

Laparoscopy in Gynecology: Experience from a Rural Hospital

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ABSTRACT

Introduction: Laparoscopy as a modality for the diagnosis of pelvic pathology has been well-established in recent times. Besides aiding in diagnosis, it is an important tool for management in the same sitting preventing unnecessary laparotomy in many cases.

Aim: The aim of the article was to know the common indications of performing diagnostic laparoscopy, intraoperative findings, and various interventions done during surgery. It was also aimed to highlight the importance of laparoscopy as a minimum basic requirement for diagnosing many common pelvic pathologies.

Materials and methods: Indications for laparoscopy, intraoperative findings, and interventions done during surgery were studied in 75 patients who underwent laparoscopy between January 2012 and December 2014 at Gian Sagar Medical College and Hospital.

Results: Maximum number of patients (75; 76%) were in the age group of 21 to 30 years. The main indication for laparoscopy was infertility in 58 cases (77.33%) followed by chronic pelvic pain in 4 cases (5.3%). Tubal factor was the commonest cause of infertility seen in 19 (32.75%) cases. In majority of patients with previous history of tuberculosis, adhesions were found to be the cause of chronic pain and infertility. Ovarian drilling was the most common intervention done in 12 cases and adhesiolysis in another 11 cases.

Conclusion: Laparoscopy is an essential intervention in detecting many pelvic pathologies which are difficult to diagnose on clinical examination. Its diagnostic and therapeutic potential has made it a safe, feasible, and less invasive modality for evaluation of infertility, chronic pelvic pain, and endometriosis.

Keywords: Chronic pelvic pain, Infertility, Laparoscopy.

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INTRODUCTION

Laparoscopy as a modality for the diagnosis of pelvic pathologies has been well-established in recent times. Besides aiding in diagnosis, it is an important tool for management in the same sitting preventing unnecessary laparotomy in many cases. It has a role both in elective cases and in patients diagnosed with acute abdominal gynecologic emergencies who are hemodynamically stable and can be effectively managed with minimally invasive technique.

Infertility is one of the common indications for diagnostic laparoscopy where it has been suggested as a mandatory step to preclude the existence of peritubal adhesions and endometriosis as its cause.¹ Also it is an important tool to make a diagnosis of unexplained infertility.

Besides infertility, the other common indication for diagnostic laparoscopy is chronic pelvic pain (CPP). An estimated 4 to 20% of women between the age of 15 and 45 years suffer from CPP.^{2,3} According to Gelbaya and El-Halwagy,⁴ CPP is the cause for approximately 40% of laparoscopies. To assess the presence of endometriotic lesions in CPP, laparoscopy is the gold standard.⁵

Our study was aimed to know the common indications of performing diagnostic laparoscopy, intraoperative findings, and various interventions done during the surgery. Another aim was to highlight the importance of laparoscopy as a minimum basic requirement for diagnosing many common pelvic pathologies.

MATERIALS AND METHODS

This cross-sectional study was carried out in the Department of Obstetrics and Gynecology from January 2012 to December 2014 at Gian Sagar Medical College and Hospital, which mainly caters to the rural population.

All patients who underwent elective/emergency diagnostic laparoscopy irrespective of the indication were included in the study. Patients for elective laparoscopic hysterectomy, hemodynamically unstable patients, and those unfit for procedure because of any medical or surgical condition were excluded from the study. A total of 75 patients underwent diagnostic laparoscopy during the study period.

After a detailed history and thorough general physical examination including per speculum and per vaginal examination and preanesthetic checkup, a

written informed consent was taken and patients were taken up for procedure under general anesthesia.

Preoperative findings were noted. Patients were assessed regarding indications for laparoscopy, intraoperative findings, and various interventions done during the procedure. Tubal, ovarian, uterine, and peritoneal factors were assessed and further interventions were done accordingly. Study was approved by the ethical committee of the institution.

RESULTS

A total of 75 women underwent laparoscopy during the study period. The mean age of study group was 28.44 years and majority of women were in the age group of 21 to 30 years (Table 1).

The main indication for laparoscopy was infertility followed by CPP and ovarian cysts. In three cases each of ectopic pregnancy and ruptured corpus luteal cyst where laparoscopy was carried out, patients were hemodynamically stable. There were six patients of primary infertility who had previous history of tuberculosis (TB). One patient with previous tubal ligation failure was managed laparoscopically with bilateral salpingectomy (Table 2).

In patients with infertility, tubal factor was the commonest cause seen in 19 (32.75%) patients. Other causes were ovarian in 13 (22.4%), peritoneal (tubercular, endometrial, adhesions) in 15 (25.9%) and uterine causes (hypoplastic and unicornuate uterus with rudimentary horn) in only 2 (3.44%) patients. Nine (15.5%) cases had unexplained infertility (Table 3).

In majority of cases with previous history of TB and those with CPP, adhesions were found to be the reason for pain and infertility (Table 4).

Table 1: Age distribution of patients

Age (years)	Number of patients (n) = 75 (%)
21–25	20 (26.67%)
26–30	37 (49.33%)
31–35	12 (16%)
36–40	4 (5.33%)
41–45	2 (2.67%)

Table 2: Indications for laparoscopy (n=75)

Factor	Number of patients (n) = 75 (%)
Infertility	58 (77.33%)
Primary infertility	45 (77.6%)
Secondary infertility	13 (22.4%)
Chronic pelvic pain	4 (5.3%)
Ectopic pregnancy	3 (4%)
Ruptured corpus luteal cysts	3 (4%)
Ovarian cysts	6 (8%)
Previous Tubal ligation failure	1 (1.33%)

Table 3: Intraoperative findings in cases of infertility (n=58)

Main cause of infertility	Number of patients (%)
Tubal factor	19 (32.75%)
Ovarian	13 (22.4%)
Normal pelvic findings	9 (15.5%)
Peritoneal factor	15 (25.9%)
(a) Tubercular	4
(b) Endometriosis	
Grade 1–2	6
Grade 3–4	2
(c) Peritoneal adhesions	3
Uterine causes	2 (3.44%)

Table 4: Findings in cases with history of tuberculosis and chronic pelvic pain

In cases with previous history of TB	Number of patients (n = 6)
1. Adhesions	2 (33.33%)
2. Endometriosis and adhesions	2 (33.33%)
3. Hydrosalpinx	1 (16.67%)
4. Polycystic ovaries	1 (16.67%)
In cases with CPP	Number of patients (n = 4)
1. Adhesions	2 (50%)
2. Normal	1 (25%)
3. Endometriosis	1 (25%)

Table 5: Interventions done during laparoscopy

Procedure	Number of patients*
Salpingo-oophorectomy (unilateral or bilateral)	7
Tubal ligation	6
Ovarian drilling	12
Lysis of adhesions	11
Salpingectomy	5
Cauterization of endometriotic spots	10
Cystectomy	10
Fimbrial dilatation	1

*More than one procedure was done on some patients

Table 5 shows various interventions done during laparoscopy. Ovarian drilling and adhesiolysis were the most commonly done procedure. In four cases, procedure was converted into laparotomy because of dense adhesions and difficulty in approaching the pelvic organs.

DISCUSSION

In our study of 75 patients, 49.3% patients fell in the age group of 26 to 30 years and 26.7% in the age group of 21 to 25 years. This was probably because of infertility turning out to be the most common indication for laparoscopy. Similarly in a study by Roupa al⁶, 64.5% of patients with infertility were in the age group of 20 to 29 years.

Of the total 58 patients with infertility, 77.6% had primary infertility and only 22.5% had secondary infertility. The results were similar to the study of Avasthi et al⁷ where 75% patients had primary infertility. In our study

there were nine (15.8%) cases of unexplained fertility. In a study by Samal et al⁸ no obvious cause could be found in 18% cases of infertility.

In patients with CPP who underwent diagnostic laparoscopy, one-fourth had endometriosis. This incidence was higher in a study by Triolo et al⁹ where one-third of cases who underwent laparoscopy for CPP were found to have endometriosis. Only adhesions were found in 50% of patients in our study with CPP. According to Neis and Neis¹⁰ in nearly one-third of the cases the reason for pain is endometriosis, and in another one-third, adhesions are responsible for pain. In 1 (25%) case, no cause could be found for pain. The reason for pain in these cases of normal pelvic findings could be pelvic congestion. Gelbaya and El-Halwagy⁴ have even labeled the role of laparoscopy in CPP as controversial as in 40% of cases no obvious etiology is found when it is done. However, in a study by Sharma et al,¹¹ the commonest finding on laparoscopy was adhesions in 40%, endometriosis in 18%, and pelvic congestion syndrome in 20%, while 10% of patients had normal pelvis.

Samal et al⁸ studied 100 infertile women who underwent laparoscopy. Tubal cause was found in 34% cases, ovarian in 27% and peritoneal factor (endometriosis, genital TB, adhesions) in 7% cases. Uterine cause was seen in 14% cases and 18% were found to have no obvious cause. Similar findings were seen in our study where tubal factor was seen in 32.75% and ovarian in 22.4%. In our study, peritoneal factor (25.9%) was much more common than uterine factor (3.44%).

Regarding intraoperative findings in patients with previous history of TB, we had two (33.33%) patients with adhesions only, two (33.33%) with adhesions along with endometriosis, and hydrosalpinx in another one (16.67%) patient. The results were very similar to the study by Sharma et al¹² in which 85 women with previous history of genital TB were studied and various grades of pelvic adhesions were found in 65.8% patients and hydrosalpinx in 17.6% patients.

Of the interventions, the most common procedure performed during laparoscopy in our study was ovarian drilling (12) followed by adhesiolysis in 11 cases and cystectomy and cauterization of endometriotic spots in ten patients each. A total of 12 patients underwent laparoscopic ovarian drilling (LOD) in our study. These were the cases where either polycystic ovary syndrome (PCOS) was incidental finding during laparoscopy or they had anovulatory cycles. Although in a Cochrane database review¹³ there was no significant difference in rates of clinical pregnancy, live birth, or miscarriage in women with clomiphene-resistant PCOS undergoing LOD compared to medical treatment, the decrease in number in multiple pregnancies in patients undergoing LOD

makes it an attractive option. Additionally in clomiphene-resistant patients who can't come for stringent follow-up which is required in cases of gonadotropin treatment, LOD is a safe option.

Half of our cases with CPP showed adhesions. Hao et al¹⁴ concluded in their study that pelvis adhesions are characteristic lesions of endometriosis, the site and degree of which are closely correlated with pain symptoms. Adhesiolysis of deep/dense adhesions has been shown to be of proven benefit.^{15,16}

In a study by Eltabbakh et al,¹⁷ laparoscopic management of benign ovarian cysts (mucinous/serous cystadenoma, dermoid cysts, endometriosis, etc.) with cystectomy or oophorectomy is a feasible and safe option for women with a short hospital stay. Ten patients in our study underwent laparoscopic cystectomy safely.

Cauterization of endometriotic spots was another common intervention done in our study group. Seiler et al¹⁸ have also concluded in their study that electrocautery is safe and effective in the treatment of moderate endometriosis. According to a study by Osuga et al,¹⁹ minimal/mild endometriosis benefited the most from laparoscopic manipulation when tubal adhesions are present.

Role of laparoscopic salpingectomy for management of ectopic pregnancy has been emphasized in many studies till date.²⁰⁻²² In our study all three ectopic pregnancies and one patient with previous tubal ligation failure and another with bilateral massive pyosalpinx (not responding to medical management) were managed with laparoscopic salpingectomy. Seven patients in our study underwent salpingo-oophorectomy and fimbrial dilatation was done in one patient who had fimbrial block on hysterosalpingography. In four patients, the procedure had to be converted to open laparotomy in view of dense adhesions and difficult approach to pelvic organs.

CONCLUSION

Laparoscopy succeeds in detecting many pelvic pathologies which are difficult to diagnose on clinical examination. It has strengthened its position as a gold standard in evaluation of infertility, CPP, and endometriosis. Management in the same sitting makes it a safe, feasible, economical, and less invasive modality for diagnosis and treatment of many gynecological conditions.

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