Our Experience of Laparoscopic Cholecystectomy at King Abdullah Hospital, Bisha: a retrospective Study

Mohamad Fawzy Nasser, Yasser Mohd Hussein, Medhat Moustafa, Essam Elsaye, Faiz Saffar, Saeed Abdalla Al-Ghamdi, Saleem Abdul Sattar

Abstract
Objective: To evaluate the outcome of laparoscopic cholecystectomy for chronic calcular cholecystitis and cholelithiasis.
Design: It is a retrospective analysis
Duration: All patients of calcular gall bladder disease who underwent laparoscopic cholecystectomy from June 2013 till June 2015 are included in this study.
Inclusions & Exclusions Criteria: All patients with calcular gall bladder disease and ultrasound evidence of chronic cholecystitis from the age of >12 years up to 90 years are included in this study. Patients with obstructive jaundice, cases with dilated common bile duct more than 8mm and those cases who are declared unfit for anesthesia are excluded from the study.
Patients & Methods: All patients during the period of June 2013 till June 2015 who were fulfilling the inclusions criteria were included in the study after taking approval from the research committee of the hospital. All the data regarding above patients entered into predesigned performa. The data was analyzed through statistical package for social science SPSS version 17. Mean and standard deviation were calculated for age of patient and duration of disease. The variable studied including co-morbidities and their influence on outcome. Operative and post-operative complications, operative time, post-operative stay and outcome of surgery in terms of morbidity and mortality.
Result: A total of 530 cases underwent laparoscopic cholecystectomy during these two years period. 463 of these patients were female and 67 were male. The age ranged from 16 to 100 years. 14 developed port-site bleeding and 11 got minor wound infection, 2 developed port-site hernia. Perforation of the gall bladder was noted in 12 cases. Fortunately, no bowel or vascular injury noted. Out of 530 patients, 492 were operated as a day care surgery, 38 patients were operated as in-patient cases.
Conclusion: Laparoscopic surgery as an effective treatment for chronic calcular cholecystitis and it can be performed as daycare surgery.

Keywords: Day care laparoscopic cholecystectomy, vascular complication of laparoscopic surgery, port-site infection, port-site hernia, port-site bleeding

Introduction:
Laparoscopic surgery is now been in practice service more than 3 decades. Initially started as a diagnostic tool and then gradually been accepted as standard treatment for many surgical diseases. The first open laparoscopy was performed by Hasson in 1971. Laparoscopic cholecystectomy has been accepted as the gold standard treatment for cholelithiasis. Open cholecystectomy is only reserved for only those cases who have poor cardio pulmonary reserve.

With increasing expertise, laparoscopic cholecystectomy is been routinely performed for acute cholecystitis. The diagnostic capability of laparoscopy has generated a new interest among general surgeons.
Gall stone disease is a major health problem all over the world particularly in adult population. Its incidence shows a considerable geographical variation. In America 10-15% adult population has gall bladder stones. In north India the reported incidence is in 6% of population. There is a high incidence of gall stone disease in southern region of Saudi Arabia with increase expertise it has been possible to perform laparoscopic cholecystectomy as a day care surgical procedure.

**Patients and Methods:**
This retrospective study carried out at King Abdullah Hospital, Bisha, Kingdom of Saudi Arabia from June 2013 to June 2015. Patients of either sex above age of 12 years with gallstone disease are included in this study. Only those cases with dilated common bile duct more than 8mm, a stone in CBD or mass in gall bladder and cases of obstructive jaundice are excluded from this study.

All of the above cases had routine CBC chemistry including LFTs, serology for hepatitis B & C. All patients have routine x-ray chest and ultra sound of abdomen. All cases above this age of 40 and known history of hypertension has ECG.

All operations performed using standard four port technique. For creating pneumoperitoneum we either used Hasson's open technique or Veress needle.

**Results:**
Out of 530 cases, 463 were female and 67 were male. The age ranged from 16 to 100 years (Figure 1).

Out of total number of cases 492 were operated in a day care surgery and remaining 38 cases were operated as in-patient. All these 38 cases, 27 cases were from area more than 50 kilometers from hospital and 11 were admitted due to multiple comorbidities.

Our mean operating time was 40 minutes ranging from 30-70 minutes.

Like all surgeries have complications we faced complications like 14 developed port-site bleeding and 11 got minor wound infection, 2 developed port-site hernia. Perforation of the gall bladder was noted in 12 cases. Fortunately, no bowel injury, vascular injury or injury to common bile duct was noted (Table 1).

**Discussions:**
Laparoscopic surgery is gaining acceptance day by day and now surgeon exploring all the body cavities using non-invasive techniques.

Laparoscopic cholecystectomy has already established itself as gold standard for treatment of gall stone disease. As it causes has surgical trauma improve cosmesis, and save the hospital cost as majority of cases are performed as day surgery and it also help in early resumption of work. Like all other surgeries, laparoscopy also bound to have complication to avoid these complications we have to be meticulous, careful and should pay respect to the tissue anato-

---

Table 1: Post operative complications

<table>
<thead>
<tr>
<th>Complications</th>
<th>No. of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bleeding from port-site</td>
<td>14</td>
</tr>
<tr>
<td>Epigastric port-site infection</td>
<td>3</td>
</tr>
<tr>
<td>Umbilical port-site infection</td>
<td>6</td>
</tr>
<tr>
<td>Umbilical hernia</td>
<td>2</td>
</tr>
<tr>
<td>Common bile duct injury</td>
<td>Nil</td>
</tr>
<tr>
<td>Colonic injury</td>
<td>Nil</td>
</tr>
<tr>
<td>Injury to vascular structure</td>
<td>Nil</td>
</tr>
<tr>
<td>Mortality</td>
<td>Nil</td>
</tr>
<tr>
<td>Perforation of Gall Bladder</td>
<td>12</td>
</tr>
<tr>
<td>Bleeding from cystic artery or its branches</td>
<td>3</td>
</tr>
</tbody>
</table>

Figure 1: Age distribution
Majority of the complications reported in the literature are due to use of Veress needle and blind insertion of first 10 mm port. Diez-rel et al reported 13 cases of aortic injuries in their study, Raviaco et al reported one injury to aorta and one injury to middle colic artery in their study.

The incidence of common bile duct injury during laparoscopic cholecystectomy had been previously shown to be higher than open cholecystectomy ie 0.06% in open cholecystectomy versus 0.3% in laparoscopic cholecystectomy. Letwin reported an incidence of CBD injury >0.1% in his study while Adamson described an incidence of 0.7% and Ahmed described as 1% in his study. Fortunately we did not have a single incidence of common bile duct injury.

To avoid injury to common bile duct, one should be careful while working in callots triangle and should carefully identify cystic duct and cystic artery. One should not hesitate to convert to open surgery if anatomy at callots triangle is difficult due to dense adhesions.

Bleeding during surgery is a well-known complication and been described in every series. We have 3 cases of bleeding from braches of cystic artery adequately controlled by clipping of the vessels. We also have bleeding from port site which was adequately controlled during operation. Only one case required re-laparoscopy and haemostosis by diathermy.

Small or large bowel can be injured specially using Veress needle or by first blind insertion of 10 mm trochar or by thermal burn. Bowel injuries are usually not recognized during laparoscopic cholecystectomy but they manifest late, therefore, we have to be careful to avoid such injuries.

Gall bladder perforation accidentally done in 12 cases which have been managed by applying clips on the perforated gall bladder and careful wash of peritoneal cavity after laparoscopic cholecystectomy.

In our series we have post site infection 9 cases, 3 from epigastric ports, 6 from umbilical port site. Port site minor infection also reported by Ariane et al in 1.63% of cases in their series.

Our conversion rate was 2.07%, 11 cases out of 530 cases were converted to open cholecystectomy.

**Conclusion:**
Laparoscopic cholecystectomy is safe and effective treatment for gall stone disease simultaneously it improves cosmesis and save hospital expenditure by avoiding admission as in majority of cases laparoscopic cholecystectomy was done as a day care procedure.

**References:**