

Experiences of Gynecological Laparoscopic Surgeries in a Teaching Hospital

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ABSTRACT

Background: Laparoscopic surgery has revolutionised the field of gynaecological surgery. Presently, almost all gynaecological procedures can find an alternative laparoscopic or hysteroscopic approach. The aim of the study was to share the early experience of gynecological laparoscopic surgeries performed at Kathmandu Medical College Teaching Hospital.

Methods: A study was carried out at Kathmandu Medical College Teaching Hospital from 1st January 2009 to 16th August 2012. All the patients undergoing gynecological laparoscopic surgeries were analyzed for the indication, type of procedure and its complications.

Results: Overall 300 patients successfully underwent laparoscopy during the study period of which diagnostic laparoscopy was in 115. Operative laparoscopy was in 185. Sixty five cases underwent laparoscopic cystectomy. Sixty cases underwent laparoscopic assisted vaginal hysterectomy (LAVH). Salpingectomy for ectopic pregnancy was done in sixteen cases. Twelve cases contemplated for laparoscopic cystectomy underwent laparotomy. LAVH was converted to abdominal hysterectomy in four cases and laparotomy was done in two cases because of bladder injury and primary hemorrhage (from vault). Of minor complications the most common was port site infection and post-operative nausea and vomiting.

Conclusions: Laparoscopic gynecological surgery has tremendous potential in Nepal. Most of the surgeries can be carried out safely and favorable outcome has been noted in all the cases undertaken.

Keywords: cystectomy; gynaecological laparoscopic surgeries; hysterectomy.

INTRODUCTION

Laparoscopy was first performed by Jacobeus in Sweden in 1910.^{1,2} By the end of 1930s laparoscopy was used to diagnose ectopic pregnancy and performing tubal sterilization. Serm of Germany reported advanced operative laparoscopy procedures such as salpingectomy, myomectomy, oophorectomy, ovarian cystectomy and salpingostomy in the 1970.¹ The first reported laparoscopic hysterectomy was in 1989 by Harry Reich,³ for endometriosis. The successfully performed case illustrated that hysterectomy can be performed and accomplished by laparoscopy in well selected patients.

The use of laparoscopy may avoid the surgery while retaining the surgical advantage of the abdominal approach that is thorough visualization and easy access to the pedicles.³ The major advantage of minimal access approach are clear and have been documented in large number of clinical trials.⁴⁻⁶ With smaller wounds and less pain, patients recovery is remarkable and return to normal activities is relatively shortened and it facilitates return to work quickly regardless the complexity of the procedure.⁸⁻¹¹

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Laparoscopic sterilization was introduced in Kathmandu, Nepal in 1971 as an outdoor procedure at the Maternity hospital.¹²⁻¹⁴ This study has been undertaken to share the initial experiences of performing laparoscopic surgeries at Kathmandu medical college teaching hospital.

METHODS

This study was carried out in Kathmandu Medical College Teaching Hospital 1st January 2009 to 16th August 2012. All the patients subjected to laparoscopic procedures were taken for study. Ethical approval was received from ethical review board of Kathmandu Medical College Teaching 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 laparotomy.

A pre-operative assessment was done in all the patients which included clinical examination, complete blood count, pelvic ultrasonography and measurement of tumour markers whenever indicated. Laparoscopic assisted vaginal hysterectomy (LAVH) was performed by standard technique and tying of uterine arteries was done from below that is vaginally. Ovarian cystectomy was performed by either enucleating the ovarian cyst or aspirating it followed by removal of the cyst wall. When the complete cystectomy was not possible due to presence of adhesion, the cyst wall was then examined carefully and coagulated. All the patients received antibiotics for 5 days. The patients of diagnostic laparoscopy and cystectomy were kept for 24 hours and LAVH patients were kept for 72 hours.

Patients were followed from the time of admission to the time of discharge and their-after one week.

RESULTS

A total of 300 laparoscopic procedures were carried out successfully during the study period. Diagnostic laparoscopy was done in 115 cases and operative laparoscopy in 185 cases. The conversion of laparoscopic cystectomy to laparotomy was in 12 cases. LAVH was converted to abdominal hysterectomy in 4 cases and laparotomy was done in 2 cases.

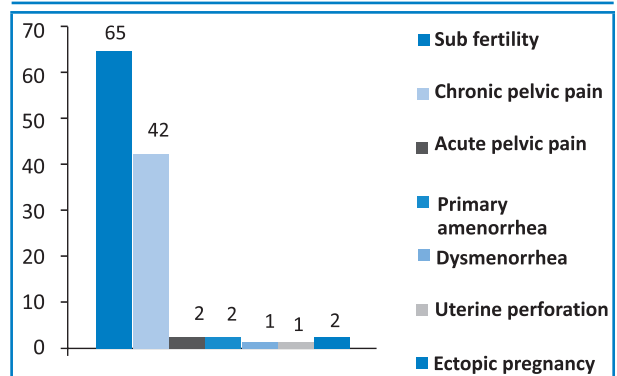


Figure 1. Indications for diagnostic laparoscopy.

Table 1. Types of operative laparoscopic surgeries (N=185).

Type of operative procedures	n (%)
LAVH	60 (32.43)
Ovarian cystectomy successful	65 (35.13)
Aspiration of cyst	7 (3.7)
Salpingectomy	23 (12.43)
Linear salpingostomy	2 (1.08)
Oophrectomy	5 (2.7)
Salphingo oophrectomy	1 (0.5)
Adhesiolysis	10 (5.40)
PCOD drilling	10 (5.40)
Subserosal myomectomy	1 (0.5)
Laparoscopic assisted myomectomy	1 (0.5)

Table 2. Complications of the procedure.

Types of complication	Number of cases (n)
Anaesthetic complication(nausea, vomiting)	20
Shoulder pain	3
Postoperative distension and ileus	3
Port site bleeding	1
Port site infection	20
Port site requiring resuturing	1
Vault bleeding (LAVH)	1
Bladder injury(LAVH)	1

DISCUSSION

Surprisingly in this series of our laparoscopic surgeries operative laparoscopic procedures were comparatively more 185 (61.66%) than diagnostic procedures 115 (38.33%), subfertility and chronic pelvic pain were two main indications for performing diagnostic laparoscopy. Endometriosis was the commonest cause detected that is 34% in cases of chronic pelvic pain.

The port of entry was supra-umbilical open technique. The best technique of entering the peritoneal cavity remains debatable.¹⁰ The operative time was similar for both open and closed.¹⁰ The main complication noted in our series was port site (umbilical infection) in about 20 (6.6%) of the cases comparatively quite high reported by Hasson et al,⁸ in their series of 15,622 cases that is 4%. One case required resuturing. In series of ours we did not have any vascular injury or visceral injury. Hasson et al,⁸ reported vascular and visceral injury in both open and closed. Similarly, Borjer et al,⁹ reported vascular and visceral injury in both open and closed technique of entry but lesser in open technique. Jansen et al,¹¹ reported complications related to entry more in open technique.

Sixty five cases of benign ovarian masses underwent successful laparoscopic cystectomy. Twelve cases required conversion to laparotomy. Eight case of endometriosis required laparotomy due to severe adhesions. Other reasons for conversion were malignancy (1), bleeding from the ovarian surface (2), fifteen weeks pregnancy with dermoid (1). The most common benign ovarian tumor was endometriosis (38.96%), dermoid (32.46%), serous cyst adenoma (6.49%). Five cases underwent oophorectomy. One case of pregnancy of twelve weeks underwent successful cystectomy but then again laparotomy was performed for pregnancy of fifteen weeks with dermoid cyst as there was crowding of the pelvis by the pregnant uterus and manipulation of the ovary was difficult. Endometriosis and dermoid cysts were the two common benign ovarian tumors in their series of Yuen et al.¹⁷ In their series successful completion of cystectomy was in more than 70% of cases which was quite comparable to our series of 84%. Parker et al,¹⁶ 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. The operative time depended on the experience of the surgeon and size of the tumor and the adhesion. In first half of the study phase in the early learning phase tendency for laparotomy was much more in cases of endometriosis but in later part successful cystectomies could be performed. Yuen et al,¹⁵ commented that operative time progressively decreased after first ten cases and after forty cases there was further decline. Yuen et al,¹⁵ Parker et al,¹⁶ Yuen et al,¹⁷ concluded that

operative laparoscopy should become the preferred mode of treatment for benign adnexal masses. It confers benefit to reduce health care costs.

Of all ectopic pregnancies during the study sixteen cases under-went laparoscopic salpingectomy. Two cases underwent salpingostomy one for unruptured tubal pregnancy and other for tubal abortion. Laparoscopic management was done in those cases which were haemodynamically stable and performed during only day time which was the main constraint in providing the laparoscopic service to ectopic pregnancy patients during emergency hours. Condos⁷ found laparoscopic rewarding to exclude ectopic pregnancy in the ten of thirteen of suspected cases. So were we in our series where in sixteen cases three cases were undiagnosed ectopic pregnancy and like Odejumi et al,²⁰ would like to comment that laparoscopic surgery remains the gold standard in the surgical management of ectopic pregnancy. Olagendoye et al,¹⁹ found laparoscopic management feasible and safe in a district general hospital in 62% of patients while 31% of the patients required laparotomy following preliminary laparoscopy. In our case we did not convert to laparotomy. Mohammed et al,¹⁸ 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 assisted vaginal hysterectomy (LAVH) was successfully completed in 60 cases mainly for fibroid uterus and abnormal uterine bleeding (AUB). In the first half of the study the number of patients undergoing were much more than 35 (58.33%) in later half of the study period. The experience of performing LAVH enriched and led the surgeon to perform the non-descent vaginal hysterectomy. In second half of the study LAVH was done basically where ovaries were to be removed. LAVH was converted to abdominal hysterectomy (TAH) in two cases where uterus failed to descend from below. Two cases were converted into TAH because of adhesions. The size of uterus removed ranged from six to sixteen weeks. Laparotomy was done in two cases. One was for bladder injury and the other for vault bleeding. Devendra et al²¹ in their series of 42 cases of LAVH did conversion in two cases and concluded LAVH remains a safe and feasible option requiring otherwise abdominal hysterectomy. Altagassen et al,²³ Rosen et al²⁴ have emphasized that maximum number of complication occurs in first ten cases,²³ and learning curve of thirty laparoscopic assisted vaginal hysterectomy,²³ was necessary to reach low level of complications. In our series the same was noted. The operating times were definitely reduced after the ten cases and complication occurred in first ten cases of LAVH. On review of different surgeries operating times of LAVH were comparatively higher.²⁵

Jansen et al,²⁶ found complication rate of 4.5% for diagnostic procedure and 17.9% for operative laparoscopy. The highest incidence was registered for complication in LAVH. Most of the series reviewed had mortality^{9,28} but our series reported no mortality.

CONCLUSIONS

This report of our initial experience since the introduction of laparoscopic surgery in our department, has shown that laparoscopy is very safe and useful in variety of gynaecological procedures.

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