Original Research Article

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Comparative study of single versus multiple gallstone disease in KGH, Visakhapatnam

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ABSTRACT

Objective: To evaluate the differences in the presentation, their operative implications and difficulties of single stone versus multiple gall stone disease.

Methods: This is a prospective study of a minimum of 60 patients with gall stone disease (Group 1-single, Group 2-multiple) from January 2019 to December 2019 in KGH, Visakhapatnam.

Results: More common in females, 40-50 years symptoms and complications, TC count difficult cholecystectomies were more in multiple gall stone pts.

Conclusion: Multiple gall stones have led to more severe symptoms and complications and difficult surgery. should be motivated for early surgery even in incidental finding and should not opt for conservative management.

Keywords: Single versus multiple gallstones, Laparoscopic, Open cholecystectomy

INTRODUCTION

Gallstone disease is considered a benign disease. In modern era, the incidence of gall stones is increasing, and gallstones is the most common indication for major abdominal surgeries. Verma GR et al, found that adhesions are amongst the common reasons for open conversion of laparoscopic cholecystectomy.1 Suleiman et al evaluate 692 consecutive patients undergoing cholecystectomy of whom 80 had single stone.² Only about 30% asymptomatic patients need surgery in their life-time. So, knowledge a Kanaan et al, found that Laparoscopic cholecystectomy (LC) has become the treatment of choice for symptomatic gallstones.3 Zhang et al, said although LC is the gold standard in the treatment for cholelithiasis.⁴ Prophylactic cholecystectomy is justified only high suspicion of life.² They found that developing mucocele, empyema gall bladder perforation and post-operative complication were

more common in patients with solitary stone Gabriel et al, found that sixty one (26.1%) LC required conversion.⁵

In the present study we would evaluate the differences in the presentation of single stone versus multiple stone disease and their operative findings and difficulties.

Aim

To evaluate the differences in the presentation, their operative implications and difficulties of single stone versus multiple gall stone disease.

METHODS

This is a prospective study of a minimum of 60 patients with gall stone disease (Group-1 single, Group-2 multiple)

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from January 2019 to December 2019 in KGH, Visakhapatnam.

Inclusion criteria

The inclusion criteria for the study was as follows: patients with symptomatic gall stones diagnosed pre-operatively by ultrasonography, asymptomatic patients diagnosed with gall stones during ultrasonography for other conditions and patient irrespective of age groups were included.

Exclusion criteria

The exclusion criteria for the study was as follows: pregnant females and patients who did not consent for the study.

The patients will be evaluated either in the Out-patient department (OPD) or emergency as the case may be a detailed history will be taken.

Laboratory investigations will be done as follows: Hemoglobin % (Hg), Total leucocyte count (TLC), Differential count, Random blood sugar (RBS), serum urea and creatinine, Chest X-ray (CXR), Electrocardiography (ECG), serum electrolytes, Liver function test (LFT), serum bilirubin total, serum bilirubin, serum alkaline phosphate, serum amylase, Hepatitis B antigen (HBsAg), Human immunodeficiency virus (HIV).

Ultrasonography of abdomen (USG) was done to study the nature, number, size of the gall stones, gall bladder wall thickness, CBD, intra hepatic biliary radicals status, any other relevant findings.

Computed tomography (CT) scan as and when indicated will be done, magnetic resonance imaging (MRI).

Following this, patients will be divided into two groups.

RESULTS

In both groups, female incidence, 41-50 years age group is more common. Both groups presented with abdominal tenderness (RUQ), fever more in group-1, dyspepsia more in group-2 and icterus more in group-2.

Complications of gall stones as suggested by USG of abdomen like cholecystitis, gangrenous cholecystitis, gallbladder perforation, empyema of gallbladder were more in multiple than single stone patients. Group II had difficult cholecystectomies based on the above timings noted intraoperatively.

Table 1: Sex distribution.

Sex	Group I	Group II
Male	15	12
Female	15	18

Table 2: Age distribution.

Age (in years)	Group I (number of patients)	Group II (number of patients)
19-20	-	1
21-30	5	3
31-40	4	5
41-50	10	12
51-60	5	6
61-70	4	3
71-80	1	-
81-90	1	-

Table 3: Symptom distribution.

Symptoms	Number of patients Group I	Number of patients Group II
RUQ pain	27	28
Nausea/vomiting	2	3
Fever	8	5
Dyspepsia	3	10
Others	2	4

Table 4: Signs distribution.

Signs	Number of patients Group I	Number of patients Group II
Abdominal tenderness	21	30
Icterus	2	4
Mass	-	-

Table 5: Total leukocyte count.

Total count	Group I	Group II
4000-8000	12	14
8000-12000	13	11
12000-16000	4	6
>16000	1	3

Table 6: Liver function test.

Parameters	Group I	Group II
Total bilirubin (>1)	6	13
Direct bilirubin (0.2)	3	14
SGOT (>45)	5	8
SGPT (>45)	5	9
Alkaline phosphate (>120)	4	11

Table 7: Ultrasonographic findings.

Parameters	Number of patients Group I	Number of patients Group II
Gall bladder distension	23	30
Gall bladder contraction	-	1
Gangrenous gall bladder	-	1
Mucosal thickening	7	12
Mucosal edema	5	2
Pericholecystic fluid	-	-
IHBR Dilatation	1	-
CBD Dilatation	-	-

Table 8: Operative findings.

Operative findings	Number of patients Group I	Number of patients Group II
Gall bladder distension	24	30
Gall bladder contraction	2	1
Gangrenous gall bladder	-	6
Adhesion	8	11
Aspiration		
bile	12	25
white bile	5	2
pus	3	5
Gall bladder wall thickening	8	13
Mucosal edema	5	-
Conversion to open surgery	-	2

Table 9: Difficult laparoscopic cholecystectomy.

Time	Number of patients Group I	Number of patients Group II
Calot's triangle dissection to gall bladder removal from the fossa (>45 minutes)	2	4
Total time of surgery (>1hour)	11	25

Most common age group in both groups is 41-50 years.

DISCUSSION

Gall stones are more common in females as compared to males (3 times). In our study there were 15 males and 15 females in Group I and in Group II females (27) were more common than males (14) which was nearly about 2 times

as compared to men. The incidence of gall stones were more common in age group 4th decade of life. In of our study also in both the groups the most common age group was 40-50 years, which was 33.33% in Group I and 31.70% in Group II.

Zhang et al, said although LC is the gold standard in the treatment for cholelithiasis, but there are still some patients requiring conversion to open cholecystectomy for several factors. The main reason for conversion was inability to safely display and identify anatomical structures of Calot's triangle correctly secondary to severe inflammation or dense adhesions. Similar findings are observed in my study.

In both the groups the patients presented with symptoms like pain right upper quadrant and/or epigastrium, nausea and vomiting, fever, dyspepsia, however the percentage of patients who present with the above symptoms were more in Group II than in those in Group. 10,13. Retrospectively studied 109 patients with acute cholecystitis, 56 of whom underwent laparoscopic cholecystectomy after acute cholecystitis had subsided (delayed group) and 5053 of whom underwent early laparoscopic cholecystectomy within 7 days after admission (early group). They concluded that patients with solitary stone needs more attention and surgical priority. But in or study multiple stones have more serious complications.

The total hospital stay was 37.7 ± 14.4 days for the delayed group and 12.7 ± 2.0 days for the early group, showing a highly significant difference (p<0.001). Early LC seems to be better than delayed treatment for patients with gallstones with acute cholecystitis. ¹⁰

CONCLUSION

Multiple gall stones have led to more severe symptoms and complications and difficult surgery. So patients should be educated regarding this and should be motivated for early surgery even in incidental finding and should not opt for conservative management and counselled regarding intraoperative and post-operative complications and conversion to open surgery and prolonged hospital stay.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

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