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ACUTE CHOLECYSTITIS;
LAPAROSCOPIC CHOLECYSTECTOMY

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ABSTRACT... Laparoscopic cholecystectomy has been accepted as the treatment of choice for symptomatic gallstones. Its efficacy and timing in cases of acute cholecystitis is still under debate. This study was undertaken to evaluate our experience with early cholecystectomy as a safe, effective treatment of acute cholecystitis. **Materials and methods:** Record of all the patients who had undergone laparoscopic cholecystectomy for the diagnosis of acute cholecystitis was reviewed. Patients were divided into two groups on the bases of onset of symptoms to surgical intervention: less than 72 hours in the early group (n = 15) and more than 72 hours in the late group (n = 25). **Results:** Conversion to open procedure was insignificantly less (3 out of 15 in early group and 8 out 0f 25 in late group) (20% versus 32%) in the early treated patients (p-value 0.411). Furthermore, the operative time (75 versus 95 minutes) postoperative hospitalization (2 versus 4 days) and total hospital stay (4 versus 6 days) were significantly reduced in patients undergoing early laparoscopic cholecystectomy. **Conclusion:** Laparoscopic cholecystectomy is a safe, effective technique for acute cholecystitis in experienced hands with lower conversion rate, shorter operative time and reduced hospitalization.

Key words: Laparoscopic cholecystectomy, Acute Cholecystitis.

INTRODUCTION

Laparoscopic cholecystectomy has revolutionized the treatment of symptomatic gallstones with advantages of less pain, and improved cosmesis. In the earlier years, clinicians felt that the inflammation, edema, and adhesions associated with acute cholecystitis makes laparoscopic surgery unsafe. With increasing experience and development of better equipment acute cholecystitis is no more a contraindication for laparoscopic cholecystectomy. This study was undertaken to evaluate our experience with laparoscopic cholecystectomy as a safe and effective treatment of acute cholecystitis.

MATERIALS AND METHODS

Record of all patients who underwent laparoscopic cholecystectomy for the diagnosis of acute cholecystitis at Surgical Unit-I, Allied Hospital, Faisalabad during last one year (October 2007- October 2008) was retrospectively reviewed. The diagnosis of acute cholecystitis was made on the basis of history, physical examination, laboratory investigations and ultrasound findings. Acute cholecystitis was diagnosed in patients who presented with right upper quadrant pain for more than 2 hours, tender right hypochondrium and ultrasound demonstrating gallstones with evidence of acute

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cholecystitis in the form of thick gallbladder wall, pericholecystic fluid, and ultrasound-induced Murphy's sign. The diagnosis of acute cholecystitis was further confirmed by intraoperative findings (Fig-1) and pathologic specimens(Fig-2).

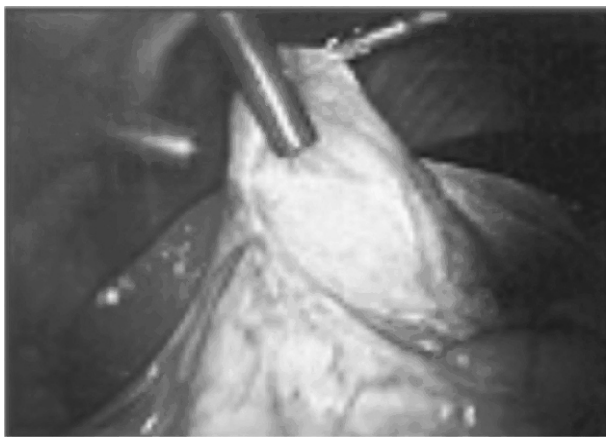

Fig-1.

Fig-2.

All patients with simple biliary colic, choledocholithiasis, biliary pancreatitis, or a calculus cholecystitis were excluded.

The remaining patients were divided into two groups based on the duration of acute symptoms to surgical intervention. "Early" operative intervention was defined as cholecystectomy performed within 72 hours from onset of symptoms and "late" operative intervention was defined as surgery after 72 hours from initiation of symptoms. Information regarding demographics, presentation, operative, and postoperative course was collected.

RESULTS

During the one year period, 40 patients were diagnosed with acute cholecystitis based on a combination of clinical, radiographic and laboratory findings. Fifteen of these patients underwent definitive procedure within 72 hours from the onset of their acute symptoms, and the remaining 25 had cholecystectomy after 72 hours. The average age was 45 years in the early treated group and 47 years in the late group. Twenty percent (3/15) of the early patients and twenty four percent (6/25) of the late patients had undergone previous abdominal surgery. Eighty percent (32/40) of all patients had experienced previous biliary symptoms. The average duration of symptoms was 48 hours for the early group and more than 4 days for the late group.

The operative time for the early intervention patients was 75 minutes versus 95 minutes for the other group. Twenty percent of the early patients and thirty two percent of the late patients required conversion to open technique. The postoperative and total length of hospitalization was shorter in the early group (2 and 4 days) compared with the late group (4 and 6 days respectively). Four patients (two from each group) developed minor wound infection which settled with conservative management. Operative time, postoperative stay, and hospital stay were statistically significantly lower in the early group when compared with the late group. (Table-I).

Table-I.

Treatment / Parameters	Within 75 hrs 47 (15 pts.)	After 72 hrs (25 pts.)
Average age	45	47
Previous abdominal surgery	3 (20%)	6 (24%)
Duration of symptoms (average)	48 hours	More than 4 days
Operative time (average)	75 minutes	95 minutes
Postoperative stay (average)	2 days	4 days
Length of hospitalization 9average)	4 days	6days

DISCUSSION

The benefits of minimal access surgery has been well established. In many specialized centres over the world laparoscopic cholecystectomy is a day case surgery[1,2]. In the initial days acute cholecystitis was considered one of the absolute contraindications for laparoscopic cholecystectomy[3,4]. Arguments in this respect included acute inflammation and associated adhesions making laparoscopic procedure an unsafe option. With more experience and development of improved equipment, laparoscopic surgery has become a safe option in the setting of acute cholecystitis[9,10]. However, the operative time remained significantly longer for these procedures than for those performed with the traditional method[11]. Also, the conversion rates are reported to be 6% to 60%(7,10).One study demonstrated 38.6% conversion rate for acute cholecystitis which is significantly higher than for chronic cholecystitis (9.6%)[13].

More recently, there has been a trend of performing laparoscopic cholecystectomy in the acute setting to shorten both operative time as well as length of hospitalization[11,12,13]. Our study supports this trend in that the patients who underwent "early" intervention (defined as less than 72 hours from onset of symptoms) had a 20% conversion rate to an open procedure, shorter operative time, postoperative stay (02 days) and total length of hospitalization (04 days) without an increase in morbidity to the patient. We postulate from our experience that the inflammation associated with acute cholecystitis creates an edematous plane in the submucosa of the gallbladder, thus facilitating the dissection from the liver bed. Waiting for the gallbladder to "cool down" allows maturation of this acute inflammation, resulting in neovascularization, fibrosis, and contraction making the dissection more difficult. Also while the inflammation in the early stages may not necessarily involve Calot's triangle, chronic inflammation may scar and distort Calot's triangle leaving dissection in this critical area more difficult and more dangerous.

CONCLUSION

Laparoscopic cholecystectomy is a safe, effective technique for acute cholecystitis in experienced hands with lower conversion rate, shorter operative time and reduced hospitalization.

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