ORIGINAL ARTICLE

THE EXPERIENCES OF MINIMAL ACCESS SURGERY (MAS) IN GYNECOLOGICAL CONDITIONS

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ABSTRACT

Background: Laparoscopic surgery is a minimal invasive procedure frequently used in recent years for diagnostic and therapeutic purpose. The aim of study is to highlight the role of Laparoscopy in acute or chronic gynecological conditions, findings and complication observed in the last three years in tertiary care hospital.

Methods: All the cases of laparoscopy performed during Jan 2013-2016 at Department of Obs. & Gynae Ziauddin Hospitals were retrospectively analyzed.

Results: Data of 167 patients were collected from medical record. In 27% cases diagnostic laparoscopy was done where as the remaining 73% cases had both the diagnostic as well as therapeutic procedures. The indications of laparoscopy were subfertility in 40 (23.9%) ,chronic pelvic pain in 73 (43.7%) and acute pelvic pain in 54(32.33%) cases. No major complication observed in this study. Laparoscopy was converted in to laparotomy in two patients due to massive adhesions and significant hemorrhage.

Conclusion: Laparoscopy is a less invasive, safe and effective diagnostic as well as therapeutic procedure in different gynecological conditions.

KEY WORDS: MAS (Minimal Access Surgery), Minimal Invasive Surgery, Laparoscopy.

INTRODUCTION

Laparoscopy and Hysteroscopy are the most common endoscopic techniques used in gynecology[1]. MAS (i-e laparoscopy) is a minimal invasive procedure that has been used widely in gynecological surgery for more than 5 decades for diagnostic and therapeutic purpose[2,3].

It involves insertion of a lighted narrow telescope like instrument was inserted through a small incision in the umbilicus to visualize the peritoneal cavity and its content by means of distension created by artificial pneumoperitoneum[4,5]. This provides complete, detailed examination of the abdominal or pelvic organs, peritoneum and diaphragm[6] .Tubal patency can also be checked through laparoscopy by using a uterine manipular with a cannula, injecting a dilute dye (methylene blue) through cervical and visualizing the direct spillage of this blue dye from fimbrial end of the fallopian tubes[7]. However, the procedure menstruation and pregnancy should be excluded before the procedure [8]. Laparoscopy is increasingly becoming the preferred approach in acute and chronic gynecological conditions. A quite wide range of procedures such as tubal ligation, hysterectomy [9], myomectomy[10] removal of ovarian cyst or adenexa[11,12] , exploration of chronic pelvic pain and infertility evaluation[13] can be performed. It is used for treatment of endometriosis[14, 15], in suspected mullerian abnormalities [16], uterine perforation[5] , to take biopsy[17] and lately for treatment of utero viginal prolapse , urinary incontinence and even in gynecological cancers. Its wide used in gynecological condition led to the expansion of its in other abdominal organ pathology such as colon , stomach and esophagus[18,19].

Initially Laparoscopy had been limited to elective surgery but now is described in many gynaecological emergencies like adenexal torsion, tubo-ovarian abscess, peritonitis and recently significant popular diagnosis and management of ectopic

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pregnancy[20]. It is also a valuable tool for diagnosis, retrieval of lost IUCD4 and Transient occlusion of uterine arteries (TOUA) [21]. There is another recent addition of increasing use of laparoscopy in management of non-obstetric complication in pregnancy[22, 23]. Laparoendoscopic single-site (LESS) [24], Robotic assisted[25] and Gasless[26] are various technique of laparoscopic surgery.

The advantages of laparoscopy are better precise visualization of the anatomy, faster recovery time, reduced postoperative pain and blood loss[4]. It shortens hospital stay, less incidence of wound complication , scaring and adhesion formation ,better aesthetic result with low morbidity and mortality due to minimal surgical trauma[6].

Although laparoscopy is a safe procedure but it is not free from complication such as hemorrhage, infection, incisional hernia, deep venous thrombosis, higher risk of injury to the blood vessels and other pelvic organs (bowel and bladder etc.) [4,5,6]. Complications reported are mainly related to access technique and device. Serious complication occurs rarely and conversion to open laparotomy does not increase morbidity[23]. Patients should be carefully chosen for laparoscopy if they are obese BMI>45 or with history of pelvic inflammatory disease, previous abdominal surgery or laparotomy should be excluded to avoid these complications[18].

Methods

All the cases of Laparoscopy performed from January 2013 to January2016 at Department of Obstetrics &Gynecology, Ziauddin University Hospital were retrospectively reviewed and analyzed .The study included 167 patients, admitted with acute or chronic gynecological conditions and for infertility work up from outpatient department. After admission complete obstetrical, menstrual history and physical examination was carried out. All the cases included in the study were evaluated by routine blood investigations, ultrasound of abdomen and pelvis transvaginal and MRI pelvis in some patients. Laparoscopy was performed with usual technique under general anesthesia, after proper informed consent especially for open conversion. Data was collected from patients medical record regarding personal data , presentation whether acute or chronic ,preoperative diagnosis ,laparoscopic finding , procedure performed ,intra and postoperative complication ,hospital stay and analyzed on SPSS version 20.

The patient with unstable hemodynamic condition, acute peritonitis, respiratory distress, coagulation defect, markedly distended bowel loops, advanced pregnancy or tumors and incomplete information were excluded from the study.

Results

A total of 167 cases of laparoscopy were analyzed and two cases were excluded from the study due to incomplete data .The subfertility (primary & secondary) and pain in lower abdomen (acute & chronic) were two major indication of laparoscopy. In 54 (32.3%) patient had acute onset of pain while 73(43.7%) patient had chronic abdominal pain. 27% cases had laparoscopy to confirm the diagnosis and the remaining 73% cases underwent both the diagnostic as well as therapeutic procedures. Age group of the women varied from 13 to 55 years .The indications of laparoscopy were subfertility in 40 cases(23.9 %) ,chronic pelvic pain in 73 (43.7%) and patient with acute pelvic pain in 54(32.33%) cases. Different therapeutic procedures like ovarian drilling 3.6%, adhesiolysis 4.1%, salpingectomy 8.8%, ovarian cystectomy 47.7%, dye test 27.1% ,biopsy 2.5% and others 5.1% were performed in women while having minimal complications with short hospital stay , smooth recovery and no mortality. Two of the laparoscopy cases had to be converted into laparotomy one due to massive adhesions and in other because of significant hemorrhage in 26 weeks pregnant women presenting acute abdominal pain with par ovarian cyst. The mean duration of hospital stay was 2 days, few patients had mild side effect of general anesthesia like nausea and vomiting but were negligible in comparison of complications after laparotomy.

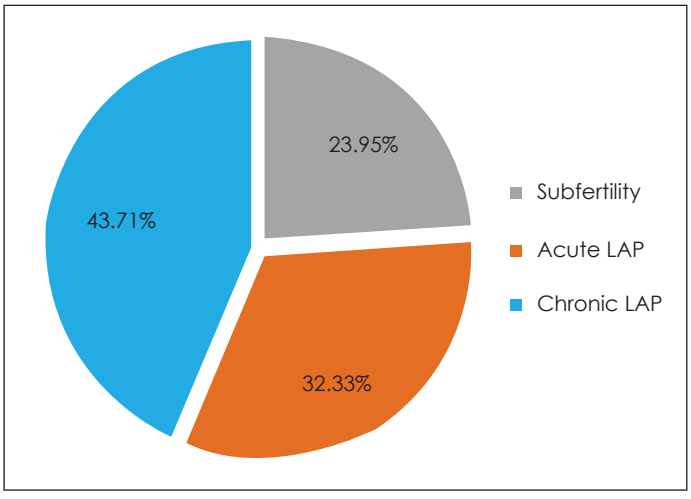

Figure1: Gynecological Problems

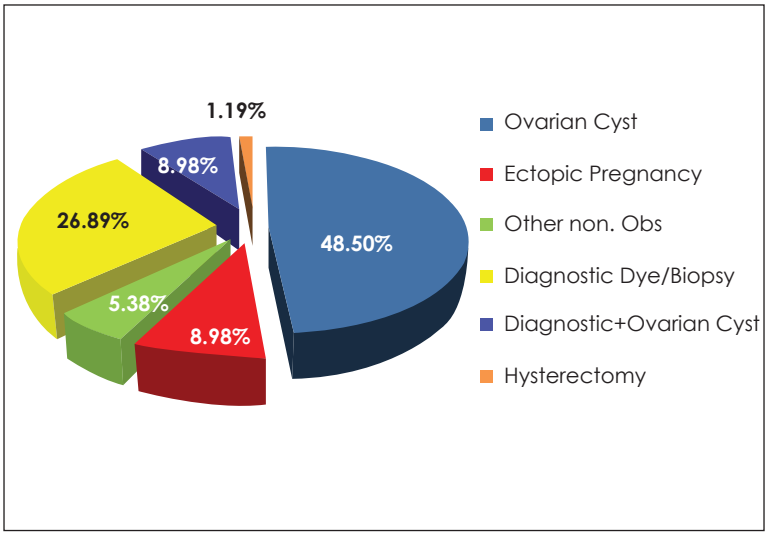

Figure 2: Indications of Laparoscopy

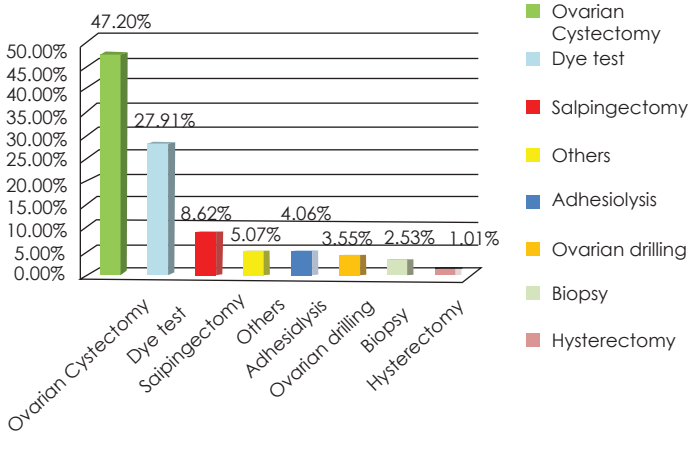

Figure 3: Laparoscopic Gynae Procedures

DISCUSSION

Minimal access surgery is a valuable diagnostic method for female in the last twenty years and now frequently being used in the treatment of gynecological conditions for diagnostic and therapeutic purpose [3].Most studies agreed that laparoscopic surgery has a very high diagnostic accuracy 88-99%[20]. It is not only more convenient but safe and effective by avoiding unnecessary non therapeutic surgeries[17], delay in diagnosis and treatment[4]. Our study shows an increase in therapeutic laparoscopy over 3 years in Ziauddin Hospital by better technological advancement and skill of the surgeons. The indication for laparoscopy were subfertility 23.9%, acute pelvic pain 32.3% and chronic pelvic pain 43.7% .In acute conditions ovarian cyst torsion/rupture/ hemorrhagic in 30 (18.2%) cases, ectopic pregnancy 15 (9.1%) and other non obstetrical procedures were 9 (5.0%) proved both diagnostic and therapeutic at the same time. Patient with chronic abdominal pain 16 (9.58%) due to benign ovarian tumors, 22(13.1%) with endometriosis, 22 (13.1%) simple ovarian cyst, 10(5.98%) adhesion and 3(1.7%) pelvic inflammatory disease. ovarian cystectomy in (47.2%) of patient with ovarian cyst, (8.62%) salpingectomy done in ectopic pregnancy, Dye test (27%,) Adhesiolysis (4.06%). Acute appendicitis, cholecystitis, small bowel adhesion (5.0%) were the most common pathology that was detected and treated at the same time.

According to the WHO, malnutrition, pelvic tuberculosis and perpeural infections leading to tubal blockage is the major cause of infertility [13]. Diagnostic Hystero- Laparoscopy (DHL) has become an integral part to visualize the tubal patency in infertility[13]. There were 25 (15%) cases with primary infertility and 15 (9%) with secondary infertility. In chromopertubation, unilateral tubal blockage was in 16(9.6%) patient and bilateral tubal 4(2.4%) patients. In two patient dye test was not performed because of cervical stenosis and in other because of tubercles were found, adherent bilateral tubes diagnosed as tuberculosis. In case of chronic pelvic pain laparoscopy can be useful not only for diagnosing endometriosis ,adhesion, ovarian cyst/masses and pelvic inflammatory disease but it can also be used to diagnose abnormal uterine findings such as congenital uterine malformation (didelphys, uni or bicornuate) uterus[5].Our study highlight that infertility has remained the most common indication but the use of laparoscopy in operative procedures has been increased significantly in acute or chronic pelvic pain. The procedures like laparoscopic myomectomy, hysterectomy (1.01%) successfully completed in our study group, are not very common but many studies showed its increased used in gynecology. Its widespread use is restricted by the necessity for special expertise required training, and cost effectiveness. So proper training at all levels should be incorporated for better patient management.

CONCLUSION

Laparoscopy is a valuable diagnostic and therapeutic tool for females in different gynecological problem. It is less invasive and more convenient. The benefits of laparoscopy to laparotomy are less pain, less scaring and quicker recovery.

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