

Experience of Laparoscopic Gynecological Surgeries at Kathmandu Model Hospital

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Aims: Laparoscopy has become the most common procedure in recent set-ups. It is now a major diagnostic as well as therapeutic modality for infertility, endometriosis, extrauterine pregnancy and benign ovarian tumors. The aim of the study was to share the experience of gynecological laparoscopic surgeries performed at Kathmandu Model Hospital.

Methods: A descriptive study was carried out at Kathmandu Model Hospital from 1st January 2011 to 1st May 2017. All the patients who underwent gynecological laparoscopic surgeries were analyzed for the indication, type of procedure and its complications.

Results: Out of 217, majority 24.4 % (n=53) patients were in age group 26-30 years. There were 51.1% (111) cases of ovarian cyst, 12.44% (27) cases of ectopic pregnancy. Eight cases were done with surgeons for cholecystectomy and ovarian cystectomy or hysterectomy. There were 15% (n=32) cases of diagnostic laparoscopy. Total laparoscopic hysterectomy was done in 16% (n=33) cases. Conversion to laparotomy was done in 3% (8) cases. There was one case of vascular injury. Most common immediate post-operative complaint was variable degree of pain, managed with parenteral and oral analgesics. Oral diet started at 4-6th hour post-operatively, and mobilization started after 24 hours. 75% (164) cases had a hospital stay of 2 days and 25% (53) cases stayed for 3 days.

Conclusions: Laparoscopic surgery at our hospital has been well demonstrated in terms of reducing postoperative pain and decreasing postoperative morbidity, short hospital stay, and less postoperative recovery time. However, adequate advanced training and devices are needed to perform skillful laparoscopic surgeries.

Keywords: cystectomy; gynaecological laparoscopic surgeries; hysterectomy.

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INTRODUCTION

Laparoscopy is a revolution in gynecological surgery as it is safe and less invasive. It was first performed by Jacobeus in Sweden in 1910. History shows that in gynecological endoscopy surgery, there was massive enthusiasm in the beginning but its growth was not as expected. The major hurdle for this is the learning curve for endoscopy surgeries. In developing countries like Nepal, we are still in a crawling phase, the major reason for this being lack of expertise. First laparoscopic gynecological operation done in Nepal was tubal sterilization in 1971 in Maternity Hospital. Padhye² in her study of 1600 patients of laparoscopic sterilization under local anesthesia found the method to be simple, satisfactory and cheap. Initially, its use in gynecology was restricted to diagnostic purpose; gradually it expanded to therapeutic modalities in

different gynecological problems. We at Kathmandu Model Hospital have been performing laparoscopic surgeries since 2011 for indications including both diagnostic and therapeutic operations. This study aimed to share the experience of laparoscopic gynaecological operations done in Kathmandu Model Hospital.

METHODS

This study was carried out in Kathmandu Model Hospital from 1st January 2011 to 1st May 2017. All the patients subjected to gynecological laparoscopic procedures were taken for study. Ethical approval was obtained from ethical review board of pfect-NEPAL/ Kathmandu Model Hospital. The patients were explained about the type of procedure, duration of procedure, intra and post-operative complication, post operative stay and need of laparotomy. Informed consent was obtained from the patient for surgery.

A pre-operative assessment was done in all the patients that included clinical examination, blood investigations, abdomen-pelvis scan and determination of tumor markers whenever indicated.

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All elective cases were admitted on the day of surgery with bowel preparation pre operatively. General anesthesia with endotracheal intubation was done in all cases. During the procedure, the patient was placed in lithotomy trendelenburg position. Abdomen was opened with open technique using a Hasson Cannula. A one cm supra or infra-umbilical incision was given and pneumoperitoneum was created. Total laparoscopic hysterectomy (TLH) was done with standard technique with vault closure using either endosuture or vaginally. Ovarian cystectomy was performed by either enucleating the ovarian cyst, deroofting or aspirating it followed by removal of the cyst wall or oophorectomy where needed. Routine post-operative care was given and patients received parenteral antibiotics for first 24 hours followed by oral antibiotics for 5 days. The patients of diagnostic laparoscopy and cystectomy were discharged after 24 hours and TLH patients were kept for 72 hours. Patients were followed from the time of admission to the time of discharge and at one week.

RESULTS

A total of 217 laparoscopic procedures were carried out successfully during the study period. Majority 24.4 % (n=53) patients were in age group 26-30 years. Diagnostic laparoscopy was done in 32 cases and operative laparoscopy in 185 cases. Major indication of diagnostic laparoscopy was infertility in 12 cases (Figure 1). Lap cystectomy was the most common type of the surgery (Table 1). Dysfunctional uterine bleeding was the most common indication for TLH (Figure 2). Table 2 shows the complications of various laparoscopic procedures. Port site infection was noted in 10 cases, two of which required resuturing. The conversion to laparotomy was done in eight cases.

Table 1. Types of laparoscopic procedures (n=217).

Types of procedures	N (%)
Diagnostic Laparoscopy	32 (15%)
Lap Oophorectomy	10 (5%)
Lap Cystectomy	97 (46%)
TLH	33 (16%)
LAVH	7 (3%)
Lap salpingectomy	27 (13%)
Bilateral tubal ligation	3 (2%)

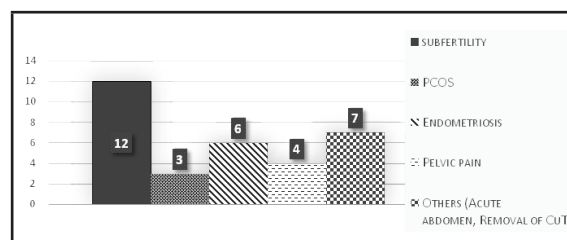


Figure 1. Indications for diagnostic laparoscopy (n=32).

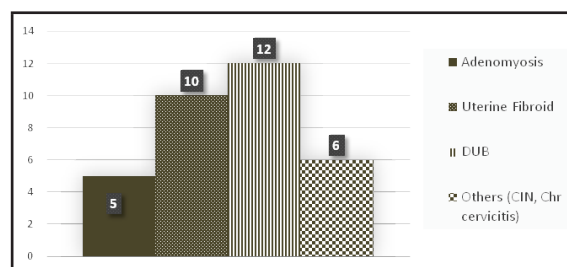


Figure 2. Indications for total laparoscopic hysterectomy (n=33).

Table 2. Complications of the procedure (n=44).

Types of complications	N (%)
Conversion to laparotomy	8 (3.6)
Pain, nausea, vomiting	20 (9.2)
Port site infection	10 (4.6)
Port site infection requiring resuturing	2 (0.9)
Vault infection	3 (1.3)
Vascular injury	1 (0.46)
Bowel/ bladder injury	0

DISCUSSION

We started our journey with diagnostic procedures as all beginners do. In our study, operative laparoscopic procedures were comparatively more 185 (85.2%) than diagnostic procedures 32 (14.7%) {Table 1}, subfertility and endometriosis were two main indications for performing diagnostic laparoscopy followed by chronic pelvic pain. Some authors also reported infertility as the most common indication of diagnostic laparoscopy.^{3,4} In PCOD cases, ovarian drilling was done during diagnostic laparoscopy.

The port of entry was both supra and infra-umbilical open technique. The best technique of port entry still remains arguable.⁵ The common complication noted in our series was port site (umbilical) infection in about 10 (4.6%) of the cases (Table 2) comparable to study by Hasson et al, in their series of 15,622 cases that is 4%.⁶ Two cases required resuturing. We had one case of vascular injury during cystectomy. Right external iliac vein was cauterized during enucleation of cyst which resulted in hemorrhage,

hence immediate laparotomy was done and bleeding was taken into control. After one-pint whole blood transfusion postoperatively, patient was fine. Similar case has been reported by Hemal et al.⁷

Out of 217 laparoscopic procedures, 97 (46%) cases were benign ovarian masses that underwent successful laparoscopic cystectomy (Table 1). Three cases required conversion to laparotomy due to severe adhesions and one due to vascular injury. The most common benign ovarian tumor was serous cystadenoma (54.6%), dermoid (25.7%), endometriosis (19.5%). Ten (5%) cases underwent oophorectomy. This contrasts with the study done by Shah et al.⁴ where endometriosis was the commonest ovarian pathology followed by dermoid cyst. Endometriosis and dermoid cysts were the two-common benign ovarian tumors in their series of Yuen et al.⁸ Parker et al,⁹ similarly commented that planned laparoscopic approach was successful in 95.2% and the most commonly performed surgery was laparoscopic cystectomy in 75.3% of cases. Yuen et al,¹⁰ Parker et al,⁹ and Yuen et al⁸ concluded that operative laparoscopy should be the choice of treatment for benign adnexal masses.

Of all ectopic pregnancies during the study period, twenty-seven (13%) cases underwent laparoscopic salpingectomy. Two cases underwent evacuation of hemoperitoneum for tubal abortion. Laparoscopic management was done in those cases which were hemodynamically stable and performed during only day time which was the main limitation in providing the laparoscopic service to ectopic pregnancy patients during emergency hours. Olagendoye et al¹¹ found laparoscopic management feasible and safe in a study in 62% of patients while 31% of the patients required laparotomy following preliminary laparoscopy. Mohammed et al¹² had compared laparoscopic and laparotomy management of ectopic pregnancy and concluded that laparoscopic surgeries for ectopic pregnancies are the most beneficial procedure with maximum safety and efficiency. Laparoscopic

sterilization is not that common as government provides free program with an incentive.

Laparoscopic assisted vaginal hysterectomy (LAVH) was successfully completed in seven cases mainly for fibroid uterus during the initial years. Later Total Laparoscopic Hysterectomy (TLH) was preferred and was performed in 33 (16%) cases, twelve for dysfunctional uterine bleeding (DUB), ten for fibroid uterus, five for adenomyosis and six for miscellaneous causes (Table 1, Figure 2). Four cases were converted into TAH because of adhesions. A study conducted in 1994 has shown that the risk of laparoscopic hysterectomy is same as that of abdominal and vaginal hysterectomy in skilled hands.¹³ This is similar to another study by Ribeiro et al¹⁴ which showed comparable safety of laparoscopic hysterectomy and abdominal hysterectomy. Average duration of hospital stay was 1.5 days in patients of diagnostic laparoscopic surgeries, 2 days in cystectomy cases and 3.5 days in hysterectomy cases. Studies by beginners also reported 2-6 days comparable hospital stay.^{15,16}

CONCLUSIONS

The laparoscopic approach to gynecological surgeries at our hospital has demonstrated benefits of decreased morbidity, shorter hospital stay, and quicker return to normal activities. With the careful application of advanced laparoscopic techniques and sufficient surgical experience, laparoscopic surgeries can be implemented in a range of clinical scenarios and this report of our initial experience since the introduction of laparoscopic surgery in our department, has shown that laparoscopy is safe and useful in variety of gynaecological procedures.

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