



A Retrospective Study on Outcomes of Laparoscopic Cholecystectomy by General Surgeons

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Abstract

Background: *Laparoscopic Cholecystectomy is one of the most common operations in General Surgery. It is performed by specialist surgeons in hepatopancreaticobiliary system as well as by General surgeons. Aim of this study was to evaluate the safety of Laparoscopic Cholecystectomy performed by General Surgeons in Chronic Cholecystitis.*

Methods and Materials: *We retrospectively reviewed 33 elective Laparoscopic Cholecystectomies done in a tertiary care centre during the 1year period between 1/1/17 – 31/12/17. Average Post-Operative hospital stay was 4 to 5 days. Post-Operative period was uneventful.*

Conclusion: *Laparoscopic cholecystectomy is a clear alternative in the management of uncomplicated Chronic Cholecystitis. Laparoscopic Cholecystectomy performed by General Surgeons is a safe procedure with less morbidity.*

Introduction

Gallstone disease is a worldwide medical problem, but the incidence rates show substantial geographical variation, with the lowest rates reported in African populations. High biliary protein and lipid concentrations are risk factors for the formation of gallstones, while gallbladder sludge is thought to be the usual precursor of gallstones⁽¹⁾. Chronic cholecystitis almost always results from gallstones and prior episodes of acute cholecystitis (even if mild). Chronic cholecystitis is suspected in patients with recurrent biliary colic plus gallstones⁽²⁾. One of the great advantages of laparoscopy is the possibility for the entire surgical team to see with the eyes of the surgeon.

Despite this advantage, there are some limitations of the laparoscopic surgery which are represented by the lack of tactile feedback, 2-dimensional vision, limited degree of movement of the instruments, and loss of natural hand-eye coordination⁽³⁾.

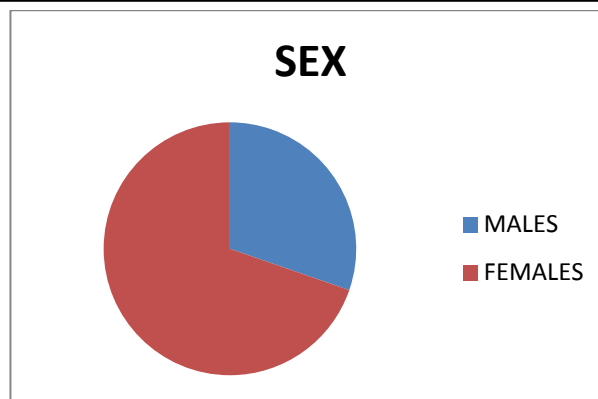
Methods and Materials

From January 1, 2017 to December 31, in the department of General Surgery at Kanyakumari Government Medical College, 31 elective Laparoscopic Cholecystectomies (LCs) were performed for Chronic Cholecystitis, gallbladder symptomatic stones and Acalculous Cholecystitis.

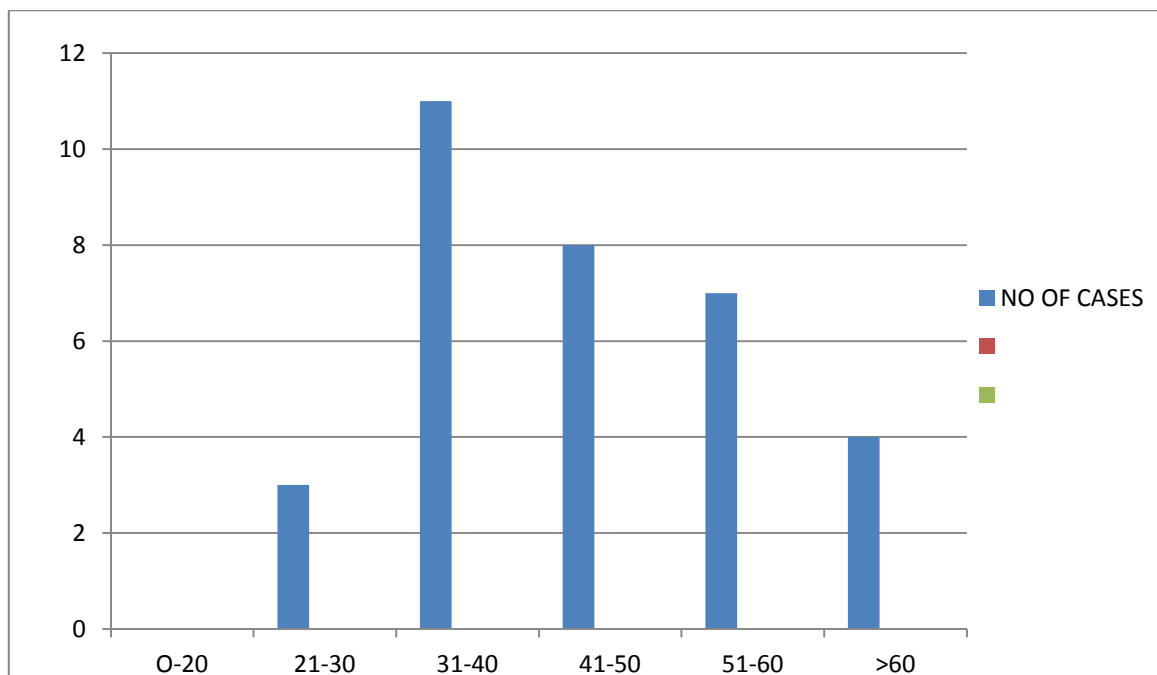
The diagnosis of chronic Cholecystitis was established by (1) History, clinical and laboratory criteria, (2) an ultrasonography and MRCP& (3) intraoperatively. Patients in whom choledocholithiasis was diagnosed preoperatively were excluded from the study. The operative technique was performed by placing the patient according to the French school, accessing the abdominal cavity through minilaparotomy and Hasson trocar in the periumbilical area, placing the other three trocars according to the French school, and always trying to get the “critical view of safety”.

Results

Out of the 33 cases, 10 of them were Males, 23 of them were females.



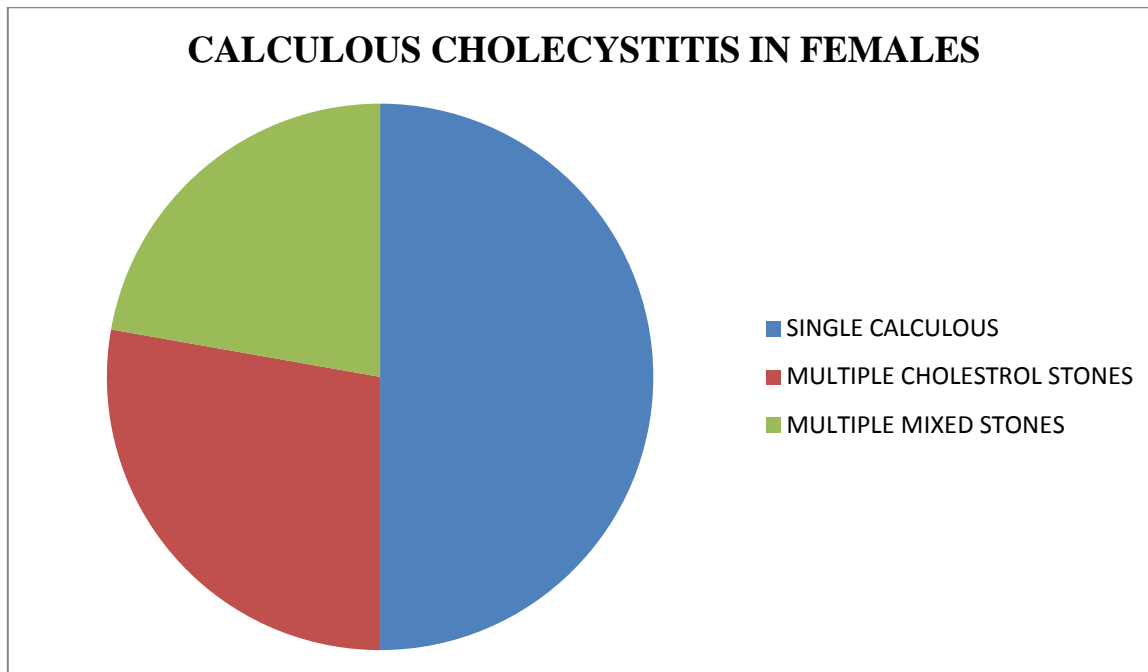
AGE GROUP IN YEARS	NO.OF.CASES
UPTO 20	NIL
21-30	3
31-40	11
41-50	8
51-60	7
>60	4



In Females, Among 23cases

- 18 cases were Calculous Cholecystitis (9cases were single calculous, 5cases were multiple cholesterol stones, 4 cases were multiple mixed stones)

CALCULOUS CHOLECYSTITIS IN FEMALES



- 5cases were Acalculouscholecystitis.

In Males, Among 10cases,

- 7cases were cholesterol stones,
- 3cases were Acalculouscholecystitis.

Laparoscopic Cholecystectomy was performed in all. One of the Laparoscopic Cholecystectomy was converted into Open, due to congestion in the callous structures. Post-Operative period were uneventful. One of the female patient (48 years old) developed a minimal bile leak and was kept with a right hypochondriac drain in the Morrison pouch. Leak settled on the 14th Post-Operative day and MRCP showed normal study of hepatobiliary tree. Average Post-Operative stay was in the range of 4-5 days. Average duration of Laparoscopic Cholecystectomy was about 75mins.

Discussion

Gallstones are composed mainly of cholesterol, bilirubin, and calcium salts, with smaller amounts of protein and other materials. There are three types of gallstones (i) Pure cholesterol stones, which contain at least 90% cholesterol, (ii) pigment stones either brown or black, which contain at least 90% bilirubin and (iii) mixed composition stones, which contain varying proportions of cholesterol, bilirubin and other

substances such as calcium carbonate, calcium phosphate and calcium palmitate.

High biliary protein and lipid concentrations are risk factors for the formation of gallstones. Gallbladder sludge, i.e., thickened gallbladder mucoprotein with tiny entrapped cholesterol crystals is thought to be the usual precursor of gallstones⁽¹⁾. Sludge can sometimes cause biliary pain, cholecystitis, but sludge may also resolve without treatment. The sources of sludge are pregnancy, prolonged total parenteral nutrition, starvation, or rapid weight loss. The antibiotic ceftriaxone can also precipitate in the gallbladder as sludge and rarely, as gallstones.

All epidemiological studies showed that increasing age was associated with an increased prevalence of gallstones. In all populations of the world, regardless of overall gallstone prevalence, women during their fertile years are almost twice as likely as men to experience Cholelithiasis⁽⁴⁾. This preponderance persists to a lesser extent into the postmenopausal period, but the sex difference narrows with increasing age.

In our study, there was an increase in incidence among the middle age group 31-40years and more prevalent among the females. Patients most often present with recurrent episodes of right-upper-quadrant or chronic epigastric pain, often accompanied by nausea and vomiting. The diagnosis of chronic Cholecystitis was established by (1) History, clinical and laboratory criteria, (2) an ultrasonography and MRCP.

Laparoscopic procedures represent a challenge for teaching in the operating room as the experienced surgeon is less likely to intervene during the procedure than during a laparotomy operation. The training in laparoscopic surgery is multifaceted and must include, in addition to familiarity with the laparoscopic instrumentation, also the mastery of basic skills needed to operate safely. A laparoscopic surgeon must learn to operate with long instruments that amplify physiological tremor and are more difficult to control than the tools of traditional surgery. These same tools are limited in their range of motion as inserted in trocars which act as a fulcrum. A further difficulty, in learning of laparoscopic surgery, is represented by the fact that the surgeon must learn to operate in another direction than his vision, watching a monitor that provides two-dimensional images and limits the depth perception.

In 2007, A. P. Boddy et al., study shows evidence of improved outcomes when laparoscopic cholecystectomy was performed under the care of surgeons with a specialist interest in upper GI or hepatopancreaticobiliary surgery^[5]. Although, our study shows under these circumstances the Laparoscopic cholecystectomy performed by General Surgeons also has comparatively good success rate.

Drawbacks

All the acute cholecystitis cases and choledocholithiasis cases were excluded from the study.

Conclusion

Despite the limits of a retrospective analysis, our study shows that laparoscopic cholecystectomy for Chronic Cholecystitis performed by General Surgeons is a safe procedure and not burdened by an increase in the rates of complications, conversion to laparotomy, mortality, and length of hospital stay. There was an increase in incidence of Gall stones among the middle age group of 31-40years and more prevalent among the females.

Reference

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4. Laura M. Stinton and Eldon A. Shaffer et al., 2012 – epidemiology of gall stones.
5. Boddy AP., et al 2007 - Who should perform laparoscopic cholecystectomy? A 10-year audit.