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Original Article

Study of Evaluation of Complications in Patients Undergoing Cholecystectomy at a Tertiary Care Centre

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ABSTRACT

Background: Laparoscopic cholecystectomy was initially performed in Germany by Muhe and in France by Mouret. Multiple prospective randomized trials and retrospective reviews have shown that laparoscopic cholecystectomy allows for shorter hospitalizations, decreased analgesic requirements, earlier return to full activity and decreased total costs. This study was conducted for the Assessment of complications in patient undergoing cholecystectomy.

Materials and Methods: This study comprised of 100 subjects who had gall stones and underwent cholecystectomy procedure. The participants had been informed about the procedure and were asked to give written consent. The mean age of the participants was 42.5 years. The outcomes of the procedure had been recorded. Statistical analysis was conducted using SPSS software. All the patients were assessed for complications.

Results: In this study, 50 subjects were males, and 50 subjects were females. Infection was seen in 28 subjects, bleeding from abdominal cavity was seen in 23 subjects, bile leakage was seen in 15 subjects and incisional hernia was evident in 4 subjects.

Conclusion: Infection was the most common complication of cholecystectomy followed by bleeding from abdominal cavity.

KEYWORDS: Infection, Cholecystectomy, Bile Duct, Complications.

INTRODUCTION

Laparoscopic cholecystectomy was initially performed in Germany by Muhe and in France by Mouret.[1,2] Soon after this initial report, McKernan and Saye and Reddick and Olsen performed the first laparoscopic cholecystectomies in the United States in 1988.[3] During the next ten years, laparoscopic cholecystectomy evolved into the accepted approach to manage symptomatic gallbladder disease. Multiple prospective randomized trials and retrospective reviews have shown that laparoscopic cholecystectomy allows for shorter hospitalizations, decreased analgesic requirements, earlier return to full activity and decreased total costs.[4-8]

Gallstone disease is the most costly digestive disease in the United States. Approximately 20 million people in the U.S. have gallstones leading to over one million hospitalizations, 700,000 operative procedures, and $5 billion dollars in cost annually.[9,10] Annually, 1–4% of patients with gallstones will develop complications including acute cholecystitis, gallstone pancreatitis, and common bile duct stones.[11-13] Hence, this study was conducted for the This study was conducted for the Assessment of complications in patient undergoing cholecystectomy.

MATERIALS AND METHODS

This study comprised of 100 subjects who had gall stones and underwent cholecystectomy procedure at Department of General Surgery, Rama Medical College Hospital and Research Centre, Hapur, Uttar Pradesh, India.

The participants had been informed about the procedure and were asked to give written consent. The mean age of the participants was 42.5 years. The outcomes of the procedure had been recorded.

Statistical analysis was conducted using SPSS software. A univariate analysis was performed to compare the aforementioned characteristics in individuals who received and did not get definitive therapy during their

initial hospitalization. Differences between categorical variables were determined using chi-square analysis, whereas differences between continuous variables were determined using the t-test. Significance was accepted at $P < 0.05$. complications were assessed.

RESULTS

50 subjects were males and 50 were females. Infection was seen in 28 subjects, bleeding from abdominal cavity was seen in 23 subjects, bile leakage was seen in 15 subjects and incisional hernia was evident in 4 subjects.).

Table 1: Gender-wise distribution of subjects

Gender	Number of subjects	Percentage
Males	50	50%
Females	50	50%
Total	100	100%

Table 2: Complications of cholecystectomy.

Complications	Number of subjects	Percentage
Infection	28	28%
Bleeding from abdominal cavity	23	23%
Bile leakage	15	15%
Incisional hernia	04	04%

DISCUSSION

Management of complicated gallstones presents a unique set of challenges in the elderly population including delayed presentation, significant comorbid illness, and increased morbidity associated with elective and emergent surgery.[14,15] Adherence to the recommendations for management of acute cholecystitis and the natural history following initial presentation of elderly patients with acute cholecystitis has not been systematically studied. Laparoscopic cholecystectomy was first introduced by Muhe in 1986[16], and has now evolved to the point where it has replaced the open technique in many medical centers around the world. Today, laparoscopic cholecystectomy, rather than the open technique, is considered as the treatment of choice for gallstone disease.[17-20]

Perceived advantages of laparoscopic cholecystectomy, compared with the open technique, include earlier return of bowel motility, less post-operative pain, better cosmetic result and shorter hospital stay resulting in equal or lower hospital costs, as documented by various randomized control trials.[21-24] Hence, this study was conducted for the Assessment of complications in patient undergoing cholecystectomy.

In this study, 50 subjects were males and 50 subjects were females. Infection was seen in 28 subjects, bleeding from abdominal cavity was seen in 23 subjects, bile leakage was seen in 15 subjects and incisional hernia was evident in 4 subjects. In a study by Huang CS et al[25], complications of the initial 200 cases of laparoscopic cholecystectomy (LC) were assessed. The major complication rate was 3.5%, including one common bile duct (CBD) injury (0.5%), three retained CBD stones (1.5%), one subphrenic fluid accumulation (0.5%), one liver abscess (0.5%) and one cystic duct stump bile leakage (0.5%). All major complications were cholecystectomy-related, and only one of the seven occurred in cases of acute cholecystitis. Age and sex were not related to its occurrence. The rate of minor complications ranged from 0.5% to 10%; they were: shoulder and back pain (10%), gall bladder perforation (10%), retained stones in the abdominal cavity (5%), transient nausea and diarrhea (5%), extension of umbilical port to a mini-laparotomy (3.5%), prolonged operation time > three hours (2%), subcutaneous emphysema (1.5%), wound infection (1.5%) and prolonged ileus (0.5%). The minor complications occurred largely in patients with acute cholecystitis. Duca S et al[26] conducted a study in which the main operative incidents encountered were haemorrhage (224 cases, 2.3%), iatrogenic perforation of the gallbladder (1517 cases, 15.9%) and common bile duct (CBD) injuries (17 cases, 0.1%). Conversion to open operation was necessary in 184 patients (1.9%), usually due to obscure anatomy as a result of acute inflammation. The main postoperative complications were bile leakage (54 cases), haemorrhage (15 cases), sub-hepatic abscess (10 cases) and retained bile duct stones (11 cases). Ten deaths were recorded (0.1%). Most of the postoperative incidents (except bile duct injuries) were solved by laparoscopic means. Among patients with postoperative complications 28.9 % required revisional surgery. In

42.2% of cases minimally invasive procedures were used successfully: 15 laparoscopic re-operations (for choleperitoneum, haemoperitoneum and subhepatic abscess) and 22 endoscopic sphincterotomies (for bile leakage from the subhepatic drain and for retained CBD stones soon after operation). The good results obtained allow us to recommend these minimally invasive procedures in appropriate patients.

CONCLUSION

Infection was the most common complication of cholecystectomy followed by bleeding from abdominal cavity.

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