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## ORIGINAL RESEARCH

### Assessment of risk factors and profile of patients undergoing laparoscopic cholecystectomy

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#### ABSTRACT:

**Background:** Cholelithiasis is quite common in adults. The present study was conducted to evaluate cases of laparoscopic cholecystectomy in patients. **Materials & Methods:** The present study was conducted on 86 cases of both genders. A thorough clinical examination was done in all patients. Risk factors and clinical features were recorded. **Results:** Out of 86 patients, males were 34 and females were 52. Risk factors for patients was familial in 22, hemolytic disorders in 15, obesity in 17, hyper triglyceridaemia in 5, history of prematurity in 7 and antibiotic therapy in 7. **Conclusion:** Laparoscopic cholecystectomy is routine procedure in general surgery. Maximum patients were males and risk factors were family history, obesity, antibiotic therapy etc.

**Key words:** laparoscopic cholecystectomy, Risk factor, hemolytic disorders

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#### INTRODUCTION

Cholelithiasis is quite common in adults with a prevalence rate of 10-20% in the western world. Asian population appears to have a lower incidence of gallstones. The incidence of gallstone disease in Indian population is between 3-6% with a female preponderance.<sup>1</sup> Cholelithiasis is infrequent in children less than 16 years of age (<1%) and rather rare in the less than 12 years of age group. Though, it has long been considered comparatively less common in children, but in recent years the condition has been increasingly diagnosed mainly due to wide spread use of ultrasonography.<sup>2</sup>

Cholecystectomy is the most common intra-abdominal surgical procedure performed in the United States. Laparoscopic removal is now the procedure of choice when cholecystectomy is indicated. However, newer, less invasive techniques, such as natural orifice transluminal endoscopic surgery (NOTES) and single incision laparoscopic cholecystectomy (SILC), are currently being investigated as alternatives to the traditional 4-port laparoscopic removal. Safety data and definitive benefits of these less invasive procedures are lacking.<sup>3</sup>

Prophylactic cholecystectomy for asymptomatic patients can be justified in certain circumstances, such as in patients with sickle cell disease, those undergoing open bariatric surgery, requiring long term total parenteral nutrition, or patients who are therapeutically immunosuppressed after solid organ

transplantation.<sup>4</sup> Patients with sickle cell disease often have hepatic or vaso-occlusive crisis that can be difficult to differentiate from acute cholecystitis.<sup>5</sup> Absolute contraindications to laparoscopic cholecystectomy include the inability to tolerate general anesthesia or laparotomy, refractory coagulopathy, diffuse peritonitis with hemodynamic compromise, cholangitis, and potentially curable gallbladder cancer. Pregnancy is a controversial relative contraindication to laparoscopic cholecystectomy but still it can be performed safely during pregnancy, but only with great care.<sup>5</sup> The present study was conducted to evaluate cases of laparoscopic cholecystectomy in patients.

#### MATERIALS & METHODS

The present study was conducted in the department of general surgery. It comprised of 86 cases of both genders. The study was approved from institutional ethical committee. All participants were informed regarding the study and written consent was obtained. Data related to participants such as name, age, gender etc. was recorded. A thorough clinical examination was done in all patients. Risk factors and clinical features were recorded. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

## RESULTS

**Table I Distribution of patients**

Total- 86		
Gender	Males	Females
Number	34	52

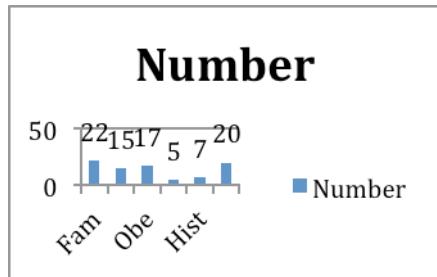
Table I shows that out of 86 patients, males were 34 and females were 52.

**Table II Assessment of risk factors**

Risk factors	Number
Familial	22
Hemolytic disorders	15
Obesity	17
Hypertriglyceridaemia	5
History of prematurity	7
Antibiotic therapy	20

Table II, graph I shows that risk factors for patients was familial in 22, hemolytic disorders in 15, obesity in 17, hypertriglyceridaemia in 5, history of prematurity in 7 and antibiotic therapy in 7.

**Graph I Risk factors**



## DISCUSSION

Gallstone disease has always been considered as a disease of the adults. It is relatively uncommon in childhood. A review of literature has suggested an increase in the frequency of cholelithiasis in children and resultant cholecystectomies. An increased use of ultrasound for every case of pain in the abdomen also has helped in establishing a diagnosis of very small and single gallstones as well as biliary sludge. In young and otherwise healthy patients, early cholecystectomy is generally accepted as the standard treatment of acute cholecystitis.<sup>6</sup> It is preferred over delayed cholecystectomy since the latter is associated with higher complication rates, longer hospital stay, higher costs, and lower patient satisfaction. In elderly patients, the optimal treatment of acute cholecystitis remains controversial. In view of the ageing population, addressing this controversy becomes a matter of increasing urgency.<sup>7</sup> The present study was conducted to evaluate cases of laparoscopic cholecystectomy in patients.

In this study, out of 86 patients, males were 34 and females were 52. We found that risk factors for patients was familial in 22,

hemolytic disorders in 15, obesity in 17, hypertriglyceridaemia in 5, history of prematurity in 7 and antibiotic therapy in 7. Tiryaki et al<sup>8</sup> found that amongst the 30 patients, males were more commonly affected than females. Children taking a mixed diet (vegetarian and non-vegetarian) had a greater tendency to form gallstones. Laparoscopic cholecystectomy was performed in (n=24, 80%) of cases while (n=6, 20%) cases underwent open cholecystectomy. Mixed stones were common with an incidence of (n=20, 66.6%) while cholesterol stones and pigment stones had an equal incidence of 16.7% in the present study. No intraperitoneal drainage was done and there were no early or late complications in the present study.

Târcoveanu et al<sup>9</sup> found that in total, 592 patients were identified. The mean age was 81 years. Early cholecystectomy was performed laparoscopically in 316 patients (53%) and open in 276 patients (47%). The procedure was associated with a conversion rate of 23%, a perioperative morbidity of 24% and a mortality of 3.5%. Panwar et al<sup>10</sup> found that all 120 patients included underwent laparoscopic cholecystectomy after going through a thorough clinical, radiological and laboratory investigations to confirm the disease process. 120 patients were divided into two groups with 60 in each group, group I with age 20-50years and group II with age of 50-80 years. This study shows that laparoscopic cholecystectomy can be performed in any age group. It can also be performed safely in the elderly patients, although the operative time is slightly longer in view of relatively higher incidence of adhesions in and around the Calots triangle. Operative difficulty, rate of conversion, hospital stay and postoperative short term outcome are not influenced by the age of the patient.

Laparoscopic cholecystectomy (LC) causes less pain after surgery, shorter hospital stay, faster return to work activities and a lower metabolic-endocrine-immune response to trauma. LC has demonstrated results superior to OC in elderly patients with symptomatic cholelithiasis in terms of morbidity and hospital stay. This procedure has been the gold standard for elective cholecystectomy for the general population in the last two decades.<sup>11</sup>

One major difference between 4-port laparoscopic cholecystectomy and its less invasive counterparts, NOTES and SILC, is the technique to gain entry into the peritoneal cavity. In the traditional 4-port technique, access to the peritoneal cavity can be performed using either a closed or open technique. Complications related to initial trocar insertion include vascular and intestinal injury,<sup>12</sup> with rate of injury reported in large series from 0% to 0.23%.<sup>12</sup> The limitation of the study is small sample size and complication related to surgery was not recorded.

## CONCLUSION

Laparoscopic cholecystectomy is routine procedure in general surgery. Maximum patients were males and risk factors were family history, obesity, antibiotic therapy etc.

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