

Comparative Study of Clinical Profile in Patients with Solitary versus Multiple Gall Stone

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ABSTRACT

BACKGROUND: Gallstones represent a major health problem across the world.¹ In the United States the prevalence is about 10% and increasing up to 30% in advance age people.² Its Prevalence in Islamic Republic Pakistan is around 15 to 20 %.³

OBJECTIVE: Aim of our study is to assess the differences in clinical presentation between single and multiple gallstones.

DESIGN: Comparative study.

SETTING: This study was conducted at surgical department of Liaquat University Hospital Jamshoro, Sindh, Pakistan.

DURATION: 1st Feb 2010 to 31st January 2014.

SAMPLE SIZE: Total one hundred patients.

METHODOLOGY: All sonographically diagnosed patients of gallstones admitted into the ward. Clinical presentation like signs, symptoms and preoperative ultrasound findings of all patients were noted on predesigned performa, than after all necessary preoperative workup patients fit for surgery underwent cholecystectomy under elective conditions. The gallbladder was incised and the gallstones were exposed. The number of stones (single or multiple) in each gallbladder was recorded and on this basis all patients were divided into two groups. Group "A" labeled as a single stone and group "B" multiple stone.

RESULTS: The age range from 20 to 70 years, mean age was 44±5.5 years. Incidence of disease is about five times higher in female than males (80% female, 20% male). 80% of patients had multiple stones, 20% patients had single stones. Majority of patients of group "A" has colicky type of pain and located in right upper quadrant and majority of group "B" patients has dull pain and located in Epigastrium. Other clinical symptoms like dyspepsia, vomiting and fever have no major difference in both groups. Sonographic findings are also almost same in both groups.

CONCLUSION: It is concluded from our study that the clinical and Sonographic presentation is almost same in both groups, except site and type of pain.

KEY WORDS: Gall stones, clinical presentation, solitary, multiple.

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INTRODUCTION

Gallstones represent a major health problem within the world.^[1] In the United States and Europe the prevalence is about 10% to 18 %, and it increasing up to 30% in advance age peoples.^[2]Its Prevalence in Islamic Republic Pakistan is around 15 to 20 %.^[3] Gallstones can be divided into three main types: cholesterol, pigment (brown/black) or mixed stones.^[4]In the USA and Europe, 80% are cholesterol or mixed stones, whereas in Asia, 80% are pigment stones. Patients typically complain of right upper quadrant or epigastric pain, which may radiate to the back. This may be described as colicky, but more often is dull

and constant. Other symptoms include dyspepsia, flatulence, food intolerance, particularly to fats, and some alteration in bowel frequency. Biliary colic is typically present in 10–25% of patients.^[4] Mofti AB et al ^[5] reported solitary gallbladder stone is associated with increased risks of developing mucocele, empyema, gallbladder perforation and postoperative complications more than multiple stones. Jalali SA et al ^[6] also reported in his study that prognosis of solitary stones is worse than multiple gallstones. However in spite of the common concept that all types of cholelithiasis have fairly similar clinical signs and symptoms, above two studies goes in contradiction so to verify this clinical assumption, our study conducted

and reviewed 100 patients which underwent cholecystectomy with the diagnosis of gall stones in a four year period at Liaquat university Hospital.

SUBJECTS AND METHODS

Design: It is a comparative study.

Place: Surgical Unit-I, Liaquat University Hospital Jamshoro, Sindh, Pakistan.

Duration: From 1st Feb 2010 to 31st January 2014.

Sample size: 100 patients, 50 in each group.

Inclusion criteria:

Patients of any age and either gender with gall stones, had approval for general anesthesia and consented for the study.

Exclusion criteria:

Patients unfit for general anesthesia, pregnant ladies and those having suspicion of carcinoma gall bladder, acute pancreatitis, obstructive jaundice and acute cholecystitis were excluded.

Data collection and analysis:

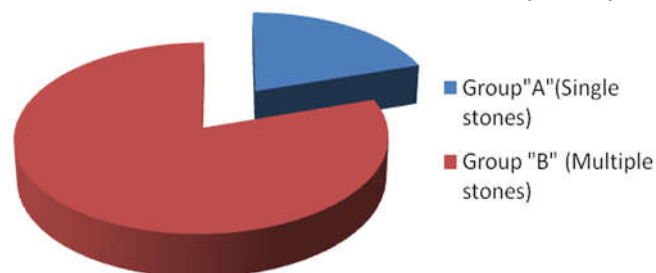
All sonographically diagnosed patients of gallstone admitted into the ward. Clinical presentation like pain, vomiting, dyspepsia, fever and preoperative ultrasound findings of all patients were noted on predesigned performa, than after all necessary preoperative workup patients fit for surgery are underwent cholecystectomy under elective conditions. The gallbladder was incised and the gallstones were exposed. The number of stones (single or multiple) in each gallbladder was recorded and on this basis all patients were divided into two groups. Group "A" labeled as a single stone and group "B" multiple stone and clinical presentation of both groups was compared and analyzed. Data analyzed through SPSS software version 20.0, Mean and standard deviation was calculated for quantitative variables like age. Frequency and percentages was computed for qualitative variables like gender. The comparisons of number of stones with clinical presentation are analyzed by student t-test or Chi-square test, A p value of <0.05 was considered significant.

RESULTS

The age range from 20 to 70 years, mean age was 44 ± 5.5 years. Mean age of group "A" (single stone) was 30 ± 6.4 years and group "B" (multiple stones) was 47 ± 8.2 years. In group "A" 5(25%) were male and 15 (75%) were female. making male to female ratio of 1:5. In group "B" 15(19%) were male and 65 (81 %) were female with male to female ratio of 1:4.3 (Table I). 80% of patients had multiple stones 20% patients had single stones. (Chart I). Incidence of disease is about five times higher in female than males (80% female and 20% males). Site and nature of pain was different in both groups, in group "A" 12(60%) of pa-

tients has pain only at right hypochondrium, 3(15%) had only at epigastrium and 5 (25%) had at both. Where as in group "B" 20 (25%) of patients has pain only at right hypochondrium, 30 (37.5%) had only at epigastrium and 30 (37.5%) had at both. In group "A" 15 (75%) patients presents with colicky type of pain and 5 (25%) has dull/constant pain. While in group "B" 60 (75%) patients has dull constant pain and 20 (25%) had colicky type pain. Other symptoms like dyspepsia in 10 (50%) patients, vomiting in 9 (45%) patients and fever in 1(5%) patients seen in group "A", and in group "B" dyspepsia seen in 40 (50%) patients, vomiting in 35 (44%) patients and fever in 5 (6%) patients. Preoperative ultrasound findings are also quite different in both groups, number of stones found 20 (20%) in group "A", and 80 (80%) in group "B". Status of Gallbladder in group "A" was thick wall gallbladder in 5 (25%) patients, contracted gallbladder in 5 (25%) patients, adhesions around the gallbladder in 3 (15%) patients and stone impaction at the neck seen in 3 (15%) patients 10% patients has empyemia and 6% mucocele. Where as in group B thick wall gallbladder seen in 30 (37.5%), adhesions around the gallbladder seen in 20 (25%) cases, contracted gallbladder found in 15 (18.7%) and 15 (18.7%) cases had stone impacted at the neck. 6% patients has empyemia and 6% mucocele.

CHART I:
NUMBER OF STONES IN TWO GROUPS (n=100)



DISCUSSION

Gallstones are major health problem around the world.¹Prevalence in U.S.A, Europe is about 10% to 18 %, and it increases up to 30% in advance age peoples.²In present study age ranged from 20 to 70 years, mean age \pm SD was 44 ± 5.59 , this is comparable with a study Channa et al^[07] reported age ranged between 27 and 80 years, mean age \pm SD was 45.95 ± 10.253 . Reshetnyak^[08] reporting the mean age 45 years in females and 49 years in males ($p=0.189$). Khan SA et al^[09] reported it between ages of 19 and 74 years with a mean age of 42.80 ± 12.26 years. In present study 20 % was male and 80% was female making male to female ratio 1:4. This is in sharp contrast to low ratio of males (6.4%) reported by Idris SA et al^[10] while

**TABLE I:
COMPARISONS OF DEMOGRAPHIC & CLINICAL PRESENTATION OF PATIENTS IN TWO GROUPS**

Variables		Groups		Total (%)	t. test
		A No: (%)	B No: (%)		
Mean age ±(SD) years		30±6.4	47±(8.2)	44±(10)	.000
Gender	Male	5 (25)	15 (19)	20 (20)	.000
	Female	15 (75)	65 (81)	80 (80)	.000
Clinical presentations					
Site of Pain	RHC	12 (60)	20 (25)	(30)	.029
	Epigastrium	3 (15)	30(37.5)	(35)	.299
	RHC + Epig	5 (25)	30(37.5)	(35)	.299
Nature of pain	Colicky	15 (75)	20 (25)	(30)	.000
	Dull/constant	5 (25)	60 (75)	(70)	.000
Nausea + vomiting		9 (45)	35 (44)	(44)	.853
Dyspepsia		10 (50)	40 (50)	(50)	.376
Fever		1 (5)	5 (6)	(06)	.675
Ultrasound findings					
Number of stones (single/multiple)		20 (20)	80 (80)	(100)	.000
Stone impacted at neck of GB Thick wall GB Empyema Mucocele Contracted GB Adhesions around GB		03 (15)	15 (19)	(18)	.004
		05 (25)	20 (25)	(36)	.001
		02 (10)	05 (06)	(00)	.004
		02 (10)	05 (06)	(00)	.004
		05 (25)	15 (19)	(21)	.053
		03 (15)	20 (25)	(25)	1.00

ratio of male in present study is in agreement (22.9%) with that reported by Sebahattin Ç et al^[11]. While Aslam et al^[12] has reported it a little high ratio of males (26.4%) when compared to present study (20%). In current study 80% of patients had multiple stones and 20% patients had single stones. Jenkins PJ et al^[13] reporting (64.9%) were multiple stones, while (35.1%) were solitary. Sebahattin Ç et al^[11] reporting multiple in (66.1%) and single in (33.9%) patients. Aslam et al^[12] reporting (84.5%) had multiple stones while (15.4%) had single stones. Jalali SA et al^[6] reporting the incidence of multiple stones was higher than the single stones (69%Vs.31%). Mofti AB et al^[5] reporting 11.56% solitary stones and remaining 89.44% had multiple.

In present study site and type of pain was different in both groups, in group “A” (60%) of patients has pain only at right hypochondrium that was colicky in nature,

whereas in group “B” majority of patients 75% has pain both in epigastrium and right hypochondrium and nature of pain was dull constant, other symptoms like dyspepsia, vomiting and fever were identically distributed in both groups. Jalali SA et al^[6] reporting that pain in group II (multiple stone) patients was mostly constant and located in epigastrium; but the pain in group A (single stone) patients was mostly located in right upper quadrant and was colicky in nature. Mofti AB et al^[5] reporting pain of solitary gallstones mostly was colicky and found at upper right quadrant, and pain of multiple stones usually was dull and found at epigastrium.

Sonographic findings in current study are also almost same in both groups, thick wall gallbladder (25%), contracted gallbladder (25%), adhesions around the gallbladder (15%), stone impaction in the neck (15%), 6% mucocele and 6% empyemia in group “A”.

Where as in group B thick wall gallbladder (25%), adhesions around the gallbladder (25%), contracted gallbladder (18.7%), (18.7%) had stone impacted at the neck, 6% mucocele and 6% empyema. Mofti AB et al^[5] reporting the frequency of developing adhesions around the gallbladder, wall thickness, mucocele, empyema, gallbladder perforation and postoperative complications were significantly higher in the group with solitary stones than those with multiple gallstones. Jalali SA et al^[6] reporting incidence of developing gallbladder changes like adhesions, wall thickness, mucocele, empyema, perforation were significantly found in group with solitary stones and those with multiple gallstones.

CONCLUSIONS

It is concluded from our study that clinical presentation in both groups is almost same except site and type of pain.

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