LAPAROSCOPIC CHOLECYSTECTOMY IN ELDERLY PATIENTS PRESENTING WITH ACUTE CHOLECYSTITIS

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ABSTRACT

Objectives:
The aim of this study was to determine the frequency of wound infection and length of postoperative hospital stay for laparoscopic cholecystectomy (LC) in elderly patients presenting with acute cholecystitis.

Study design:
Case series.

Settings and duration of study:
This study was conducted in surgical departments, Allied and DHQ Hospitals Faisalabad from Aug, 2009 to Jan, 2010.

Patients and Methods:
The study included 85 patients over 55 years of age with acute cholecystitis undergoing laparoscopic cholecystectomy. All the patients in the study were subjected to LC during same admission. Preoperative parameters of age and sex were analyzed on the basis of postoperative wound infection and length of postoperative hospital stay. Statistical analysis was done using SPSS version 10.

Results:
Mean age was 62.7 years with female to male ratio 3.47:1. History of previous abdominal surgery was present in 18 patients. A total of 55 patients were operated within 48 hours and 30 patients after 48 hours from onset of symptoms. Wound infection was seen in 6 patients (4 males and 2 females). Postoperative hospital stay was <2 days in 45 patients and >2 days in 40 patients. Age >65 years, male gender, positive history of previous abdominal surgery, leukocytosis and timing of surgery from onset of symptoms (>48 hours) were found to be the main factors for high morbidity.

Conclusion:
Laparoscopic cholecystectomy can be performed safely in elderly patients with acute cholecystitis. Although there are some factors associated with high risk of wound infection and longer hospital stay. But with good selection of cases and surgical skills, overall morbidity can be reduced.

Keywords: Laparoscopic cholecystectomy, acute cholecystitis, gall stones

INTRODUCTION

The incidence of gallstones and gallbladder diseases increases with increasing age.¹

Galbladder disease is the commonest indication for abdominal surgery in elderly.²

Open cholecystectomy in the elderly with acute cholecystitis is associated with considerable morbidity and mortality, with complication rates reported in the range of 18% to 35%, and mortality as high as
12.7%.\textsuperscript{3} Acute cholecystitis usually presents with symptoms like pain right hypochondrium, fever, vomiting, mass right hypochondrium and sometimes with perforation. It has been proved that in experienced hands LC decreases post operative pain, reduces hospital stay and has decreased morbidity as compare to open cholecystectomy.\textsuperscript{4} There is also decreased incidence of wound infection and post operative ileus in patients undergoing.\textsuperscript{5} Traditional management of acute cholecystitis was conservative management followed by cholecystectomy with an interval of six weeks although early cholecystectomy in patients with acute cholecystitis was shown to be safe and effective many years ago. Laparoscopic cholecystectomy for acute cholecystitis is much more demanding because of severe inflammatory adhesions which distort the normal anatomy of biliary tract.\textsuperscript{6} Because of this, acute cholecystitis was once considered to be a contraindication to LC. With passage of time as experience of LC increased and with improvement in equipment, acute cholecystitis in elderly patients is no longer considered a contraindication to laparoscopic approach.\textsuperscript{7} Early LC in elderly within 48-72 hours has significantly reduced blood loss, conversion rate, length of hospital stay and total hospital charges.\textsuperscript{8} In Pakistan, LCC is one of the most common operations in younger age group in teaching hospitals. But the available reports on safety and efficacy of LC in elderly for acute cholecystitis in Pakistan are still scanty and conflicting as compared to international data. This study was done to evaluate the benefits of laparoscopic cholecystectomy in elderly who present with acute cholecystitis so that advantages of LC can also be achieved in our setup for elderly patients of acute cholecystitis in future.

**PATIENTS AND METHODS**

This study was conducted in surgical department of Allied and DHQ (Teaching) Hospital, Faisalabad from Aug, 2009 to Jan, 2010. Patients above 55 years presenting with acute cholecystitis were included in this study. Diagnostic criteria included (1) Acute upper abdominal pain with tenderness under right costal margin and fever >37.5°C; (2) Leukocytosis >11000/dL and (3) Ultrasonographic findings suggestive of acute cholecystitis. Elderly patients with acute cholecystitis but suffering from other chronic medical diseases (chronic liver disease, ischemic heart disease, diabetes mellitus, hypertension and coagulopathy) were not included in this study. Patients above 55 years fulfilling the criteria for acute cholecystitis were admitted through emergency/out -patient department. Detailed history and clinical examination was conducted. Fitness for anesthesia was assessed by anesthetist and physician prior to surgery. All necessary lab and radiological investigations were done. All the patients who fulfilled the criteria were briefed about study. They were explained about merits and demerits of procedure. A written consent was taken from these patients. They were informed and reassured that no new thing will be experimented. Single dose of 3rd generation cephalosporin was given to all patients at the time of induction of anaesthesia. Laparoscopic cholecystectomy was done by consultants who were well trained in laparoscopic surgery. All patients were closely observed in postoperative period for development of complications and hospital stay.

**RESULTS**

In the period of six months 85 patients of >55 years suffering from acute cholecystitis were operated. Laparoscopic cholecystectomy was done in all the patients. The age ranged from 56 to 75 years: with the mean age of 62.7 years. The standard deviation for age was 5.054. Among these 41 (48.2%) patients were between 56-60 years, 16 (18.8) patients were between 61-65 years and remaining 28 (32.9%) were above 66 years of age. There were 66 females and 19 males with a female to male ratio of 3.47:1 which is depicted in Graph 1.

Graph 1. Gender distribution among the elderly patients with acute cholecystitis, n = 85
55 (64.7%) patients were operated within 48 hours after onset of symptoms but 30 (35.3%) patients were operated after 48 hours of onset of symptoms. Postoperative wound infection was seen among 6 (7.1%) patients including 4 males and 2 females which was compared with the corresponding age group and gender, which is depicted in Graph 2 and Table 1.

Table 2. Postoperative hospital stay with corresponding gender group

<table>
<thead>
<tr>
<th>Gender group</th>
<th>Postoperative hospital stay</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>&lt;2 days</td>
</tr>
<tr>
<td>No. of patients</td>
<td>%</td>
</tr>
<tr>
<td>Male (n=19)</td>
<td>13</td>
</tr>
<tr>
<td>Female (n=66)</td>
<td>32</td>
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</tbody>
</table>

**DISCUSSION**

The increasing age of the population has lead to an increasing risk of gallstones and their incidence in the elderly population ranges from 14% to 27% according to various population-based studies. As the incidence of gallstones increases with age, the proportion of elderly patients with acute cholecystitis increases. Acute cholecystitis in the elderly is well recognized as a high risk condition for morbidity and mortality. This poor outcome has been attributed to the presence of severe co-morbid factors associated with the aging process. The observation that in elderly patients (aged >55 years) laparoscopic cholecystectomy for acute cholecystitis was associated with increased conversion rates, wound infection and prolonged hospital stay has been reported for elective cholecystectomy in the past and also has been noticed in study for acute cholecystitis by Wilson RG et al. In this study frequency of wound infection was 6 cases (7.1%) which is consistent with study by Osman Y et al. Length of postoperative hospital stay was <2 days in 45 patients (52.9%) and >2 days in 40 patients (47.1%). This result can be compared with study by Cheng SP et al. In our study male gender is associated with increased frequency of wound infection. The studies by Eldar S et al. and Tarcoveanu E et al. also showed the same results. Increasing age >65 years in our study showed more chances of wound infection and longer postoperative hospital stay (>2 days). This result was comparable with study by Mayol J et al. The superficial wound infection occurred at umbilical port in majority of cases most probably due to touching of gallbladder to the port site. The infection was controlled with oral antibiotics. To avoid port site infection, the policy to retrieve gallbladder in a bag of rubber glove should be accomplished. The surgeon’s experience is well recognized.
determinant for successful LC in elderly patients with acute cholecystitis. A well trained surgeon and his team in association with properly functioning instruments are the basic requirements for a laparoscopic surgery to be completed safely and successfully. Fortunately no mortality was seen during this study. Hence as regards complications LC in elderly patients with acute cholecystitis is equally safe.

CONCLUSION

Elderly patients with acute cholecystitis should not be considered a relative or absolute contraindication to laparoscopic cholecystectomy. Extreme old age and male sex are two important prognostic factors regarding postoperative wound infection and hospital stay. Laparoscopic cholecystectomy should be considered a routine procedure for elderly patients with acute cholecystitis in our hospitals to gain benefits of laparoscopic surgery.

REFERENCES


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