

Original Article:

Comparative Study between Open V/S Laparoscopic Cholecystectomy

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Abstract: Gall stones are one of the major causes of morbidity and mortality all over the world. Differences in primary outcomes like mortality and complication proportions (particularly bile duct injuries) are important reasons to choose one of the two operative techniques open or laparoscopic Cholecystectomy. The study consists of 100 patients with a diagnosis of calculus cholecystitis that underwent Cholecystectomy. Laparoscopic cholecystectomy is a considerable advancement in the treatment of gall bladder disease .technically the dissection of the cystic artery and cystic duct is very precise and bleeding is easily controlled with less per operative blood loss.LC is associated with less chances of wound infection and there is no risk of wound dehiscence. The only disadvantage of the laparoscopic Cholecystectomy over the open procedure is the duration of operating time which is significantly longer. In cardiac patient or in those patient where general anesthesia's contra indicated, open Cholecystectomy can be carried out in regional anesthesia and in such patient when duet o co2 inflation cardiac arrhythmia can be provoked open Cholecystectomy is better option.

Key Words: Cholecystectomy, open, laparoscopic

INTRODUCTION: Gall stones are one of the major causes of morbidity and mortality all over the world. Until the end of 1980's, open Cholecystectomy was the gold standard for treatment of stones in gall bladder. First Cholecystectomy performed in 1882 by karl langenbuch¹.

Laparoscopic Cholecystectomy was introduced in 1985 by Muhe². Differences in primary outcomes like mortality and complication proportions (particularly bile duct injuries) are important reasons to choose one of the two operative techniques. When these primary outcomes shows no significant difference, then secondary outcomes like related quality of life ,hospital stay and difference in cost effective analysis,

Post operative pain, cosmesis and later complication like incisional hernia, intestinal obstruction should help to decide which technique is better.

AIMS & OBJECTIVES: Study of post operative pain, difference between duration of

post operative hospital stay in both surgical procedures, evaluate time of post operative recovery, complications due to laparoscopic and open procedure of surgery, evaluate the operative time of surgery in open and laparoscopic procedure of Cholecystectomy, evaluate cost effectiveness in view of materials, procedure expenses and loss of income due to abstinence from job.

MATERIALS & METHODS: The study consists of 100 patients with a diagnosis of calculus cholecystitis that underwent Cholecystectomy. The patients were interviewed for detailed clinical history according to a definite performa. Permission was taken from IRB. In preoperative preparation written and inform consent of the patient was obtained and pre operative antibiotics was given.

In laparoscopic Cholecystectomy IV analgesia were given for two days while in open Cholecystectomy (oc) I .v. analgesia was given for three days. Patients of laparoscopic procedure are given liquids orally from evening of surgery while patients for oc are given liquids from second post operative day.

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Nasogastric tube was removed on same day in laparoscopic procedure when patient out of anesthesia while in oc it is removed after 24 hours.

Once patient was having no pain and would infection then they are discharged from hospital.

RESULT & DISCUSSION: In present series age ranges from 10 to 70 year and peak incidence is in 4th and 6th decades of life. Female incidence is more than male calculus cholecystitis. Patients are presented with pain in right hypochondrium. The other complaints seen were fever and vomiting. None of the patients had jaundice.

The median duration of operative procedure was 54.5min for oc and 68.3 for lc. The difference was found more time required in LC was due to intra-operative procedure includes creating of pneumoperitoneum to reversal of anesthesia. There are three patients who were converted from laparoscopic to open procedure because of severe adhesion with inflammation in Calot's triangle, empyema of oedematous gall bladder and thickened peritoneal folds at Calot's triangle.

In patients of LC post operative analgesia were given till 5th post operative day in 4% of patients while in patients of OC it was given in 18%. Buanes³ study of 500 patients of laparoscopic (250) and open (250) Cholecystectomy suggests that need for postoperative analgesics was significantly reduced from 7 (range 4-16) standard opiate doses in the open group to 3 (range, 0-7) in the laparoscopic group.

The duration of hospital stay was for a period of 3.42 days in LC group and 5.36 in OC group, it has more in OC group due to increase pain, wound infection, injectable antibiotics used and less mobilization due to pain. Fullarton⁴ evaluated the cost of LC and OC among 50 consecutive patients. For the LC group, the operation time and duration of hospital stay were both less in compare to OC.

In above study, patient resumed work in 13.08 days in LC and 27.24 days in OC. Open Cholecystectomy can be done in spinal or epidural anesthesia, while laparoscopic Cholecystectomy is done only in general anesthesia, so laparoscopic Cholecystectomy required more pre-operative investigations as compared to open Cholecystectomy.

Though laparoscopic procedure is comparatively costly than open procedure, but due to early resumption of work overall, laparoscopic Cholecystectomy is cost effective than open Cholecystectomy. Berggren⁵ conducted a study, where in 30 consecutive patients below the age of 65 years without acute cholecystitis and with no signs of common bile duct stones were randomized to laparoscopic or conventional open Cholecystectomy. The mean duration (s.d) of post operative hospital stay (2.8 versus 1.8 days) and sick leave (24 versus 11.7 days) was significantly longer with open than laparoscopic cholecystectomy.

Koperna⁶ in a study to compare LC v/s OC for acute cholecystitis compared 49 patients each. He found that complication like wound infection correlated with severity of inflammation and was determined on basis of leucocytosis. The complication rate after LC was found to be lesser in respect to wound infection as compared to OC.

CONCLUSION:

Laparoscopic cholecystectomy is a considerable advancement in the treatment of gall bladder disease. Technically the dissection of the cystic artery and cystic duct is very precise and bleeding is easily controlled with less per operative blood loss. LC is associated with less chances of wound infection and there is no risk of wound dehiscence.

The antibiotic usage in LC is comparatively lesser than that of OC. The amount of analgesic requirement is less in LC. LC patients tolerate oral feeds earlier and are mobilized faster. The duration of hospital stay is less and patients can be discharged quickly from hospital.

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The only disadvantage of the laparoscopic Cholecystectomy over the open procedure is the duration of operating time which is significantly longer. In cardiac patient or in those patient where general anesthesia's contra indicated, open Cholecystectomy can be carried out in regional anesthesia and in such patient when duet o co2 inflation cardiac arrhythmia can be provoked open Cholecystectomy is better option.

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