Early Experience of Day Care Surgery in Nepal

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ABSTRACT

Introduction: The day care laparoscopic cholecystectomy (DCLC) is found to be safe and effective in developed countries. However, it has not been well accepted in our part of the world probably because of lack of infrastructures,established norms and published reports. We have analyzed the safety and feasibility of the procedure in the recently established first dedicated day care surgery centre of the country.

Methods: All the patients with American society of anaesthesiologist (ASA) score I and II admitted for laparoscopic cholecystectomy are included. Operation are performed in the morning and closely observed till evening. Patients found to be medically fit to discharge; having a responsible person at home and who can make their own arrangements in case of problems were advised for discharge. Follow up was done by telephone call from next morning.

Results: Total 35 patients underwent laparoscopic cholecystectomy. Age range was between 16-65 years and most of them were females (88%). Only 30 patients were operated in early morning and were eligible for day care surgery. 25 (83%) Patients were advised for discharge but only 10 (33%) could make arrangement. Other 15 patients could not go home mainly due to different psychosocial reasons. Only one patient needed readmission and Complications observed were minor and relatively few.

Conclusions: Day care laparoscopic cholecystectomy is safe and feasible in our set up. Acceptance of the procedure is expected to increase once it is regularly practiced and awareness in improved.

Keywords: *day care, laparoscopic cholecystectomy, surgery, Nepal*

INTRODUCTION

Safety and feasibility of day care laparoscopic cholecystectomy (DCLC) have been testified in many published series.[1-9] Increasing trend of day care surgery in recent publication is mainly driven to reduce health care cost without the compromise in quality care.[10-11] The reduction of cost in health care is the need of developing countries like ours. In the contrary, there is lack of acceptance of the day care surgery in these countries. Main reason for the in-acceptance is because of major resource variation and inequality in health care delivery

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system in comparison to the developed countries where there are established norms for day care surgery with rigorously monitored outcomes.[12]

We have analyze the safety, feasibility, potential benefits and acceptance of the day care laparoscopic cholecystectomy in a fully dedicated first day care surgery centre of the country.

METHODS

A prospective, cross-sectional study was conducted in recently established first day care surgery center - Buddha Minimal Intervention (MAI) center, Teku, Kathmandu in association with other tertiary care centres September, 2009 to February, 2010. The institutional approval was taken. All patients undergoing surgery are offered the day care service and the consent was taken. Patients are thoroughly examined before discharge by operating surgeon. Only the eligible patients are discharged. Patients were never asked to go home, instead the option was given. Patients needing more care are kept overnight. The patients who need more than 24 hour as well as extra care are shifted to medical college teaching hospital. The study includes the cases who had undergone laparoscopic cholecystectomy during this period. Data were prospectively collected and kept in database for assessment of intraoperative and post-operative event as well as clinical course after discharge.

Patients are clinically examined in outpatient clinic by surgeon, thoroughly worked up[13] and scheduled for surgery unless there is strong contraindication for day care procedure. Patients are informed and consent is taken. They are asked to attend the hospital on the day of surgery early at 6.30am in empty stomach. Maximum of two operations had been performed in the morning.

All the patients who are within American society of anesthesiologist (ASA) criteria 1 and 2 are included. The patients who have educated and responsible adult company at home, home in easily accessible areas, able to make the arrangement to attend hospital if problem arises, history of uncomplicated gallstone diseases and having no co-morbidities are offered "Down to Dusk" policy i.e admission in the morning and discharge at evening.

Operation is started early in the morning at 7 am. Inj. Midazolam is used as premedication. Anaesthesia is induced using inj. Propofol, continued by halothane, muscle relaxation achieved by inj. Vecuroneum. All patients receive Inj.Ondansetron and inj. Dexamethasone as antiemetics. A single dose inj. Ceftriaxone 1 gm intravenous is given as prophylactic antibiotic at the time of induction.

Operation is performed by consultant surgeon. Standard three ports are used in almost all cases. Inj Bupivacaine is injected at port sites before giving the incision and at the end of procedure instilled under the diaphragm. Every patient receives inj. Diclofenac intramuscularly at the end of surgery before transfer to post-operative ward. Drain is kept only when surgeon feels strong indication. Having the drain is not considered as contraindication for discharge.

In the post operative period, Patient is examined by dedicated staffs every 15 minutes for two hours and then every half hourly. Patient receives Inj. Diclofenac 75mg intramuscular or Inj. Paracetamol 1gm intravenous given for pain and inj. Ondansetron as an antiemetic. Oral fluid is allowed after four hours. Patient is mobilized at the same time. If the patient are fully mobilized to the extent that they can go to toilet without support and if they tolerate food orally they are advised discharge. The Aldrete scoring system for discharge is followed.[14-15] The Non-steroidal anti-inflammatory agent and Paracetamol is alternatively given every four hours for pain, using as a pre-emptive analgesics. Patient's wish to stay in hospital and their comfort level is highly respected. Surgeon performs ultra-sonogram of abdomen himself in every patient before discharge to rule out any significant collection in the Morrison's pouch and pelvis.

RESULTS

During the time period, total 135 procedures were performed. Out of these 35 (26%) were laparoscopic cholecystectomies. Total 34 cases were elective and one case was acute. Majorities were female 31(88%), (Figure1). Age ranging from 16-65 years (Figure2). Maximum number of patients were from 20-40yrs age group. Average operative time was 15min to one hour. None of the patient was cancelled and none needed conversion to open. Five cases were operated in the afternoon including one acute case. 30 cases were operated early morning 7 am. Oral feeding was started after four hours in all cases. Nausea and vomiting was controlled by inj. Ondansetron. Patients were mobilized within six hours. Out of 30 patients operated in the morning, operating surgeon found 25 (83%) patients fit to discharge in the evening. Ultrasonographic examination at the time of discharge did not reveal any intra-abdominal collection in any of the cases (Figure 3). Only 10 (33%) patients accepted to go home. Main reason for refusing discharge in the remaining was social (Fear of pain, lack of responsible person at home, not having good transport access, residence at top floor of the house and not having lift, self-satisfaction to remain in hospital (Table 1), five patients were not discharged as none of them had their own resident in the city and they were staying at hotel. Remaining five patients were considered to be kept overnight by the surgeon for management of pain and Post-operative Nausea and Vomiting (PONV). None of the patient remained

in hospital for more than 24 hours. One patient (3%) needed re-hospitalization for distension of abdomen and admitted in Kathmandu medical college hospital and managed conservatively. List of complications generally encountered in laparoscopic cholecystectomy with incidences (Table 2).

Table1.Social reasons for not willing to get discharged.

Fear of pain	2
Lack of responsible person at home	3
Not having good transport access	10
Residence at top floor of the house and not having elevator	9
Feeling comfortable to remain in hospital	7

Table 2. Complications.

1.Conversion to open	0
2. Readmission	1
3. wound infection	0
4.DVT	0
5.Biliary leak/ Hemorrhage	0
6.Pleuritic chest pain	2
7.Post-operative Nausea and Vomiting (PONV)	7
8. Prolonged pain	5
9. Atelactasis/Pneumonia	0

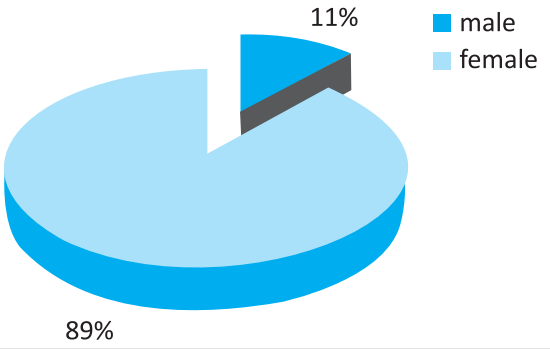

Figure 1. Sex ratio.

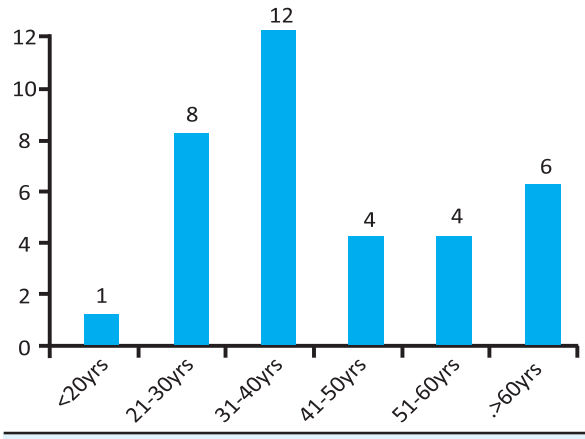

Figure 2. Number of patients according age range.

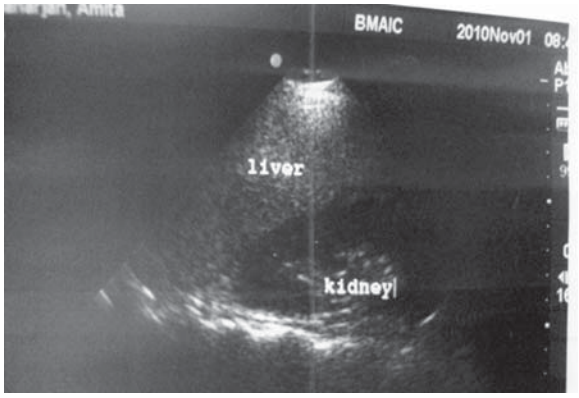

Figure 3. Post-op Ultrasonogram, Hepatorenal pauch.

DISCUSSION

Establishing the day care surgery in developing country like ours is a real challenge. Just extrapolation of the published experience from western world is not feasible. Main reasons are low literacy, lack of reliable and efficient transport, absence of organized referral pattern, poorly developed communication system, underdeveloped primary health care system, absence of community nursing etc. [12] This is further more difficult for us as most of our patients come from remote areas to the city just for the treatment and they do not have a proper residence where they can be taken care of in immediate post-operative period. But the matter of fact is that the country like ours benefits most from day care surgery service to reduce health care cost and waiting time. Day care surgery is possibly the clearest and most evident example of economy in any health care system as.[10]

The same day discharge rate in the current study seems only 33% (10 out of 30). This seems low in comparison to other published reports where it is reported 80 to 92%.[16-18] But actually the 15 (50%) patient who were not discharged in the same day were kept in hospital for non medical reasons. If those psychosocial reasons could have been eliminated, success rate (80%) would have been comparable to published reports. We still have to use conventional anaesthetic agents like halothane where as in almost all established day care surgery centers showing good results use modern drugs like sevoflurane for early recovery and less incidence of PONV. For our initial experience with all the constraints, result seems encouraging. If we set and follow the inclusion criteria strictly and include only the selected patients the goal is definitely achievable. Few patients wanted to stay in hospital although they could have gone home safely, this reflects that some patients were not fully prepared and informed. We need to improve in this aspect too.

We found level of satisfaction is very high among our patients because of homely environment, easy and prompt response from medical personnel, surgery done by most experienced people, quality service and due to extra attention gained in day surgery center in comparison to general hospitals. Follow up was done by telephone. It was found to be most convenient by our patients as they did not have to rush to hospital emergency room for small queries. The poor communication infrastructure of the country may be the restriction for day care surgery to some extent.[19]

Although the cost of surgery has not been calculated and compared in this study, it is obvious that the day surgery is either directly or indirectly reduces the overall cost of the health care delivery.[9,12] Most of the government general hospitals lack enough bed required for emergency and malignant cases. Doing the most common operation like cholecystectomy, inguinal hernia, hydrocele, lumpectomy in day care surgery center helps to reduce the extra burden of super-specialized hospitals and general hospitals.

Complications like deep vein thrombosis, atelectasis, pneumonia, wound infection were not seen. Some credit goes to early mobilization along with other factors. The present study can be criticized for a small sample size. The reason for low complication rate and comparatively fewer re-admissions seen in the study could be due to relatively less number of cases. This is the preliminary report from country's first day care surgery center and we believe that thiseffort will remain as "mile stone" as in near future more and more day surgery centre are going to be established in the country and laparoscopic cholecystectomy will be fully accepted as day care surgery.

CONCLUSIONS

Day care laparoscopic cholecystectomy is safe and feasible in our setup. Acceptance of the procedure is expected to increase once it is regularly practiced and awareness in improved. Appropriate patient selection, safer anaesthesia, adequate patient counselling and safety-net are the key factor for success of the mission. Cost-effectiveness, less waiting time for surgery and early return to work are the main advantages which are the need of developing countries.

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