



## LAPAROSCOPIC CHOLECYSTECTOMY IN ACUTE CHOLECYSTITIS

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## ABSTRACT

Emergence of laparoscopic cholecystectomy as a viable alternative to traditional cholecystectomy has been greeted with enthusiasm by the surgical community. This new technique is not without complications, both potential and real. The complications associated with cholecystectomy are well documented. The incidence of their occurrence, however, may vary. This article discusses the management of 50 patients with acute cholecystitis, gangrenous gall bladder, empyema gall bladder. Using the technique of hydro dissection and adhesiolysis, there were no complications or mortality. This study was conducted during years 2015-2018. The main purpose of this article is to advocate laparoscopic cholecystectomy in cases of acute cholecystitis.

**KEYWORDS** : Hydro dissection, Laparoscopic Cholecystectomy(LC), Acute cholecystitis, Empyema gall bladder, Gangrenous gall bladder, Difficult gall bladder

## INTRODUCTION

Acute cholecystitis is a potentially life-threatening condition, which affects >20 million Asians yearly and causes high economic burden. Gallstones is the major contributor to acute cholecystitis. Laparoscopic cholecystectomy (LC) is the treatment of choice for acute cholecystitis. This study considers all patients with a pre-operative diagnosis of Acute Cholecystitis, Gangrenous Gall Bladder and Perforated Gall Bladders as acute conditions. Emergency Laparoscopic Cholecystectomy was planned in all these patients. In earlier periods laparoscopic cholecystectomy was the treatment of choice for most patients with symptomatic cholelithiasis; but was contraindicated for acute cholecystitis. The laparoscopic management of acute cholecystitis is a logical progression from interval LC after an acute attack of cholecystitis.

## Materials and Methods

This is a prospective study of 50 patients conducted from the year 2015 to 2018.

## Inclusion criteria

- Acute calculous cholecystitis
- Empyema Gall bladder
- Acalculous cholecystitis without sepsis
- Emphysematous Gall Bladder
- Mucocoele of Gall bladder
- Gall Bladder Gangrene
- Gangrenous Gall bladder

## Exclusion criteria

- Malignancy
- Sepsis
- CBD Stones
- Premalignant conditions

## Procedure

All patients fulfilling the inclusion criteria were selected and taking due consent for LC, all the pre-operative evaluation was done and the patients prepared for surgery.

We put Supra umbilical port for pneumo-insufflation. Intra-Abdominal Pressure was maintained at 12-15 mm Hg. Standard three ports were used for dissection. If the GB appeared swollen and with a friable wall, we deliberately made an incision on the fundus and aspirated fluid from the GB to decompress. Traction on a decompressed GB can make the Callot's triangle more clearly visible.

Conversion of a LC into an open surgery is not considered as a failure of the procedure. Improvements in the techniques has allowed

surgeons to perform a LC in a difficult GB. In a study by Habib et al.<sup>(1)</sup> reported worse patient outcomes after conversion. The optimal surgical treatment of any difficult GB, particularly gangrenous cholecystitis is controversial. Earlier studies question the role of laparoscopic cholecystectomy<sup>(2,3)</sup> but more recent studies show improved outcomes in the hands of experienced surgeons when the procedure is feasible.<sup>(4,5,6)</sup>

Duct first approach was done after decompression of the GB wall, removing the adhesions along the cystic duct. If the anatomy of the cystic duct and cystic artery could not be delineated due to the acute condition or adhesions, a delicate approach using a hydro dissection with a suction irrigation cannula introduced through working port can be helpful for anatomic delineation without injuring the friable tissues. The main reason for conversion in early laparoscopic cholecystectomy (ELC) was inflammation obscuring the view of Calot's triangle<sup>(7)</sup>, this can be avoided by the method of hydro dissection as described above. Whereas in delayed laparoscopic cholecystectomy (DLC) fibrotic adhesions were the main reason for conversion into an open cholecystectomy<sup>(8,9)</sup>. Severe inflammation and fibrotic adhesions are associated with bile duct injury.<sup>(10)</sup> After defining the anatomy of the cystic duct and cystic artery a window is created between and two and the duct and the artery and clipped separately. The cystic duct is cut maintaining traction and gall bladder removed from the GB fossa. Haemostasis was secured in the GB fossa and the specimen was removed using an endo bag.

## DISCUSSION

All though LC has emerged as the procedure of choice for symptomatic cholelithiasis, many surgeons prefer a conservative approach to allow the symptoms to settle for at least 6 weeks and a delayed cholecystectomy in patients with acute calculous cholecystitis before performing DLC.<sup>(11)</sup> In delayed laparoscopic cholecystectomy fibrotic adhesions are the main reason for conversion into an open cholecystitis.<sup>(8,9)</sup> This study was conducted in a high volume center and the conversion rate to open cholecystectomy is same or even less compared to interval lap cholecystectomy. Morbidity, hospitalisation and the cost can be reduced following this procedure. In a study by Gutt et al., laparoscopic cholecystectomy performed within 24 hours of admission was shown to be superior to delayed LC with regard to outcome.<sup>(12)</sup> The authors concluded that immediate LC should become the treatment of choice for operable patients with AC.<sup>(12)</sup> However, this cannot be generally applied at all levels of patient care. Furthermore, immediate LC may not always be possible for different reasons. A number of patients presenting with AC may require special consultations and correction of co-morbidities (e.g. those on oral anticoagulation treatment) before undergoing

surgery. Besides, experienced laparoscopic surgeons may not be available within 24 hours, as may be the case in quiet a number of primary care hospitals. In such cases, LC should be performed within 72 hours.

## REFERENCES

- 1) Habib FA, Kolachalam RB, Khilnani R, Preventza O, Mittal VK. Role of laparoscopic cholecystectomy in the management of gangrenous cholecystitis. *Am J Surg.* 2001;181:71–75
- 2) Cox MR, Wilson TG, Luck AJ, et al. Laparoscopic cholecystectomy for acute inflammation of the gallbladder. *Ann Surg.* 1993;218:630–634
- 3) Singer JA, McKeen RV. Laparoscopic cholecystectomy for acute or gangrenous cholecystitis. *Am Surg.* 1994;60:326–328
- 4) Kiviluoto T, Sirén J, Luukkonen P, Kivilaakso E. Randomized trial of laparoscopic versus open cholecystectomy for acute and gangrenous cholecystitis. *Lancet.* 1998;351:321–325
- 5) Merriam LT, Kanaan SA, Dawes LC, et al. Gangrenous cholecystitis: analysis of risk factors and experience with laparoscopic cholecystectomy. *Surgery.* 1999;126:680–686
- 6) Habib FA, Kolachalam RB, Khilnani R, et al. Role of laparoscopic cholecystectomy in the management of gangrenous cholecystitis. *Am J Surg.* 2001;181:71–75
- 7) Peng WK, Sheikh Z, Nixon SJ, Paterson-Brown S. Role of laparoscopic cholecystectomy in the early management of acute gallbladder disease.
- 8) Peng WK, Sheikh Z, Nixon SJ, Paterson-Brown S. Role of laparoscopic cholecystectomy in the early management of acute gallbladder disease. *Br J Surg* 2005;92:586–591
- 9) Lo C, Liu C, Fan ST, Lai EC, Wong J. Prospective randomized study of early versus delayed laparoscopic cholecystectomy for acute cholecystitis. *Ann Surg* 1998; 227: 461–467
- 10) Richardson MC, Bell G, Fullarton GM. Incidence and nature of bile duct injuries following laparoscopic cholecystectomy: an audit of 5913 cases. West of Scotland Laparoscopic Cholecystectomy Audit Group. *Br J Surg* 1996;83: 1356–1360
- 11) Senapati PS, Bhattacharya D, Harinath G, Ammori BJ. A survey of the timing and approach to the surgical management of cholelithiasis in patients with acute biliary pancreatitis and acute cholecystitis in the UK. *Ann R Coll Surg Engl* 2003;
- 12) Gutt CN, Encke J, Königer J; et al: Acute cholecystitis: Early versus delayed cholecystectomy, a multicenter randomized trial (ACDC Study, NCT00447304). *Ann Surg.* 2013, 258 (3): 385–393. 10.1097/SLA.0b013e3182a1599b.