Original Article

Clinical study of complications of cholecystectomy, an analysis of 50 patients

P D Gurav[1], A V Ingale[2], Sachin V Mahadik[3*]

[1]Professor and HOD, [2]Associate Professor, [3]Junior Resident, Department of Surgery, Government Medical College of Miraj, Maharashtra, INDIA.

Email: sachinmahadik777@gmail.com

Abstract

Laparoscopic Cholecystectomy (LC) has lot of proven advantages over open cholecystectomy but some of its complications are always to be kept in mind for better results. This study was undertaken to study the complications of laparoscopic cholecystectomy and analyze them with regard to, conversion rate, intra-operative complications, post-operative complications, mortality and their management. This prospective study was conducted in the Department of Surgery, Government Medical College of Miraj, Maharashtra. The study included 50 patients who underwent elective laparoscopic cholecystectomy. Patients with age > 80 years, pregnant females, portal hypertension, and severe cardiac or pulmonary disease and pancreatic malignancies were excluded from the study. The complications which were noted include conversion to open cholecystectomy (12%), hematoma (16%), hemorrhage (6%), bile duct injury (2%), vascular injury (2%), visceral injury (2%), wound infection and wound pain (32%), pancreatitis (16%), retained stones (4%), subhepatic collection (2%), Port site and incisional hernia (16%).Guidelines for prevention for operative injury are similar to those of any open procedure namely, adequate training and experience, accurate identification of anatomy and identification of risk factors preoperatively leading to conversion of laporoscopic cholecystectomy to laparatomy.

Keywords: compications of cholecystectomy

[*]**Address for Correspondence:**
Dr. Sachin V Mahadik, Junior Resident, Department of Surgery, Government Medical College of Miraj, Maharashtra, INDIA.
Email: sachinmahadik777@gmail.com

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INTRODUCTION

"Cholecystectomy" is removal of gallbladder. Gallstone disease (cholelithiasis) is one of the most common and costly gastrointestinal disorders in industrialized societies. The Prevalence of gall stones in these adults populations is approximately 10-15%.Approximately 80% of people with cholelithiasis do not have symptoms, can remain asymptomatic for many years and do not require treatment. About 20% of people experience pain and clinical complications. Surgery remains the choice of treatment for most of gallbladder diseases. The advent of laparoscopic cholecystectomy has been a significant milestone, not only in the treatment of gall stone disease but in the evolution of surgical treatment towards the approach of minimal access, with minimal trauma to the access, without compromising the exposure of the surgical field. The development of a new surgical technique is greeted with complications, the most common in the first few months and rarer ones over the years. Laparscopic cholecystectomy is no exception. In present study the attempt was made to focus on complications that occur after cholecystectomy, the risk factors for complications, the evolution and diagnosis of the complications and management of specific complications.

MATERIAL AND METHODS

The prospective study was conducted in department of surgery at Govt Medical College Miraj. The study included 50 patients who underwent elective laparoscopic cholecystectomy. Patients with age > 80 years, pregnant females, portal hypertension, and severe cardiac or pulmonary disease and pancreatic malignancies were excluded from the study. Investigation in the form of

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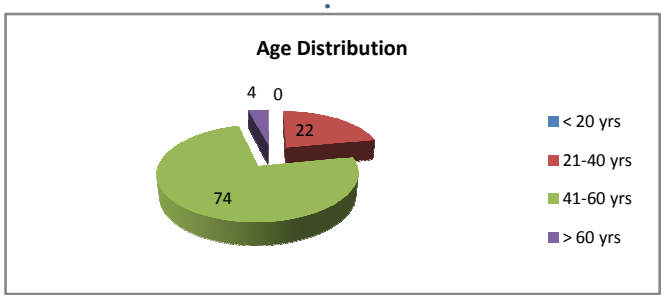
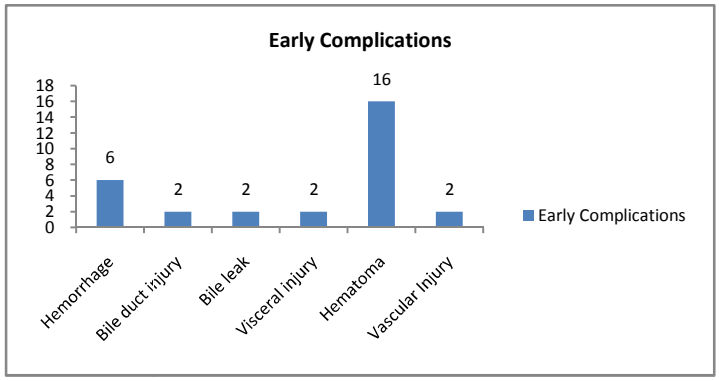
USG abdomen, contrast enhanced CT, ERCP done for diagnostic and therapeutic purpose.

RESULTS

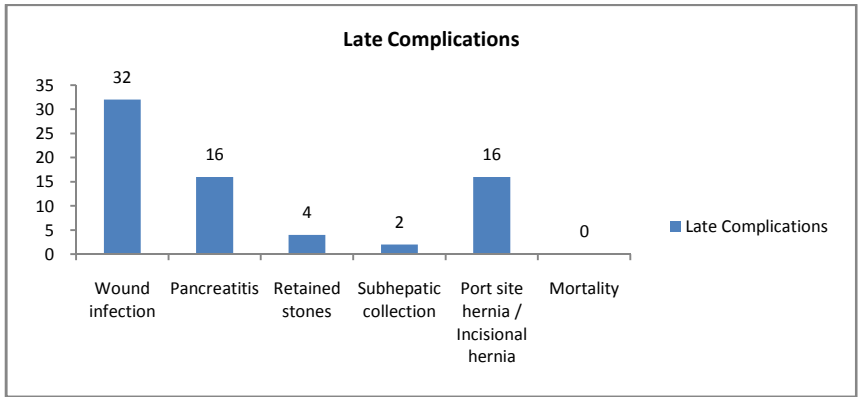
The most of the patients in our study are from age group 40yr-60yr.The youngest patient in study was 36 years old and oldest patient was of 64 years old with Male to female ratio was 27:23.



The indications for surgery in our study are acute cholecystitis in 41 (82%), 7 of cholelithiasis (14%), 1 gallbladder polyp (2%) and 1 of Empyema gallbladder (2%).In all patients laparoscopic cholecystectomy was performed in which it is done successfully in 44 patients (88%) and 6 patients require its conversion to open procedure (12%).The most common indication for conversion to open procedure is difficult anatomy 3 cases (6%) severe adhesion 2 cases (4%) and gallbladder performed 1 case (2%).The complications are divided into early and late. Early complications are presented within 7 days post operative period and late complications are presented within 7 days to 6 months of cholecystectomy. Present study shows that during early period, Hematoma 8 cases (16%) is common Hemorrhage 3 cases (6%), Bile duct injury 1 case (2%), vascular injury 1 case (2%),visceralinjury1case (2%),



In late complications wound infection and wound pain 16 cases (32%) is common, Pancreatitis 8 cases (16%), Retained stones 2 cases (4%), subhepatic collection 1 case (2%), port site hernia and incisional hernia 8 cases (16%) presented as complications.



15 cases presented with early complications, in which 8 cases are treated conservatively, and 7 require operative intervention, which includes complications like hemorrhage, bile duct injury, bile leak, visceral injury and vascular injury. 35 cases presented with late complications in which 16 cases require conservative

treatment and 19 cases require operative intervention, in which pancreatitis and retained stones are treated with ERCP. The common investigations performed are, ultrasound abdomen and pelvis, contrast enhanced CT Scan and ERCP. Most patients with early and late complications are managed conservatively. Patients with post cholecystectomy Bile duct injury, bile leak, pancreatitis and retained stones required ERCP. There was no mortality observed after cholecystectomy either during operation or in immediate post – operative period or during follow up period which ranged between 2 months, 6 months and 1 1/2 year.

DISCUSSION

In our study 74% of patients presented with complications are from 41-60 years, which is comparable with study by Devid Fletcher *et al*[1] which is 70%.As females are predisposed more to gall bladder disease the complications of cholecystectomy are more common in males.[2] As shown in study conducted by David Fletcher *et al*[1]. The incidence of complications are almost same in males and females. In present study most cases presented with complications are of acute cholecystitis. Bile duct injuries and other surgical complications such as bile leak and bleeding were reported at higher rates when LC was carried out in an aculetly inflamed gallbladder.[3-6] which is comparable with study by Admensel *et al*[7] which shows incidence is more in cases operated for acute cholecystitis. In our study the conversion rate of LC to OC is found to be 12% with difficult anatomy is most common reason for it.(8-10)In our study during early post operative period hematoma (16%), hemorrhage (6%), bile duct injury (2%), vascular injury (2%), visceral injury (2%) which are comparable to study conducted by Admsen *et al*[7] which shows that incidence of bile duct injury and bile lick is 1.3%.According to studies conducted by Suuronen *et al*[11] and Steel *et al*[12] the incidences of vascular and visceral injuries are 1.5% and 1%. In late post operative period, wound infection and wound pain (32%), pancreatitis (16%), retained stones (4%), subhepatic collection (2%), port site and incisional hernia (16%), presented as complications. According to study conducted by Gunn and Keddle[7] the incidence of wound infections and wound pain are 27-30% following cholecystectomy. The study by Sugawa *et al*[7] shows the incidence of pancreatitis is 17%.Rice *et al* and Kappes *et al*[7] shows the incidence of subhepatic collection and retained stones,2% and 5% respectively. In our study investigations are done to evaluate the complication. USG abdomen can identify and quantify suspected abdominal collection.[13] Contrast enhanced CT scan done to identify abdominal collection, vascular injury and visceral injury.[13] ERCP done for evaluation of biliary tract injury.[13] In our study hemorrhage, vascular injury and visceral injury are treated with operative intervention. Specific complications like bile duct injury, bile leak, retained stones and pancreatitis require intervention with ERCP and stenting.[13]

CONCLUSION

Fifty cases of cholecystectomy patients studied prospectively when complications occurred and form the basis of the study. Complications are more common in older age group between age 41-60 years. Males are associated with increased risk of complications after cholecystectomy. Complications are more common in patients undergoing cholecystectomy for acute cholecystitis. Laparoscopic cholecystectomy is more commonly used procedure for cholecystectomy. Bile duct injury and bile leak are important complications of cholecystectomy and they needs emergent investigations and evaluation and treatment. USG abdomen, CT contrast and ERCP are frequently used investigations for the evaluation of complications of cholecystectomy. ERCP has both diagnostic and therapeutic role for complications of cholecystectomy. Most of the complications of cholecystectomy are treated conservatively, but some important complications like bile duct injury and bile leak and pancreatitis require intervention with ERCP. Vascular injury and visceral injury are rare but serious complications and require immediate operative intervention.

REFERENCES

1. David Fletcher *et al*. Complications of cholecystectomy: Riska of the laparoscopic approach and protective effects of operative cholangiography. Annals of surgery Vol 229, No4: 449-457
2. Pierre-Alain Clavien *et al*. Proposed Classification of complications of Surgery with examples of utility in cholecystectomy.
3. Norman Oneil Machado *et al*; Biliary complications past Laparoscopic Cholecystectomy: Mechanism, preventive measures and Approac to management review.
4. Melloul E *et al*, Percutaneous drainage versus emergency cholecystectomy, for the treatment of acute cholecystitis in critically ill patients: does it matter? World J Surg 2011; 35:826-833.
5. Shaikh IA e al, Are we performing enough emergency laparoscopic cholecystectomies? An experience from a distric general hospital. Int J Surg 2009; 7:482-484.
6. Change TC, *et al*. Evaluation of early versus delayed laparoscopic Cholecystectomy in the treatment of acute cholecystitis Hepatogastroenlerology 2009; 56:26-28.
7. L.H. Blumgarth, T. Fong: Surgery of the Liver and Biliary Tract; Third Edition, Volume one Page no. 735-74
8. Lee SW, *et al*. Impact of the Tokyo guidelines on the management of patients with acute calculy cholecystitis J Gastroentero Hepatol 2009; 24:1857-1861.

9. Steel e *et al*. Choledocholithiasis. Endoscopic Sphincterotomy or common bile duct exploiration. Ann Surg. 213:677-34, 1991.
10. Williams *et al*. Comparison of laparoscopic Chilecystectomy with open cholecystectomy in a single centre. Am J. Surg. 165; 459-65.1993.
11. Suuronen *et al*. Bleeding Complications in cholecystectomyL a register study of over 22000 cholecystectomyies in Finlad, BMC Surgery (2015) 15197.
12. Steel e *et al*. Choledocholithiasis. Endoscopic Sphincterotomy or common bile duct exploiration. Ann Surg. 213:677-34, 1991.
13. B. Krishna Rau Management of post operative complications after Laparoscopy Cholecystectomy. Bakken K, self harm in male patients with substance dependence syndrome. Addiction 2013; 108:433–40.

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