

A Prospective Study on Comparison between Multiple Gall Stone versus Single Gall Stone Disease in A Tertiary Care Center

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Abstract:

Introduction: Cholelithiasis is the most common benign gall bladder pathology. In recent times, the cases of cholelithiasis are on rise, and cholelithiasis is commonest indication for major surgical intervention among abdominal pathologies.

Methods: A comparative type of prospective study with 46 subjects with cholelithiasis for a period of 6 months from September 2022 to March 2023 in a tertiary care centre. The aim was to compare the variation in the symptoms at the presentation, intra operative findings and difficulties in laparoscopy in case of single gall stone disease and multiple gall stone disease.

Results: Incidence is common in the age distribution of 40-50 yrs mostly of female gender. Complications of cholelithiasis and difficulties in cholecystectomies are common in multiple stones.

Conclusion: Severe symptoms, complications and difficulties during surgery are seen in multiple gall stone disease compared to single stone disease. These patients should be taken for early cholecystectomy even when incidentally found after thorough motivation and they should not be subjected to conservative management.

Keywords: Comparative Study, Prospective Study, Gall Stone Disease, Cholecystectomy.

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Introduction

Gallstones are the commonest benign biliary pathology. It is estimated that gallstones affect 10–15% of the population in western countries. Gallstones are asymptomatic in the majority of cases (>80%). Approximately 1–2% per year will develop symptoms requiring surgery, making cholecystectomy one of the most common operations performed.

Gallstones are being increasingly detected incidentally during imaging for other symptoms. Prophylactic cholecystectomy is not usually indicated since the risk of developing serious complications is low. Gallstones can be divided into three main types: cholesterol, pigment (brown/black) and mixed stones. In parts of Asia 80% are pigment stones. Cholesterol or mixed stones contain 50–99% pure cholesterol plus an admixture of calcium salts, bile acids, bile pigments and phospholipids.

If symptoms occur, patients typically complain of right upper quadrant or epigastric pain, with radiation to back. This may be described as colicky but the typical biliary ‘colic’ more often is dull, continuous, and severe, lasting for several minutes or even hours, with associated nausea and vomiting.

A patient may present with several such episodes over a few weeks and then no symptoms at all for few months. This may culminate in a contracted non-functioning gallbladder resulting in chronic calculous cholecystitis.

Aims and Objectives

To compare the variation in the symptoms at the presentation, intra operative findings and difficulties in laparoscopy in case of single gall stone disease and multiple gall stone disease.

Patients and Methods

This study is a comparative type of prospective study with 46 subjects with cholelithiasis for a

period of 6 months from September 2022 to March 2023 in a tertiary care centre.

The subjects were divided into 2 groups of 23 each group 1 with single gall stone disease group 2 with multiple gall stones disease.

Inclusion Criteria

- Patients with symptomatic gall stone disease
- Patients with asymptomatic gallstone disease incidentally diagnosed on USG
- Age more than 18 years

Exclusion Criteria

- Pregnant females
- Age group less than 18 years
- Diagnosed cases on CBD stones
- Seropositive patients
- Subjects who did not give consent

The patients are evaluated in the OPD and emergency department and detailed case history elicited and thorough abdominal examination is performed. Laboratory investigations like CBP, total leucocyte count, DLC, RBS, Blood Urea, Serum Creatinine, Total Bilirubin, AST, ALT, ALP, viral markers are performed. ECG, CXR, was performed.

Ultrasound abdomen (USG abdomen) was performed for studying the type, size, number of gall stones, thickness of GB wall, common bile duct for stones and calibre, IHBRD and other findings. Computed axial tomography (CT scan) was done only when it is indicated, MRI scan done when necessary. After necessary work up, patients are divided into two sets. Set A with single gallstone disease and Set B with multiple stones in GB.

Results

In the two sets, incidence among female patients in age distribution 41-50 yrs is much common. Both sets of patients presented with right upper quadrant tenderness, fever which are relatively more in set A, dyspepsia and icterus are more in set B.

Complications of cholelithiasis as seen in ultrasound abdomen like cholecystitis, gangrenous cholecystitis, GB perforation, empyema GB are common in multiple gall stone than single gall stone pts.

Set B had difficulty in cholecystectomies compared to Set A based on findings noted intra operatively.

Table 1: Gender distribution

Gender	Set A	Set B
Male	11	9
Female	12	14

Table 2: Age distribution

Age of patient (years)	No. of the patients In set A	No. of the patients In set B
19-20	0	0
21-30	1	1
31-40	3	4
41-50	9	11
51-60	4	5
61-70	3	2
71-80	2	0
81-90	1	0

Table 3: Symptoms at the time of presentation

Symptom	No. of the patients In set A	No. of the patients In set B
RUQ pain	21	20
Nausea/vomiting	3	2
Fever	6	4
Dyspepsia	2	8

Table 4: Findings intra operatively

Finding	No. of the patients In set A	No. of the patients In set B
GB distension	18	23
GB contraction	2	1
Gangrenous GB	-	4
Adhesion	6	8
Aspiration		
bile	10	19
white bile	4	2

pus	2	4
Thickness of GB wall	6	10
Mucosal oedema	4	1
Lap to open conversion	-	1

Table 5: Difficult laparoscopy

Time	No. of the patients In set A	No. of the patients In set B
Calot's dissection to GB removal (>45 minutes)	2	3
time taken for total surgery (>1hour)	8	19

Conclusion

Multiple stones in GB have severe symptoms with higher intensity, more complications and difficult cholecystectomy compared to single stone. So, patients with multiple gall stones must be educated about the intensity of the disease. They should be taken up for early surgical intervention even when incidentally found after thorough motivation. They should not be kept on conservative treatment. They should also be counselled regarding intra operative, immediate post-op complications and laparoscopy to open procedure conversion along with prolonged stay in the hospital.

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