LAPAROSCOPIC CHOLECYSTECTOMY IN ACUTE CHOLECYSTITIS: OUR EXPERIENCE IN A TEACHING HOSPITAL

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ABSTRACT

BACKGROUND

Laparoscopic cholecystectomy is considered now the gold standard operative procedure for chronic calculous cholecystitis. Acute calculous cholecystitis was considered previously as contraindicated for lap. cholecystectomy. But increasing experience and confidence, laparoscopic cholecystectomy can be extended to acute cholecystitis also with equal efficacy and safety by the experience surgeon.

OBJECTIVE

To evaluate the safety and efficacy of lap. cholecystectomy in acute cholecystitis in terms of less pain, less hospital stay, early recovery to full activity and good cosmetic result.

MATERIAL AND METHODS

This study includes 30 patients with features of acute cholecystitis in a teaching hospital, Assam, India, from Jan. 2014 to Dec. 2015. The preoperative, intraoperative and postop data of all patients were recorded and analysed and compared with other studies.

CONCLUSION

Lap. cholecystectomy performed in patients with acute cholecystitis within the same admission time is safe procedure with low conversion rate, no mortality and is cost-effective.

KEYWORDS

Acute Calculous Cholecystitis, Laparoscopic Cholecystectomy.

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INTRODUCTION

Laparoscopic cholecystectomy has become now gold standard procedure for treating gall stone diseases. The main advantages of laparoscopic cholecystectomy are—less postop pain, less recovery time, short hospital stay, early return to full activity and good cosmetic results.^{1,2} Above all, it maintains the efficacy and safety of surgical gold standard equal to open cholecystectomy. Previously acute cholecystitis was considered to contraindication to lap. cholecystectomy.^{3,4} Now because of increasing experience and confidence in lap. cholecystectomy, indications of lap. cholecystectomy extended to even in acute cholecystitis. Several studies have documented the safety and feasibility of lap. cholecystectomy for acute cholecystitis by the experienced surgeons.^{5,6,7,8,9} Our study was designed to analyse and compare the results of lap. cholecystectomy in patients with features of acute cholecystitis.

MATERIALS AND METHODS

This study includes 30 patients underwent lap. cholecystectomy for acute calculous cholecystitis in a teaching hospital, Assam, India, from Jan. 2014 to Dec. 2015.

The preoperative, intraoperative and postoperative data of all patients were recorded. Other data recorded includes—operative time, duration of hospital stay, conversion to open cholecystectomy and reasons for it, any postop complications. All patients were admitted on emergency basis from routine OPD and emergency dept. The patients were diagnosed as acute calculous cholecystitis on the basis of following criteria.

1. Acute rt. upper abdominal pain.
2. Murphy's sign +ve.
3. Fever.
4. USG findings of acutely inflamed GB with stone with pericholecystic fluid.

Exclusion Criteria

1. Pts. with no GB stone.
2. Pt. with jaundice, cholangitis,
3. Bil. Pancreatitis, and
4. Pt. with comorbid disease.

It has been long practised even in open cholecystectomy that cholecystectomy is best performed before 72 hrs. or within 72 hrs. of onset. It is also applicable in lap. chole. In our study, patients were divided into 2 groups- depending upon timing of lap. cholecystectomy performed after onset of acute attack. Gr-1 within 72 hrs. of onset of pain, Gr-2 after 72 hrs. of pain. All patients were given IV fluids, 3rd gen. Cephalosporins antibiotics, Amikacin, IV metronidazole, IV PPI, IM NSAID and were continued for 2 days. Lap. chole were performed by the same surgeon to avoid the operative, complications biasness. All patients underwent standard four port techniques.

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(Fig. of Acute Cholecystitis)

Fig. 1: Acute Cholecystitis Dissecting GB from Liver Bed **Fig. 2: Acute Cholecystitis Dissecting and finding Cystic Duct & Artery** **Fig. 3: Acute Cholecystitis****RESULTS**

Of 30 patients undergone lap. chole, female patients were 23 (75%) and male patients were 7 (25%). Mean age was 39.6 yrs., ranges from 20 to 60 yrs.; 14 pts. underwent lap. chole within 72 hrs. of onset of pain (Gr-1) and 16 pts. were after 72 hrs. (Gr-2) Table-1.

Gr.	Duration	Total	Male	Female
1.	<72 hrs.	14(46.6%)	4(28.5%)	10(71.4%)
2.	>72 hrs.	16(53.3)	3(18.8%)	13(81.2%)

Table 1: Pts. Groups Based on Duration of Symptoms

Characteristics	Gr-1 LC within 72 hrs. (n=14)	Gr-2 LC after 72 hrs. (n=16)
• Pain rt. Hyp, n= (%)	13(92.8%)	11(68.7%)
• Murphy's sign, n= (%)	10(71.4%)	7(43.7%)
• Fever >37.5°c n= (%)	11(78.5%)	9(56.2)
• USG results n (%)		
*Gall stone	14(100%)	16(100%)
*Distended GB with Thickened Wall	12(85.7%)	14(87.5%)
*Pericholecystic fluid n (%)	6(42.8%)	\$(255%)

Table 2: Clinical Manifestations and USG Findings

Characteristics	Gr-1 LC within 72 hrs. (n=14)	Gr-2 LC after 72 hrs. (n=16)
• Conversion (n%)	0(0%)	5(31.2%)
• Operative time (Min)	91	115
• Complications	1(7.14%)	3(18.5%)
• Postop Stay, (Days)	3	4

Table 3: Results of Lap. Chole for Acute Cholecystitis

From Table 3 the results of Lap. Chole in acute cholecystitis is underlined as follows- Rate of conversion to open chole is high in Gr-2 patients, i.e. 5 (31.2%) whom Lap. Chole tried after 72 hrs. The reasons are –non-visualisation of Calot's triangle in 3 pts., bleeding in 1 patient and difficulties in holding and retracting GB with grasper in 1 patient. Continuous dissection with laparoscopy was continued for 60 mins. The mean operation time excluding conversion was 109.5 mins. as a whole. In Gr-1 it was 91 mins. and in Gr-2 it was 115 mins. (Range from 91 mins. to 122 mins.).

Laparoscopic findings-12 patients had no adhesions around the neck of the GB, 10 patients had mild-to-moderate adhesions, 8 patients had severe adhesions; 24 patients had impacted stone in the infundibulum; 22 patients had distended GB which needed aspiration for facilitating grasping of GB wall. Almost all GB had some amount of wall thickness due to oedema. We retrieved GB through epigastric port with the help of retrieval bag with mild extension of incision in some cases. Big stone needed to be crushed inside the bag with stab knife incision over the GB wall through the opening end of the bag and ovum forceps.

We put sub-hepatic drain irrespective of all the cases for 24 to 48 hrs. There were 4 complications and out of which 3 port site infections, 1 (7.14%) in Gr-I and 2 (12.5%) in Gr-II patients; 1 in Gr-II patients developed sub-hepatic abscess. The mean postop stay was 3.16 (Ranges from 2 to 5 days). No mortality and no bile duct injury occurred in this study.

DISCUSSION

The traditional and widely practised management of acute cholecystitis during pre-laparoscopic era and even today is initial conservative treatment for symptomatic relief and delayed open or laparoscopic cholecystectomy at 6 to 8 weeks' interval. This traditional approach in open cholecystectomy was however challenged by early cholecystectomy, first advocated by Essenhig in 1966.¹⁰ Since then several randomized studies have shown that early open cholecystectomy is as safe as delayed cholecystectomy with reduced morbidity and hospital stay, lower cost and rapid recovery.^{10,11} provided that necessary expert of the surgeon available.

The lap. chole in acute cholecystitis also appears to be following the same trend as open cholecystectomy. Previously, lap. chole in acute cholecystitis was itself a contraindication because of the fear of increase morbidity due to bile duct injury and high conversion rate. But as time goes on and necessary experience earn by the surgeon many centres has attempted lap. chole in acute cholecystitis.⁵⁻⁹ A review of the literature over the last decade shows that early lap. chole in acute cholecystitis is as safe as delayed cholecystectomy.^{3,9,12,13} This approach is well supported by a recent international consensus published as Tokyo Guidelines.¹⁴

In these series, patients were operated with the H/O acute attack and on the basis of the pain they were divided into two groups – Gr-1 lap. chole done within 72 hrs. of onset of pain and Gr-2 lap. chole done after 72 hrs. of onset of pain. Time required for lap. chole in these series was ranged from 91 mins. to 122 mins. Mean operation time is lengthy in Gr-2 patients – (115 mins.) and in Gr-1 patients it was 91 mins.

The question of relating the time of lap. chole for acute cholecystitis to admission or onset of symptoms has been over emphasised.^{5,7,11} In our series, it is observed that those who underwent lap. chole within 72 hrs. of onset of symptoms (Gr-1), there was no complications, no conversion rate; but in Gr-2, there were conversion in 4 (31.2%) cases, operative time slightly longer (115 mins.), complication rate 18.5% (n=3) cases and postop stay is slightly longer (4 days). So based on these series and also from international experience and various data available, we support lap. chole/surgical intervention within 72 hrs. of onset of symptoms of acute cholecystitis. It is also observed that because of oedema and inflammation, the dissection is facilitated during this period as per same findings in early open cholecystectomy done for acute cholecystitis.

In this series the overall conversion rate is 31.2%, which is within the reported range from 0 to 39%.^{6,8,15} The most common reasons for conversion in our patients in the study were "Unable to identify the structures in Calot's Triangle."

The most common postop complications we found was port site infection in the epigastric port, may be due to infection spread from infected GB tissue and bile leakage to port site during bag retrieval. It was resolved within few days of antibiotics therapy and dressings. In Gr-II, one patient developed subhepatic abscess which resolved after USG guided percutaneous aspiration. No bile duct injury occurred in our series may be due to very low no. of cases.

CONCLUSIONS

Lap. chole performed in patients with acute cholecystitis within the same admission time is safe procedure with low conversion rate, no mortality and is cost effective.

However, it should be performed as early as possible, preferably within 72 hrs. of onset of symptoms, which can be regarded as "Golden Period." If performed within this time it decreases the operation time, conversion rate, morbidity, total hospital stay and of course no mortality.

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