative tools and techniques. These include Ultrasonography, Contrast Radiography, Endoscopic Retrograde Cholangiopancreatography (ERCP), Magnetic Resonance Cholangiopancreatography (MRCP), Percutaneous Transhepatic Cholangiography (PTC), Computed Tomography (CT) etc. Of this Ultrasonography has really revolutionized the diagnosis of gallstones as it is noninvasive and easily available and diagnostic accuracy is high. The approach to the patients with suspected gallstones should be based on presenting symptoms and the presumed nature of the disorder. The knowledge of incidence and pattern of various gall

bladder diseases enables the clinicians to assess the patients and to provide appropriate and rational management.^{2,3}

In this study our main objective is to evaluate the incidence of cholelithiasis in different age group.

OBJECTIVE

General Objective

- To assess the incidence of cholelithiasis in different age group.

Specific Objective

- To detect parity distribution of female patients.
- To evaluate operative findings of the patients.

METHODOLOGY

Type of Study

Prospective study.

Place of Study

Department of Surgery, Rangpur Medical College Hospital Rangpur, Bangladesh.

Study Period

1 July 2006 to 30 June 2008.

Study Population

Eligible subjects were those of any age group and either sex who were admitted with suspected gall stone disease.

Sampling Technique

Purposive

Sample Size

Total 200 patients, of whom 48 patients were male and remaining 152 patients were female.

Inclusion Criteria

Those patients admitted in surgery Department, of Rangpur Medical College Hospital who were diagnosed as suffering from gall stone disease by ultrasonography in above mentioned period.

Exclusion Criteria

Those patients suffering from stone disease in duct system.

Research Instrument

The study was conducted with written structured questionnaire.

Data Collection

On admission detailed history, examination and relevant investigations were done and finally the diagnosis was confirmed by ultrasonography of hepatobiliary system and pancreas.

Data Analysis

The collected data are cleaned, edited and analyzed by using computer based SPSS (statistical package for social science). The analysis of patient demographics and baseline outcome variables were summarized using descriptive summary measures: expressed as mean for numerical variables and percent for categorical variable.

RESULTS

In table-1 shows age distribution of the patients where in male 41-50 years age group was very common where as in female, most of the patients belongs to 31-40 years age group.

In figure-1 shows gender distribution of the patients where most of the patients where female 76%. In table-2 shows demographic profile of the patients where most of the female patients took hormonal contraceptives. In figure-2 shows clinical presentation of the patients where most of the patients in both male and female suffered colicky right upper quadrant or epigastric pain among

others. In table-3 shows physical examination of the patients where Gall bladder was not palpable in 95.5% patients.

In figure-3 shows ultrasonography outcome of the patients where 75% male patients had multiple stones whereas female had 71.71%.

In table-4 shows operative findings of the patients where in male pigment stone was found 81.25% and Cholesterol and mixed stone was 18.75%.

Table 1: Age distribution of the patients

Age group (Year)	Male, %	Female, %
1-10	2.08	0.63
11-20	2.08	1.31
21-30	4.16	17.10
31-40	16.66	49.34
41-50	43.75	21.05
51-60	20.83	7.23
61-70	8.33	2.63
>71	2.08	0.65

Table 2: Demographic profile of the patients

Variable	%
Parity distributions of female patients	
Primi gravida	12.5%
2 nd pregnancy	49.34%
>2	31.75%
Nulliparous	6.75%
Hormonal contraceptives	
Yes	60.72%
No	39.47%
Socio economic status	
No paying bed	62%
Paying bed	27.5%
Cabin	10.5%

Table 3: Physical examination of the patients

Variable	%
Right hypochondriac tenderness	
Present	79%
Absent	21%
Gall bladder	
Palpable	4.5%
Not Palpable	95.5%
Murphy's sign	
Positive	18.5%
Negative	81.5%

Table 4: Operative findings of the patients

Variable	Male,%	Female,%
Pigment stone	81.25%	78.94%
Cholesterol and mixed stone	18.75%	21.05%

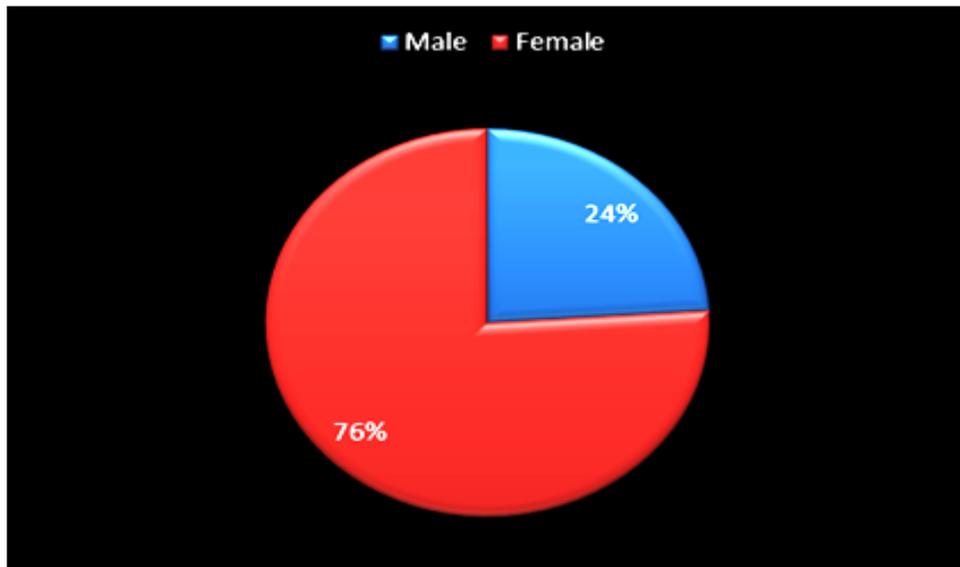


Figure 1: Gender distribution of the patients.

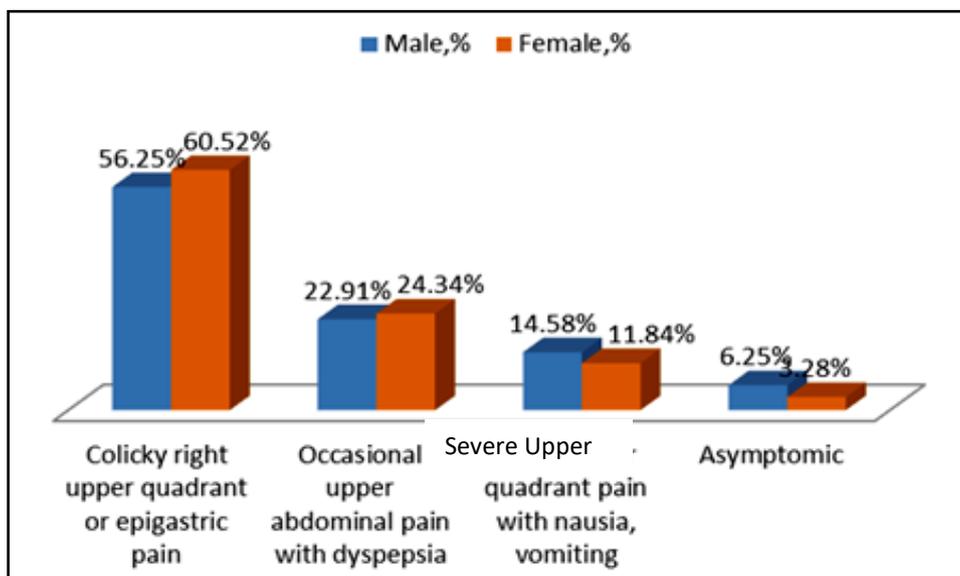


Figure 2: Clinical presentation of the patients.

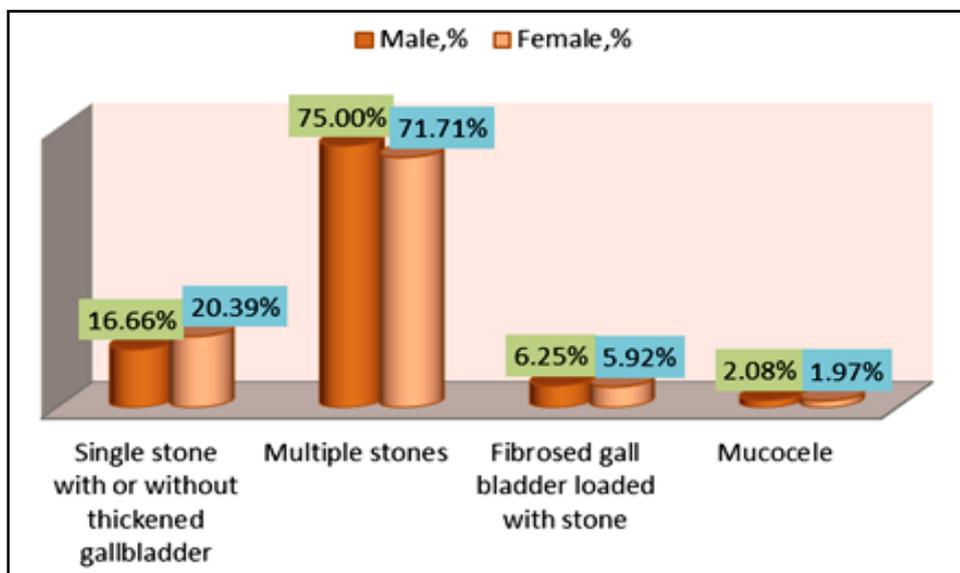


Figure 3: Ultrasonography outcome of the patients.

DISCUSSION

Cholelithiasis is the commonest hepatobiliary disease but often doesn't give rise to symptoms. Pain arising from the gall bladder may be typical of biliary colic-but variety of atypical presentations can make the diagnosis challenging.

The number of gall bladder diseases has markedly increased in the recent years. Whether the increase is really an increase in incidence of the disease or it is the increase in reporting of the disease due to ultrasonography is still a matter of debate.⁴

Regarding age incidence out of total 200 patients admitted in Department of Surgery of Rangpur Medical College Hospital, Rangpur during the period of July 1, 2006 to June 30, 2008, only 48 patients were male and the remaining 152 patients were female with a male to female ratio of 1:3.16. This study almost coincides with the study done in Hyderabad and adjoining areas of Pakistan in 2004, where the ratio of incidence of cholelithiasis in male and female was 1:3.3. In this study the peak age group was 30-59 years where the incidence of cholelithiasis in male and female were 60% and 70.68% respectively.⁵

In this study the peak age group was 41-60 years in male and 31-50 years in female where the incidence of cholelithiasis were 64.58% and 70.39% respectively. It was clearly seen that no age group was immune from cholelithiasis. But its incidence increased with increasing the age up to certain limit. This study also showed that in both gender, hospitalization of patients for cholelithiasis were rare upto 20 years of age and increased significantly with increasing age in both sexes though the peak age incidence in either sex differs from each other.

In this study, in male the peak age incidence was between 41-60 years age group and in female was between 31-50 years of age. This age specific prevalence of cholelithiasis differed a little with the study done by one study.⁶ Where in another report showed the gall stone prevalence in persons aged 30 years was 1.8% for male and 4.8% for female; in persons aged 60 years the prevalence was 12.9% for male and 22.9% for female.⁵ But the observation was almost similar to the study done by another report.⁷ The earlier peak age incidence of cholelithiasis in female in this study coincided with some other studies that indicated that the modern hormonal contraceptives may be associated with an increased risk of gall stone disease in young women.⁸

It is to be confessed that, most of the patients in this study were not sure of their actual age and so approximate age had been recorded. Obviously further studies are required to express a definite opinion in this regard. Although in literatures the epidemiology of cholelithiasis suggests association of cholelithiasis with several factors, only a few are conclusively linked. Among the suggested risk factors there is possibly role of obesity, dietary habits, genetics, ethnicity and serum cholesterol.⁹ In this study, in female patients, association between cholelithiasis and fertility was clearly seen. About 80.92% of patients had two or more offspring. Another strong association between cholelithiasis and hormonal contraceptives was detected. About 60.52% female patients had a history of use of hormonal contraceptives in different routes.

Regarding socioeconomic status, majority of patients (62%) were admitted in non-paying bed, 27.5% patients in paying bed and only 10.5% patients were in cabin block. From this observation it was postulated that the incidence of cholelithiasis is more common in low income group population.

Clinically majority of patients-56.25% of male and 60.52% of female presented with colicky right upper quadrant or epigastric pain. Only 8 patients were asymptomatic. Remainder presented with occasional upper abdominal pain with dyspepsia and severe upper quadrant pain with nausea and vomiting.

Ultrasonography study suggested multiple stones were more common in our community. The incidences of multiple stones were 75% in male and 71.71% in female.

After cholecystectomy each and every gall bladder was explored and stones were examined on the basis of necked eye colour and shape. Pigment stones were found in 159 patients which represented 79.5% whereas cholesterols and mixed stones in 41 patients representing 20.5%. In Asian countries the incidence of pigment stone is 80%.¹ The result of this study was very much close to it.

CONCLUSION

Cholelithiasis is the commonest disease of hepatobiliary system. It is more common in female than male. In female the peak age group is 31-50 years where as in male it is 41-60 years. Various etiological factors are responsible for development of cholelithiasis. Further study is needed for better outcome.

REFERENCES

1. RCG Russell. The Gall bladder and Bile Ducts. In: RCG Russell, Norman S. William & Christopher J.K. Bulstrode. Bailey and Love's short practice of surgery. 24th ed. 2004; 1093-1113
2. Gerard M. Doherty, Lawrence W. Way Biliary tract. In: Gerard M. Doherty, Lawrence W. Way. Current surgical diagnosis and treatment. 12th ed. New York. Lange Medical Book/McGraw Hill; 2006; 573-601.
3. <http://www.emedicine.com/emerg/byname/cholelithiasis.htm>.
4. Tyagi SP, Tyagi N, Maheshwari V, Ashraf SM, Sahoo P, Morphological changes in diseased gall bladder : a study of 415 cholecystectomies at Aligarh. J Ind Med Assoc 1992; 90:178-81.
5. Chiang W. K., Lee F.M, Santen S. Cholelithiasis: e Medicine Emergency medicine. Dec 29. 2008.
6. Williams PL, Warwick R, Dyson M, Banister LH: Gray's Anatomy 37th ed. London: Churchill Livingstone; 1989; 1385-95.
7. Naseem A. Channa, Fateh D, Khand, Muhammad I Bhangar and Muhammad H Leghari: Surgical incidence of cholelithiasis in Hyderabad and adjoining areas (Pakistan) - Pak. J. of Med. Sci. 2004; 20(1): 13-17.
8. Cuschieri S.A. Disorder of biliary tract. In: Cuschieri S.A, Steele RJC, Moosa AR: Essential in surgical practice. 4th ed. London: Arnold Publishers; 2002; 375-449.
9. Heaton KW. The sweet road of gall stone. Br. Med J. 1984; 235(1): 288.

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