

LAPAROSCOPIC VS. OPEN SURGERY FOR CHOLECYSTECTOMY

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ABSTRACT

INTRODUCTION

Cholecystectomy in a layman language is the surgical removal of the bile duct. There is a plethora of pathologies of gall bladder in which the main mode of treatment is cholecystectomy. In an economy like India the Laparoscopic surgery may not be economic taking into consideration of the cost factor. The main aim of the study is to find out the pros and cons for each method used in cholecystectomy. The best way to operate is the laparoscopic. But the conventional open access surgery has to be used whenever the need arises. The cost effectiveness of the laparoscopic surgery has to be worked out for the better usage of the procedure.

KEYWORDS

Cholecystectomy, Bile duct, Laparoscopic, Economic, Open surgery.

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INTRODUCTION: Cholecystectomy in a layman language is the surgical removal of the bile duct. There is a plethora of pathologies of gall bladder in which the main mode of treatment is cholecystectomy.

One part of the treatment spectrum that include cholecystectomy mode of treatment may be Common round worm infestations. The roundworm can lead to obstruction which in turn leads to lot of complications in which the surgeon may interfere by conducting cholecystectomy. The other end of the spectrum may include carcinoma of the gall bladder.

Unlike open surgery in a laparoscopic surgery a laparoscope is introduced through a port into the peritoneal cavity. This is insufflated with a novel gas like carbon dioxide to produce a pneumoperitoneum like condition. Further ports are inserted to enable instrument access and their use for dissection. There is little doubt that laparoscopic cholecystectomy has revolutionised the surgical management of cholelithiasis and has become the mainstay of management of uncomplicated gallstone disease. With improved instrumentation, advanced procedures, such as laparoscopic colectomies for malignancy, previously regarded as controversial, have also become fully accepted. There has been an increasing evidence base showing the short-term benefits of laparoscopic surgery over open surgery with regards to postoperative pain, length of stay, earlier return to normal activities.

Laparoscopic mode of treatment is a huge hit because of the common belief that the overall condition of the patient is better than that treated with the open surgery.

But in some cases like previous upper abdominal surgeries, peritoneal and other adhesions can be a problem to conduct the laparoscopic surgeries and the olden open surgery may be conducted to minimize the damage which is already there.

Whichever approach is used, performing standard cholecystectomy requires safe dissection of the structures in Calot's triangle. This becomes difficult in the presence of acute or chronic inflammation, dense omental adhesions or gangrene of the gallbladder, resulting in higher rates of bile duct injury.¹

Laparoscopic subtotal cholecystectomy has been reported to be a safe and feasible alternative to conversion to open surgery during difficult laparoscopic cholecystectomy.^{2,3,4,5}

Sometime the case has to shift from laparoscopic to open surgery. The primary reasons for conversion include factors such as difficulties in dissecting the tissues of Calot's triangle, an unclear anatomy, bleeding from the gallbladder fossa and bile duct injury.^{6,7}

Gallbladder cancer is reportedly found unexpectedly in 0.2–0.8% of patients undergoing laparoscopic cholecystectomy.^{8,9}

In an economy like India the Laparoscopic surgery may not be economic taking into consideration of the cost factor.

AIMS AND OBJECTIVES: The main aim of the study is to find out the pros and cons for each method used in cholecystectomy. The following criteria will be studied to find out the pros and cons.

1. The operating time.
2. Intra operative complications.
3. Post-operative complications.
4. Hospital stay.
5. Cost of the procedure.
6. Late complications.

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MATERIALS AND METHODS: Sixty-two cases were studied in the Department of Surgery, K. S. Hegde Medical Academy, Mangalore.

Out of these twenty cases underwent open surgery and the rest through laparoscopic surgery.

The first group (Open Surgery) thus consisted of 20 cases and the second group (laparoscopic) consisted of forty two cases.

RESULT:



Image 1: The laparoscopic view of the gall bladder

	Mean Operating Time
Group 1	92.46minutes
Group 2	79.00 minutes

Table 1: Mean operating time

	Intra Operative Complication
Group 1	NIL
Group 2	2 cases underwent open surgery due to adhesion 1 case took more than two hours due to bleeding caused by the probes.

Table 2: Intra operative complications

	Post-operative complication
Group 1	Pain seen in all 20 patients
Group 2	Pain was complained in 16.66% of cases.

Table 3: Post-Operative Complication

	Hospital Stay
Group 1	7.6 days
Group 2	2 days

Table 4: Hospital Stay

	Cost of the procedure
Group 1	Lower
Group 2	Higher

Table 5: Cost of the procedure

	Late Complications
Group 1	1 patient returned with incisional hernia
Group 2	NIL

Table 6: Late Complications

DISCUSSION: Laparoscopic cholecystectomy is now the 'gold standard' for operative treatment of symptomatic gallstone disease. The main negative aspect of the technique is the increased incidence of bile duct injury compared with open cholecystectomy. Better understanding of the mechanisms of injury, coupled with proper training, will avoid most of these errors. The following sections highlight the important technical steps that should be taken during any form of laparoscopic surgery to avoid complications.

Though the previous surgical procedures and obesity are not absolute contra-indications, it really require trained hands to master the procedure.

Perforation of the gall bladder is more common with the laparoscopic technique than with the open technique (see also Chapter 67). Some authors have reported an incidence of up to 30 per cent, but it does not appear to be a factor in increasing the early postoperative morbidity. However, it is well known that bile is not a sterile fluid and bacteria can be present in the absence of cholecystitis. Unless the perforation is small, closure with endoloops or endoclips should be attempted to avoid contamination prior to extraction which should be with the use of an endobag. If there is stone spillage, every attempt must be made to collect and extract the stones and if there is a possibility of stones retained in the peritoneum, then an ultrasound should be arranged 6 weeks postoperatively to assess a collection around a stone and the patient should be informed of this outcome postoperatively.

In our present study the laparoscopic procedure was found out to be the best suited for the surgery but the cost effectiveness has to be worked out especially in a country like ours.

CONCLUSION: The best way to operate is the laparoscopic. But the conventional open access surgery has to be used whenever the need arises. The cost effectiveness of the laparoscopic surgery has to be worked out for the better usage of the procedure.

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