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Laparoscopic Cholecystectomy as Day Care Surgery

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ABSTRACT

Aim: To share our experience as day care laparoscopic cholecystectomy and to assess its safety and feasibility in local set up.

Methods: All patients who underwent laparoscopic cholecystectomy as day care from October 2011 to April 2012 at Akhtar Saeed Trust Hospital and Farooq Hospital Lahore after fulfilling the criteria were included in study. There were 50 patients. The patient's demographic details investigations operative and post operative complications were recorded. The discharge criteria was formulated based on post anaesthesia discharge scoring system. All patients who discharged at 9pm were considered day case. All patients who remained admitted at night were noted. The reasons for overnight stay were also evaluated.

Results: Fifty patients were selected for day care laparoscopic cholecystectomy. Out of all fifty patients 5 patients (10%) had to stay overnight. The main reason (6%) of overnight stay was post op pain, and vomiting whereas post operative hemorrhage (2%) and biliary leakage from accessory duct (2%) were other reasons for unplanned admissions.

Conclusion: Laparoscopic cholecystectomy is safe, feasible and effective day care procedure in selected patients.

Key words: Laparoscopic cholecystectomy, outpatient, day care, gall bladder.

INTRODUCTION

Laparoscopic cholecystectomy is the gold standard for symptomatic gall stones disease[1]. Following technological developments and advances in surgical technique, the procedure has become one of the most commonly carried out[2]. There is now a trend towards performing Laparoscopic cholecystctomy (LC) as a day surgery (DS) procedure because of its potential economic benefits. Early experience of day case laparoscopic cholecystectomy produced very high overnight admission rates[3]. However more recent studies have shown more acceptable overnight unplanned admission rates of less than 10%[4]. Primary aim of day care surgery is to provide convenience to the patients by avoiding hospitalization, but patient's safety is the ultimate priority[5]. The reduction in overnight admission rates to less than 10% is due to rigorous patient selection, accepting only well motivated patients and attention to detailed anaesthetic and surgical technique. In Pakistan there are certain centres where Laparoscopic cholecystectomy is being carried on as day case procedure. However, there has been dearth of study on laparoscopic procedure locally.The objective of our study is to share our experience and its feasibility in local set up.

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MATERIALS & METHODS

This was observational study which was conducted from October 2011 to April 2012 at Akhtar Saeed trust teaching hospital / Farooq hospital Lahore. During the study period all the patients who underwent laparoscopic cholecystectomy as day care procedure were included in the study. The inclusion criteria for day care laparoscopic cholecystectomy was ASA up to II, well motivated patients and no evidence of mass formation in Callot's triangle .The exclusion criteria was acute cholecystititis, comorbidity, age more than sixty and relative contra indication to laparaoscopic cholecystectomy. The case records of all these patients were maintained thoroughly regarding their age, sex, symptoms, general status, clinical and radiological findings. All those patients who were discharged at 9 pm were considered a day care case. All those patients who stayed overnight were also included in the study. All preliminary investigations like blood complete picture, blood grouping and cross-matching, serum electrolytes, hepatitis and coagulation profile and ultrasound abdomen were done in all the subjects before admission.

The data was recorded on pre-designed proforma mentioning variables including, age, sex, address, symptoms, imaging studies, intraoperative findings, intraoperative complications, post op complication and reasons for overnight stay were recorded in the proforma.

The Lapraroscopic Cholecystectomy was done via a standard three port technique using one 5mm instrument ports for grasper the umbilical port for the laparoscopic telescope and epigastric port for dissection and retrieval of the gallbladder. The general anaesthesia with endotracheal intubation was used in all patients. The surgery was carried out by a team led by surgeon, an assistant and camera operator. After the surgery, all patients were monitored first in the recovery ward and subsequently in the Day Surgery Ward.

All the patients who underwent LC were monitored half hourly in recovery room and in Day Care Ward. Vital signs, chief post operative complaints noted. One of the operating surgeons visited in the evening and after reviewing all patients decides to discharge or stays in hospital based on post anaesthesia discharge scoring system and patient's general status.

RESULTS

The demographic details of patients are shown in Table 1.

Table 1: Demographic details of patients

Parameters	**=n**	**%age**
Age in years		
<30	5	10
30-40	10	20
41-50	30	60
51-60	5	10
Male	7	14
Female	43	84
Indication of surgery		
Pain	35	70
Past H/O cholecystitis	10	20
Mucocele/empyema	5	10
ASA		
ASA I	40	
ASA II	10	

Most of the patients were females (n=43). The maximum no. of patients reported in the age group (40-50 yrs).Indications for surgery in these patients were recurrent biliary colic in (70%) and previous episodes of acute cholecystitis in (20%). Total 5 patients were excluded from day care laparoscopic cholecystectomy group due to obscured callot's triangle and acute cholecystitis. Unplanned admissions were required for 5 patients, accessory duct injury in 1(2%) patient, bleeding from liver bed in 1(2%) patient. Three patients (6%) had nausea, vomiting and severe pain which failed to resolve assessment of postoperative pain, nausea and vomiting shown in table 2. The patients post operative pain was calculated by visual analogue score. Maxmimum patients (60%) had mild post operative pain. Forty five patients were discharged on the same day within 6 to 8 hours of surgery. The discharge criteria were formulated based on post anaesthesia discharge system. Table 3 shows post anaesthesia discharge scoring system. In this scoring system maximum 10 points were awarded to the patients who were perfectly fit for discharge. All patients who had score below 7 were admitted for night stay for optimization of symptoms.

Table .2: Early post operative complications

Complaint	**=n**	**%age**
Vomiting	3	6
Hemorrhage	1	2
Pain Severe(VAS>4)	3	6
Moderate(VAS 3-4)	7	14
Mild(VAS 1-2)	15	30

Table 3: PADSS-postanesthesia discharge scoring system

Parameters	**Results**	**Points**
Systolic blood pressure	<20% of preoperative value	2
	20-40% of preoperativevalue	1
	>40% of preoperative value	0
Ambulation	Walking without vertigo possible	2
	Walking with assistance possible	1
	No walking possible, vertigo	0
Nausea, vomiting	Minor	2
	Moderate	1
	Severe	0
Pain	Minor (VAS 1-2)	
	Moderate (VAS 3-4)	
	Severe (VAS >4)	
Bleeding	Minor	2
	Moderate	1

DISCUSSION

Laparoscopic cholecystectomy (DCLC) has recently been adapted as a safe and viable procedure and is rapidly gaining popularity because of cost effectiveness and convenience. Its feasibility as day care has been established in western countries. The advantages of patient satisfaction and cost effectiveness were highly attractive to surgeons and hospital administrators[6]. The low rate of adverse events or complications during the intraoperative or immediate postoperative periods further justifies the rapid growth of this type of ambulatory surgery in developed nations. All these data are coming from advanced countries where already there is a system for ambulatory or day care surgery is in place. Also well defined inclusion and exclusion criteria are followed for patient selection. But data from developing nations like Pakistan is still limited. The experience from Pakistan has reported it to be safe,

feasible, and acceptable to patients and with social and economic benefits .[5] Performing DCLC in high risk patients presents a challenge to surgical safe practice, particularly during the early postoperative period. Performance of DCLC in high risk patients requires scrupulous evaluation prior to implementation. The possible limitations to day care surgery like hemorrhage, biliary leakage should be kept in mind before planning.

The selection of the patient is key for day care lap chole[3,4]. Previous abdominal surgeries, complications of gallstones in general are relative contraindication to lap chole. Criteria for patient selection are crucial for the development of safe day care surgery. Robinsons et al[7] reported to have achieved success of 70% of an unselected group of patients and they have identified ASA classification, procedural duration and surgery start time as factor associated with failure of outpatient management. It has been concluded in studies that appropriate patients selection lowers failure rate and patients most likely to fulfill the criteria of DCLC are patients of ASA grade I and II, with no previous abdominal surgery, no history of acute cholecystitis and a procedural duration of shorter than 90 min. Most studies utilize selection criteria when evaluating patients for DCLC[8]. Ali et al[9] reported successful DCLC in 92% of selected patients.

In our study only patients who fulfill our selection criteria were subjected to DCLC and resulted in successful completion of DCLC in 90% patients. The rate of unplanned admission in DCLC is a quality index as it might represent the existence of inadequate criteria in selection of patients who given their characteristics, precedents, or preoperative findings were not candidate to this type of surgery. A lower admission rate has been reported in dedicated ambulatory surgery centers and this could be related to their strict patient's selection criteria[8,9].

We do not use Nasogastric tube and suction drain routinely. The drains and the tubes delay recovery. Early mobilization and start of oral sips are also our strategies. Most important cause for failure to discharge in our study was vomiting and post operative pain. Hollington et al[10] reported postoperative nausea and vomiting a frequent reason for unplanned admission after DCLC. In most cases use of single dose of olendronate and effective post operative analgesia reduced this problem[11,12]. In our study only three patients required readmission in the postoperative period and no patient was reoperated and there was no mortality.

The limitations of the study are, it is a retrospective report with prospectively kept data and no analysis of the patient satisfaction was done. May be this aspect may be studied in future studies.

CONCLUSION

Day care procedure is safe with high success rate in carefully selected patients with uncomplicated symptomatic gallbladder disease and has the advantage of cost effectiveness. Patient selection has a major impact on the success rate of a day-case LC program[13]. Better management of early post-operative complications could further improve the success rate of day case LC. Laparoscopic cholecystectomy is feasible, safe and effective day care procedure in selected patients in local setup.

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