Minimal Invasive Gynaecological Surgeries in Dhulikhel Hospital: One and Half Decade Long Experience
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ABSTRACT

Background
One of the greatest achievements in the surgical fields is the paradigm shift from open surgery to minimal invasive surgery. Dhulikhel Hospital is one of the very few institutions in Nepal where minimal invasive gynaecological surgeries are being regularly performed since early years of its establishment. There are very few publications related to experiences of minimal invasive gynaecological surgeries published in Nepal.

Objective
To review the varieties of minimal invasive gynaecological surgeries and find out the different milestones those were crossed in this field.

Method
This is retrospective study of minimal invasive gynaecological surgeries performed from January 1, 2004 to June 30, 2018.

Result
A total of 1849 cases were performed by mid 2018. Almost half of the cases were of Brahmin/Chhetri caste (49.9%). Mean age of the patients who underwent gynaecological minimal invasive surgeries in DH was 36.70±10.60 years (with range 12-81 years). More than half of the patients were from Kavre (58.2%). Abnormal uterine bleeding, ovarian lesions and chronic pelvic pain were the most common indications for these procedures. Among these procedures, hysteroscopy (769 cases), diagnostic laparoscopy with or without chromotubation (385 cases), operative laparoscopy (419 cases) and LAVH/TLH (242 cases) were performed. In this study, 34 minimal invasive surgeries cases (1.8%) were converted to laparotomy for certain reasons. Of them eight cases were of laparoscopic hysterectomies. Only very few major and minor complications were experienced during this period.

Conclusion
Varieties of minimal invasive surgeries for various gynaecological problems were performed with minimal complications. We scaled up these minimal invasive surgeries over the period.

KEY WORDS
Ectopic pregnancy, Fibroids, Hysteroscopy, Laparoscopy
INTRODUCTION

One of the greatest achievements in the surgical fields is the paradigm shift from open surgery to minimal invasive surgery (MIS). Minimal invasive surgery has become increasingly popular among both surgeons and patients since early 1970s. Minimal invasive surgeries have moved from being just a diagnostic procedure to operative interventions as well. Hysteroscopy, laparoscopy assisted vaginal hysterectomy (LAVH) and total laparoscopic hysterectomy (TLH) are frequently performed minimal invasive gynaecological surgeries. Varieties of minimal invasive gynaecological surgeries are being done for diagnostic and therapeutic purposes.

Dhulikhel Hospital (DH) is one of the very few institutions in Nepal where minimal invasive gynaecological surgeries are being regularly performed since early years of its establishment. Though diagnostic hysteroscopic procedures were frequently done in the initial period, now varieties of minimal invasive gynaecological surgeries are being done for therapeutic purpose as well.

There are very few publications related to experiences of minimal invasive gynaecological surgeries published in Nepal. This study will help in providing the institutional data related minimal invasive gynaecological surgeries from DH. Main objective of this study is to review the varieties of minimal invasive gynaecological surgeries.

METHODS

This is a study of minimal invasive gynaecological surgeries performed from January 1, 2004 to June 30, 2018. This study is carried out in Department of Obstetrics and Gynaecology reviewing all the OPD/Inpatient and Operation Theatre (OT) records (including electronic). All the patients who underwent minimal invasive gynaecological surgeries are included in the study.

Ethical clearance was taken from the IRC-KUSMS. All data were analyzed by SPSS 16 packages. Frequency and mean were calculated. Chi-square test was used to analyze certain outcomes.

RESULTS

Mean age of the patients who underwent gynaecological MIS in DH was 36.70±10.60 years (with range 12-81 years) (Table 1). And 115 cases of diagnostic laparoscopy with/without chromotubation were infertility cases with mean age of 28.47±6.27 (with range of 17-51).

More than half of the patients were from Kavre (58.2%), followed by Kathmandu valley (particularly Bhaktapur) (22.3%), neighbouring districts like Sindupalchowk, Dolakha, Ramechhap, Sindhuli (13.4%) and other districts (6.1%).

Co-morbid condition

Two hundred and seventy five patients were presented with another gynaecological pathology and/or additional medical or surgical problems (hypertension, hypothyroidism, diabetes, anemia, urinary tract infection, depression, dyslipidemia, cholecystolithiasis etc.). Laparoscopic cholecystectomy (15 cases), pelvic floor repair (9 cases), adhesiolysis (52 cases), trans vaginal taping (one case) and laparoscopic appendectomy (7 cases) were performed along with LAVH or TLH.

There was year-wise increment in all sort of gynaecological MIS cases in DH, noticeably from 2014 (fig. 1).

Several gynaecological problems were evaluated and managed through MIS. The indications for performing gynaecological MIS were tabulated (Table 2 and 3).

DISCUSSION

Patients are privileged from innovative developments in gynaecological MIS. Today uterine lesions (myomas, polyps, septae) are routinely treated by hysteroscopy. And symptomatic myomas and most of the benign adnexal (including ovarian) pathology can be managed by laparoscopic procedure.

Hysteroscopy can be used as first line diagnostic method for cases of abnormal uterine bleeding (AUB) (n=50). This procedure is reliable method for evaluating cases of AUB and it can be used as first line diagnostic method for benign lesions. We performed 525 (68.33%) diagnostic and 244 (31.7%) therapeutic hysteroscopy. Abnormal
uterine bleeding, cervical or endometrial polyp and fibroid/adenomyosis were the common indications for hysteroscopic procedures (Table 3).

In a study of 217 laparoscopic procedures by Bajracharya et al., majority of patients 53(24.4%) were in age group 26-30 years. In this study, mean ages of the patients who underwent hysteroscopy procedures, diagnostic laparoscopy and therapeutic laparoscopy procedures (except LAVH/TLH) were 40.92±9.85, 29.98±7.08 and 29.76±7.78 years (Table 1).

Saha et al. performed 115(38.33%) diagnostic and 185(61.7%) operative laparoscopy, with infertility and ovarian lesions were commonest indications. Likewise Subedi et al studied 25 diagnostic and 75 operative laparoscopy procedures and found infertility and adnexal/ovarian pathology were the most common indications. In this study, there were 385 diagnostic and 661 therapeutic laparoscopy procedures performed (Table 1). Ovarian causes 245(58.5%), tubal sterilization 75(17.9%), and chronic pelvic pain or endometriosis 36(8.6%) were the common indications for other than diagnostic laparoscopy and hysterectomy. And, 25 tubal sterilization procedures were performed during some other operative laparoscopy. Abnormal uterine bleeding and fibroids were the most frequent indications for LAVH/TLH (n=242) (Table 3).

Parker et al. found that planned laparoscopic procedures were successful in 95.2% and the commonest indication was laparoscopic cystectomy in 75.3% of cases. We have also experienced the very much encouraging success rate of 99.2% (of whole MIS cases) with laparoscopic cystectomy, and this is the leading indication of therapeutic laparoscopy (other than LAVH/TLH) in 58.5% of cases.

Parker et al and Yuen et al suggested that operative laparoscopy should become the preferred mode of treatment for benign adnexal masses. In this study, 245 ovarian lesions and additional 19 adnexal pathologies were managed through operative (therapeutic) laparoscopy (Table 3).

A comparative study done by Mohammed et al. showed that laparoscopic surgeries for ectopic pregnancies are the safest and efficient procedure. Odejumi et al. suggested that laparoscopic surgery as the gold standard procedure in the surgical management of ectopic pregnancy. We followed same strategy and managed 52 cases of ectopic pregnancy (35.7%) with laparoscopy.
A study by Yuen et al. showed endometriosis and dermoid cysts were the two common benign ovarian tumors. Endometriotic cysts (195, 22.7%) were commonest non neoplastic ovarian lesions and mature cystic teratoma (193, 22.4%) were the commonest benign ovarian tumour in DH.16 In our study, as a major complication, one case required re-laparotomy for pelvic hematoma following LAVH and another case required ureteric injury repair following TLH. Other minor complications were the requirement of blood transfusion (at most three pints), spotting per vagina, port site infection and hematoma. There were 30 major and 10 major complications occurred in open and laparoscopic hysterectomy respectively with nine minor complications in both. Eleven laparoscopy cases (3.7%) were converted to laparotomy.15

There were no systemic data storage (electronically) prior to 2010 hence there was difficulty in collating all the information from files from different places. Likewise records on operation duration, blood loss, other complications and hospital stay etc. were not kept well in earlier days.

CONCLUSION

Varieties of minimal invasive surgeries for various gynaecological problems were performed with minimal complications. We scaled up these minimal invasive surgeries over the period. For these adequate laparoscopic experiences of surgeons and careful selection of the cases were the obligatory prerequisites.

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