Laparoscopy in Gynaecological Problems
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Abstract
Background: To study the different indications and findings observed on laparoscopy in gynaecological conditions to assess the role of laparoscopy.

Methods: In this cross sectional study 57 patients were included. Patients were in their reproductive age with history of lower abdominal pain for longer than six months. Laparoscopy was performed under general anesthesia. The uterine cannula was secured to the cervix after holding it by means of single toothed tenaculum. After induction of proper pneumo-peritoneum, laparoscopy was performed using an intra-umbilical or sub-umbilical entry. In subfertile patients 10 to 15ml of methylene blue dye solution was instilled and dye was inspected entering in the tubes and free spill through fimbrial end.

Results: Major indication for laparoscopy was subfertility (75.43%). Majority (52.63%) belonged to primary subfertility. Six women (10.52%) were with chronic pelvic pain. Chronic ectopic pregnancy was suspected in 7.01% and lost IUCD in 7.01%. Mean age of the women was 31 years. Majority (52.63%) were nullipara. In primary subfertility group, tubal factor was found in 46.6% and ovarian factor in 16 (53.33%). Normal pelvic findings were observed in 46.6%. Lost IUCD was found in four cases. No major complications were observed postoperatively. Patients were discharged on the next day of operation.

Conclusion: Laparoscopy circumvents unnecessary surgeries and helps in making early diagnosis.
Key Words: Laparoscopy, infertility, chronic pelvic pain, chronic ectopic.

Introduction
Laparoscopy is used as a diagnostic procedure for various acute and chronic abdominal ailments. It involves insertion of a narrow telescope like instrument through a small incision in the umbilicus. This allows visualization of abdominal and pelvic organs including uterus, fallopian tubes and ovaries. If any defects are found they can sometimes be corrected with operative laparoscopy in the same setting.

It offers advantages with respect to speedy recovery, reduced morbidity due to minimal surgical trauma and shorter hospital stay. It allows a complete and detailed examination of pelvic organs, peritoneum and superficial examination of the bowel, liver and diaphragm. Determination of tubal patency may also be an issue. If tubal patency is a concern, use of a manipulator with a Rubin cannula allows a diluted dye (methylene blue) to be injected through the cervical os.

Chronic pelvic pain is a common presenting complaint in day to day gynaecological practice and usually a diagnosis of pelvic inflammatory disease is made. Laparoscopic examination is favoured in these cases to ascertain the cause and the treatment. Infertility cases need laparoscopic exploration. Apart from tubal patency test, adhesiolysis, fimbriolysis, fimbriotomy can be performed. Symptomless endometriotic deposits can be observed with laparoscope and those deposits can be coagulated with cautery or laser. Laparoscopy is also helpful in ovarian endometriosis which can be excised, and drained at the same time. The main goal of the therapy is to eradicate the endometriotic lesion, to reconstruct normal pelvic anatomy, and to restore the peritoneal environment in order to cure infertility.

Laparoscopy is also a valuable tool for diagnosis and retrieval of lost IUCD. Laparoscopy is an option for the treatment of ectopic pregnancy, removal of the tube (salpingectomy) or removal of the ectopic pregnancy (salpingotomy) can be performed. Postoperative fertility and repeat ectopic rates are comparable.

Complications of laparoscopy are major vessel trauma, bladder perforation, gut perforation, incisional hernia, wound infection, surgical emphysema, ureteric damage, and pulmonary embolism.

Patients and Methods
This cross sectional study was carried out in the department of Obstetrics and Gynaecology of Holy Family Hospital from June 2009 to Dec 2009. Patients
included in the study were in their reproductive age with history of lower abdominal pain for longer than six months, patients complaining of lower abdominal pain with suspected chronic ectopic pregnancy and history of lost IUCD. Patients were also selected for laparoscopy and dye test with suspicion of endometriosis, abnormal HSG and unexplained infertility. Patients with lower abdominal pain, proven urinary tract infection, symptoms suggestive of gastrointestinal diseases, patients with previous history of abdominal surgeries and medical disorders were excluded. All patients fulfilling inclusion criteria were admitted one day prior to surgery. Patients admitted for lost IUCD were evaluated by ultrasound and plain X-ray abdomen and pelvis with uterine sounding to confirm intrauterine or extrauterine position of IUCD.

Laparoscopy in this study was performed under general anesthesia. The patient was placed in a modified lithotomy and Trendelenburg position was added. The bladder was catheterized and a pelvic examination was carried out after cleaning and draping. The uterine cannula was secured to the cervix after holding it by means of single toothed tenaculum by the assistant. After induction of proper pneumo-peritoneum laparoscopy was performed using an intra-umbilical or sub-umbilical entry. A multiple puncture technique was employed. The peritoneal cavity including the upper abdomen was inspected, then pelvis was inspected (fallopian tubes, ovaries, uterus, peritoneal flimsy adhesions and other abnormalities). In subfertile patients 10 to 15ml of methylene blue dye solution was instilled by the assistant and surgeon inspected the dye entering in the tubes and free spill through fimbrial end. Then the instruments were removed and pneumoperitoneum was deflated and the umbilical incision was closed with a 2-0 vicryl sutures opposing deep fascia and skin. Intraoperative and postoperative complications were noted. Patients were discharged on the next day.

### Table 1: Indications for Laparoscopy

<table>
<thead>
<tr>
<th>Indication</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary subfertility</td>
<td>30</td>
<td>52.63</td>
</tr>
<tr>
<td>Secondary subfertility</td>
<td>13</td>
<td>22.80</td>
</tr>
<tr>
<td>Chronic pelvic pain</td>
<td>06</td>
<td>10.52</td>
</tr>
<tr>
<td>Chronic ectopic</td>
<td>04</td>
<td>7.01</td>
</tr>
<tr>
<td>Lost IUCD</td>
<td>04</td>
<td>7.01</td>
</tr>
</tbody>
</table>

### Table 2: Relationship to parity

<table>
<thead>
<tr>
<th>Parity</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>P_0</td>
<td>30</td>
<td>52.13</td>
</tr>
<tr>
<td>P_0 – 2</td>
<td>13</td>
<td>22.80</td>
</tr>
<tr>
<td>More than 2</td>
<td>14</td>
<td>24.56</td>
</tr>
</tbody>
</table>

### Table 3: Laparoscopic finding in cases of infertility

<table>
<thead>
<tr>
<th>Finding</th>
<th>Primary Infertility (n=30)</th>
<th>Secondary Infertility(n=13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubal factors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal tubes</td>
<td>14(46.6)</td>
<td>06 (44.15)</td>
</tr>
<tr>
<td>Bilateral blocked</td>
<td>12(40.0)</td>
<td>04 (30.6)</td>
</tr>
<tr>
<td>Unilateral blocked</td>
<td>04(13.3)</td>
<td>03 (23.07)</td>
</tr>
<tr>
<td>Ovarian factor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>14(46.6)</td>
<td>05 (38.5)</td>
</tr>
<tr>
<td>Non ovulating</td>
<td>13(43.3)</td>
<td>07 (53.8)</td>
</tr>
<tr>
<td>Follicular Cysts</td>
<td>03(10.0)</td>
<td>01 (7.59)</td>
</tr>
</tbody>
</table>

### Table 4: Outcome of cases with chronic pelvic pain (n= 06)

<table>
<thead>
<tr>
<th>Findings at laparoscopy</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelvic congestion</td>
<td>02</td>
<td>33.6</td>
</tr>
<tr>
<td>Chronic ectopic</td>
<td>01</td>
<td>16.6</td>
</tr>
<tr>
<td>Endometriosis</td>
<td>01</td>
<td>16.6</td>
</tr>
<tr>
<td>Pelvic adhesion</td>
<td>01</td>
<td>16.6</td>
</tr>
<tr>
<td>Multiple fibroids</td>
<td>01</td>
<td>16.6</td>
</tr>
</tbody>
</table>

of 30 cases of primary subfertility 40% had bilateral and 13.3% had unilateral blockade. Non ovulating ovaries were found in 43.3% and simple follicular cyst in 10%. Results of secondary infertility were normal tubes in 46.15%, bilateral tubal blockade in 30.6% and unilateral blockade in 23.07% (Table 3). In chronic pelvic pain patients 33.6% had pelvic congestion syndrome and were treated conservatively. Cases of chronic pelvic pain were managed laparoscopically, except the case with fibroids (Table 4). Chronic ectopic was confirmed in 03 cases and laparoscopic salpingectomy was performed. One case was found to have endometrioma (7x6cm) and removed by laparotomy due to the dense adhesions (Table 5).

### Results

Total no of laparoscopies performed during study period were 57. Majority (52.63%) were performed for primary and 22.80% for secondary infertility (Table 1). Minimum age was 21 years and maximum age was 40 years, 35 patients were in the range of 21-30 years and 22 cases between the ages of 31-40 years. Majority (52.13%) were nulliparous and 22.80% patients had low parity with only single child and with recurrent miscarriages. One had previous ectopic pregnancy, and 24.56% patients were multipara (Table 2). Out of 30 cases of primary subfertility 40% had bilateral and 13.3% had unilateral blockade. Non ovulating ovaries were found in 43.3% and simple follicular cyst in 10%. Results of secondary infertility were normal tubes in 46.15%, bilateral tubal blockade in 30.6% and unilateral blockade in 23.07% (Table 3). In chronic pelvic pain patients 33.6% had pelvic congestion syndrome and were treated conservatively. Cases of chronic pelvic pain were managed laparoscopically, except the case with fibroids (Table 4). Chronic ectopic was confirmed in 03 cases and laparoscopic salpingectomy was performed. One case was found to have endometrioma (7x6cm) and removed by laparotomy due to the dense adhesions (Table 5).
IUCD was located in 04 cases. Out of these, three were removed by gynaecologist on laparoscopy and in 01 case laparotomy had to be performed as only thread was visible and IUCD was badly embedded in adhesions with the appendix (Table 6). No major intra and post operative complications were noted in all the patients except mild abdominal distension and shoulder tip pain on the next day.

Table 5: Outcome of cases with chronic ectopic (n = 04)

<table>
<thead>
<tr>
<th>Findings at laparoscopy</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic ectopic</td>
<td>03</td>
<td>75</td>
</tr>
<tr>
<td>Endometrioma</td>
<td>01</td>
<td>25</td>
</tr>
</tbody>
</table>

Table 6: Outcome of cases with Lost IUCD (n = 04)

<table>
<thead>
<tr>
<th>Findings at laparoscopy</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>IUCD found</td>
<td>04</td>
<td>100</td>
</tr>
</tbody>
</table>

Discussion

Uptil now laparoscopy has achieved widespread use as a valuable diagnostic aid in gynaecology. Most of the studies mentioned infertility as the major indication. Studies reported tubal abnormalities in over one fourth of all infertile females including cornual occlusion, distal tubal occlusion, hydrosalpinx and peritubal adhesions.

In our study 14 patients were admitted with abdominopelvic pain, out of which 6 patients were of chronic pelvic pain. Diagnostic laparoscopy is one of the few investigations available that could be used to determine the exact cause of chronic pelvic pain.

Laparoscopy is considered to be a useful diagnostic tool, providing a positive finding in two thirds of women with chronic pelvic pain and offering some benefit, even when findings are negative, because of its reassuring facts. Laparoscopy is a valuable diagnostic tool for females in different gynaecological problems. It benefits patients by avoiding unnecessary surgery, delay in diagnosis, treatment and shortening the operative and hospital stay period. Laparoscopy is less invasive and more convenient.

Conclusion

1. The benefit of laparoscopy to open surgery includes less pain, less scarring, less disability and quicker recovery.

2. It improves diagnostic accuracy in pelvic disorders and can reveal information which may make laparotomy unnecessary.

References

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