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INCIDENCE OF BILE LEAKAGE AND SPILLED GALLSTONES IN LAPAROSCOPIC CHOLECYSTECTOMY

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Abstract:
Purpose: *Laparoscopic cholecystectomy is considered the preferred treatment for symptomatic gallstones disease worldwide. Two well-known complications of the procedure are bile duct leakage and spilled gallstones. In our environment to determine the frequency of bile leakage and spilled gallstones during laparoscopic cholecystectomy.*
Study design: *A prospective descriptive study.*
Place and duration: *In the Surgical Unit II of Holy Family Hospital Rawalpindi for one year duration from January 20119 to January 2020.*
Methodology: *Patients with gallstones admitted from the OPD. After obtaining written and informed consent, patients were enrolled for examination. All relevant investigations have been carried out. Fitness for anesthesia was assessed using the ASA scoring system. Patients underwent laparoscopic cholecystectomy. The data was saved in a previously designed form.*
Results: *Laparoscopic cholecystectomy was performed in 142 patients. The average age was 39.21 years ± 11.98 years. Gallstones exudation was the main complication that occurred in 15 (10.6%) cases where the maximum number of stones was recovered during surgery. Spillage of gallstones were more common in women than in men. A total of 5 (3.52%) patients had bile leakage. The average length of hospital stay was 1.94 days ± 0.62. There was no mortality in our study.*
Conclusion: *Laparoscopic cholecystectomy is a safe and effective procedure in our environment and gives better results in the hands of experts.*
Key words: *laparoscopic cholecystectomy, gallbladder, spilled gallstones.*

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INTRODUCTION:

Gallstones are an important health problem worldwide. The prevalence in the United States in the adult population is around 10% and increased to 30% in the age group above 70 years of age. In Pakistan, the prevalence of GS disease is 15%, representing 22% of applications in the surgical ward. Cholecystectomy is the preferred treatment for cholelithiasis. Carl Langerbach performed the first open cholecystectomy in 1882, and Philippe Mouret performed the first laparoscopic cholecystectomy in 1987 in Lyon, France. The first laparoscopic cholecystectomy in Pakistan was performed in 1991. The first such procedure in Peshawar was carried out by a Singapore surgeon who visited in 1992 at Khyber Training Hospital in Peshawar. It is currently the most common surgery performed all over the world. Laparoscopic cholecystectomy has become the standard treatment for cholelithiasis and has replaced open cholecystectomy. In the United States alone, 75% of 600,000 operations performed annually for gallstones disease are performed laparoscopically. Laparoscopic cholecystectomy offers the patient the benefits of minimally invasive surgery (MIS), including cosmetic scars, better postoperative healing, and early return to work. However, this is associated with some complications that are rarely reported with open cholecystectomy.

Laparoscopic cholecystectomy complications include early and late complications. Early complications include target, intestinal damage, bleeding and gallstones, including diffuse gallstones, gallbladder and bile duct damage. Cholelithiasis is a common occurrence during laparoscopic cholecystectomy. It is estimated to occur between 3 and 33%. The complication rate of unexplored stones is about 0.3%. Bile leakage occurs in 0.3-2.7% of patients after laparoscopic cholecystectomy. Although diffuse intraperitoneal gallbladders are considered insignificant by most surgeons, postoperative peritonitis, adhesions, intra- and extra abdominal abscesses, bile, intestinal formation, and cutaneous intestinal fistulae have been documented. Laparoscopic cholecystectomy is an evolving procedure for gallstones disease in Pakistan. There is a trend in favor of laparoscopic cholecystectomy over open cholecystectomy. Complications of laparoscopic cholecystectomy have been studied in several centers; however, since no scientific data has been published from our center, they must be reproduced in our center. The goal of the study of complications is to develop future planning for the prevention and treatment of complications after laparoscopic cholecystectomy. The study was conducted to determine gallstool exudate and bile leakage in laparoscopic cholecystectomy.

METHODOLOGY:

This prospective descriptive study of 142 patients was conducted at the Surgical Unit II of Holy Family Hospital Rawalpindi for one year duration from January 20119 to January 2020. Patients with obstructive jaundice, gallbladder cancer, comorbidities and higher medical history of abdominal surgery was excluded because these were disturbing factors and distorted test results. Patients with gallstones were admitted to OPD. After obtaining written and informed consent, he was enrolled for examination. All relevant investigations have been carried out. Fitness for anesthesia was assessed using the ASA scoring system. All patients included laparoscopic cholecystectomy.

RESULTS:

Laparoscopic cholecystectomy was performed during 142 patients. The average age was 39.21 years ± 11.98 years. Most cases (36.6%) were between 30 and 40 years old, 27.5% were between 41 and 50 years old, 30 (21.1%) were under 30 years old, and 4 (2, 8%) were over 60 years. The ratio of men to women was 1: 2.84. In our study, as shown in Figure 1, 37 (26.1%) were men and 105 (73.9%) were women.

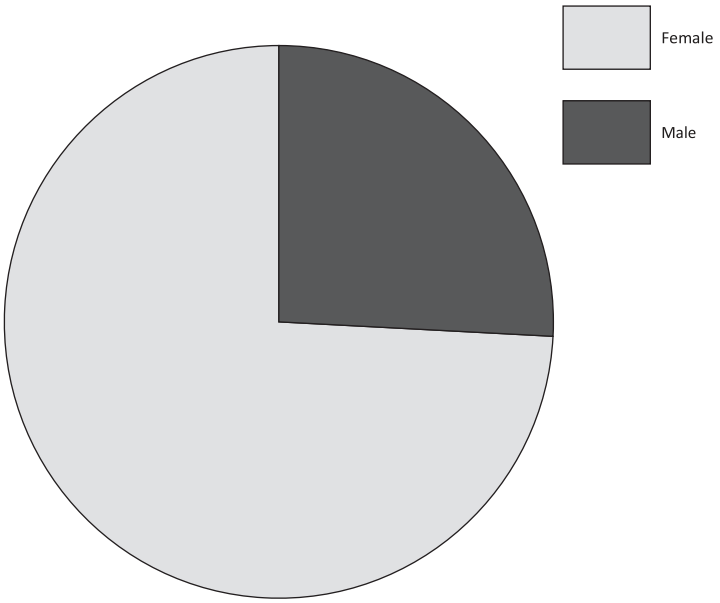

Figure 1: ***Gender distribution***

Cholelithiasis exudation was the main complication that occurred in 15 (10.6%) cases. maximum number of calculations during the procedure. 2 (1.4%) patients aged 19-29 years, 7 (4.9%) patients aged 30-40 years, 4 (2.8%) patients aged 41-50 years, 1 (0.7), as shown in Figure 2, from 51%. Patients aged 60 and 1 years (0.7%) were aged 61–70 years.

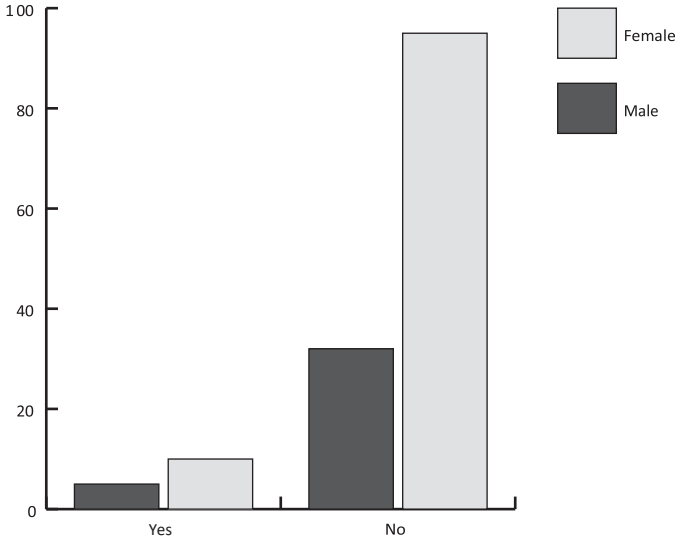

Figure 2: ***Frequency of spilled gallstones***

Spilled gallstones were more common in women than in men. The frequency of gallstones was 5 (3.5%) for men and 10 (7.00%) for women. There were 4 (2.8%) patients with biliary leakage aged 30-40 years, and 1 (0.7%) patient of 41-50 years had biliary leakage. Of all patients, 1 (0.7%) patients had bile leakage in men and 4 (2.8%) were women. The average hospital stay was 1.94 days ± 0.62. Most patients, 137 (96.5%), were discharged within 2 days, 1 (0.7%) patients on day 3, 2 (1.4%) patients on day 4 and 1 (0.7%) patients were released on the 5th day and on the sixth day of hospital. Hospital stays were extended in patients with bile leakage. In addition, 11 (7.5%) patients were converted to open cholecystectomy, while in 131 (92.3%) the procedure was successfully completed laparoscopically. There was no mortality in our study.

DISCUSSION:

Laparoscopic cholecystectomy has been recognized as the gold standard for the treatment of symptomatic gallstones and chronic cholecystitis, which replace traditional open cholecystectomy. In acute cholecystitis, most surgeons now prefer laparoscopic cholecystectomy. Laparoscopic technique is rapidly gaining popularity and is often used in almost all major hospitals in our country.

The laparoscopic approach has many advantages, but the incidence is slightly higher, especially in educational establishments.

The aim of this study was to focus on two typical LC complications: bile leakage and diffuse gallstones. In our study, the average age was 39.21 years, while the majority of patients (36.6%) were under 30 to 40 years old (2.8%). 105 (73.9%) were women. Müftü et al. In the study, the average age was 40.30 years, and the majority of patients (31.66%) belonged to the 30-40 age group. However, in the LC study in acute cholecystitis, the average age was 43.7 years and the ratio of women to men was 4.5: 1 56.9 years (range 23-89 years).

In our study, 11 (7.7%) patients were changed to open surgery due to complications. Tayab M et al. In his research Two preoperative transformation risk factors were detected, symptoms of ultrasound and over 60 years of age. Al Salamah reported that altered anatomy in the Calot triangle region was the most common cause of transformation observed in 41.5% of transformed cases, while male sex over 65 years of age had high white blood cell counts, gallbladder wall thickness more than 4mm in USG. as the most important determinants of transformation into an open procedure. Leakage of gallstones in the peritoneal cavity during LC often occurs due to perforation of the gallbladder and may be associated with complications, and every effort should be made to remove spilled gallstones, but conversion is not mandatory. . The incidence is estimated at 10-30%. After exudate stone, abscess and fistula formation in the abdominal wall was noted. In a retrospective study in Switzerland, only 1.4% of patients with gallstones during LC developed severe postoperative complications. In our study, gallstones were poured out in 15 (10.6%) cases, and the maximum number improved during the procedure. Muqim et al. In the study they conducted, they found postoperative complications due to diffuse gallstones. Biliary damage during LC is a terrible complication of LC and can increase procedural morbidity and mortality, resulting in mild postoperative biliary stenosis after several months. Delayed postoperative stenoses are usually the result of late complications of excessive electrocoagulation near CBD or bile reconstruction due to post-cholecystectomy trauma. In our study, significant bile duct damage occurred in 1 case (0.7%). MRCP and ERCP were performed showing changes in the lateral bile duct. In the same session a stent with good results was placed. The average length of hospital stay is 1.94 days, which can be compared with a local study at Khyber Training Hospital, where 2.06 days and 4 Vagenas K et al. one center. Despite the above-mentioned complications, the overall result was satisfactory and the procedure was better adopted by patients.

CONCLUSION:

LC is the most common procedure for symptomatic gallstones disease. It is a safe and effective procedure in experienced hands in our configuration. Most of the complications were due to a lack of experience and excessive enthusiasm. Proper preoperative work, low conversion threshold as well as proper training and equipment make this operation a safe procedure with good results.

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