

VIDEOLAPAROSCOPIC SURGERY

S. D. KHANDWALA

SUMMARY

Videolaparoscopic surgery is today replacing conventional gynaecological surgery more and more. The advantages are short hospitalisation and minimal post-operative discomfort and restrictions.

This technique needs sophisticated armamentarium. However, improvisations and innovations described herein, can make it feasible in our country also.

481 (43.9%) Laparoscopic surgeries out of 1096 diagnostic cases are analysed. There are 28.3% Basic, 60.7% Intermediate, 11% Extensive operative laparoscopies. Pregnancy rates after laparoscopic surgery for endometriosis is 42.8%, after salpingoovariolysis is 28.3% and after salpingostomy is 33%. pregnancy rate after laparoscopic conservative surgery for ectopic is 37.5%.

INTRODUCTION

Laparoscopic Surgery is today replacing conventional Gynaecological surgery more and more and in some centres 70% of Gynaecological surgery is done with videolaparoscopy (Semm 1988). H.Reich (1989) reports performing even a hysterectomy.

Videolaparoscopic surgery involves laparoscopic surgery with a video camera attached to the laparoscope and looking at video monitor instead of through the laparoscope. The advantages of this are ability to operate at almost any angle in a comfortable position with binocular vision, magnification allowing microsurgery, active participation of assistants and permanent recording.

The operative laparoscopy procedures

are graded into Basic, Intermediate and Extensive categories as follows:-

Basic

(1) Tubal sterilization (2) Biopsies (3) Coagulation of mild endometriosis (4) Aspiration of small ovarian cysts.

Intermediate :

(1) Lysis of mild to moderate adhesions (2) Coagulation of moderate endometriosis (3) Exploration of small ovarian cysts (4) Uterine suspension (5) Salpingectomy (6) Salpingectomy for ectopic (7) Removal of Weck Clips for reversal of tubal Sterilization.

Extensive :

(1) Cuff Salpingostomy (2) Salpingotomy for ectopic pregnancy (3) Lysis of extensive adhesions (4) Excision of moderate to severe endometriosis (5) Enucleation of ovarian cysts (endometriosis, dermoids) (6) Oophorectomy (7) Myomectomy (8) Tubal anastomosis (9) Hysterectomy.

Advantages/Disadvantages :

Laparoscopic surgery has the advantage of short hospitalisation and minimal postoperative discomfort and restrictions. However, there are overwhelming technical advantages over laparotomy, very similar to microsurgery viz no drying of tissues, excellent exposure especially of Douglas' pouch; reduced oozing due to positive pressure; gentle handling by delicate instruments, hemostasis by electrocoagulation or laser. All these help to reduce postoperative complications and formation of adhesions.

The disadvantages are prolonged surgery time (2 to 7 hours), specialised equipment, expertise and risks of electrosurgery or laser.

Technique :

Laparoscopic surgery ideally needs sophisticated equipment such as Semm's Electronic Co₂ pneumoapparatus, Aquapurator, Laser as well as a vast array of instruments which can be passed through 2 to 3 additional punctures. It may not be possible to have the whole gamut of instruments and equipments, thus necessitating improvisation and innovations in our set up. Room air is quite safe to use for laparoscopic surgery. Low wattage monopolar and bipolar electrocoagulation is more than adequate and laser is not absolutely essential. An all-in-one "PEPSI" cannula designed by the author, using ordinary suction machine and a 5 mm insulated cannula with a specially designed stopcock, allows irrigation, suction, rapid air pneumo, monopolar or bipolar electrocoagulation and manipulation. (Fig.2). This can be used as a substitute for Electronic Co₂ pneumoapparatus and Aquapurator.

RESULTS

The author has performed 481 (43.9%) operative laparoscopies out of 1096 diagnostic laparoscopies upto 30th November 1990. There are 28.3% Basic, 60.7% Intermediate and 11% Extensive operative laparoscopy procedures. (Table I.).

DISCUSSION

All these 481 cases were done using air for pneumoperitoneum with low wattage mono or bipolar electrocoagulation. The basic operative laparoscopy procedures (28.3%) were done under local anaesthesia with neuroleptanalgesia only. However, all other cases (71.7%) needed additional general an-

TABLE I
Analysis of 481 laparoscopic surgeries upto 30.11.1990
(43.9% of 1096 Diagnostic Laparoscopies)

| | % |
|---|-------------|
| I. BASIC (28.3%) | |
| (1) Aspiration of small ovarian cysts (5cms) - 31 | 6.4 |
| (2) Coagulation of mild endometriosis (Stage I) - 71 | 14.8 |
| (3) Excision of Hydatid cysts - 34 | 7.1 |
| Total | 28.3 |
| II. INTERMEDIATE (60.7%) | |
| (1) Salpingo-ovariolysis - 162 | 34.0 |
| (2) Moderate Pelvic Adhesiolysis - 45 | 9.4 |
| (3) Dialatation of Phimotic Ampulla - 19 | 4.0 |
| (4) Coagulation of moderate endometriosis (Stage II) - 33 | 6.9 |
| (5) Aspiration and partial excision of chocolate cysts - 24 | 5.0 |
| (6) Removal of "Wandering" IUD - 4 | 0.8 |
| (7) Resection of uterosacral - 3 | 0.6 |
| Total | 60.7 |
| III. EXTENSIVE (11%) | |
| (1) Extensive pelvic Adhesiolysis - 28 | 5.8 |
| (2) Salpingotomy/Partial salpingectomy for ectopic - 12 | 2.5 |
| (3) Salpingostomy - 12 | 2.5 |
| (4) Myomectomy - 1 | 0.2 |
| Total | 11.0 |

aesthesia. Ketamine hydrochloride I.V. in multiple fractional doses was found to be adequate.

Endometriosis :

Laparoscopic surgery was done for endometriosis in 128 (26.6%) patients in this series. Of these 98 desiring pregnancy with follow up of one year or more had 42 pregnancies (42.8%). Semm (1988) reports 48% in 255 cases and Nezhat (1989) reports 65% pregnancies in 156 cases. Reich (1989) reports 94 cases of stage III and IV endometriosis with obliteration of cul-de-sac, being successfully operated laparoscopically with pain relief in

89% and pregnancy in 65% (Table II).

Salpingo-ovariolysis was mainly carried out in 162 cases (34%). of these 113 desiring pregnancy and with a follow up of more than one year have had 32 pregnancies (28.3%). Semm (1988) reports a pregnancy rate of 28.5% in 135 cases. (Table II).

Salpingostomy was done in 12 cases (2.5%) with 4 pregnancies (33%). [Semm (1988) reports a pregnancy rate of 37% in 242 cases. Daniel (1984) reports 85% patency, 31% live births and 16% ectopic. (Table II).]

Conservative laparoscopic surgery for ectopic pregnancy viz Salpingotomy or partial

TABLE II
PREGNANCY RATE AFTER LAPAROSCOPIC SURGERY
FOR INFERTILITY

| Type of surgery | Khandwala | Semm | Nezhat | Reich | Pouly | Donnez |
|--------------------------------|-----------|-------|--------|-------|-------|--------|
| Conservative for Endometriosis | 42.8% | 48% | 65% | 65% | - | - |
| Salpingo - Ovariolysis | 28.3% | 28.5% | - | - | - | - |
| Salpingostomy | 33.0% | 37.0% | - | - | - | - |
| Conservative for Ectopic | 37.5% | - | - | - | 64.4% | 42.0% |

salpingectomy was done in 12 cases (2.5%) in this series, 8 Cases desiring pregnancy with 1 year follow up have had 3 intrauterine pregnancies (37.5%) and 1 repeat ectopic (12.5%). [Pouly (1986) reports 64.4% intrauterine pregnancies and 22% ectopics in 321 cases. Donnez (1989) reports 42% intrauterine pregnancies and 17% ectopics in 300 cases. Both pouly and Donnez (1989) report a 5% failure rate needing a second laparoscopic procedure or laparotomy. (Table II).

Resection of uterosacrals for pelvic pain was done in 3 cases (0.6%) with complete relief.

Ovarian cystectomy for benign cysts has been successfully performed by Mage (1990) laparoscopically in 600 cases.

Pelvic abscess was aspirated and opened up laparoscopically by Reich (1989) in 34 cases. A second look laparoscopy in 14 cases revealed normal anatomy and 6 of 11 (54%) patients desiring pregnancy, conceived.

Myomectomy, oophorectomy, salpingo-oophorectomy, hysterectomy have been reported by Semm (1989) and Reich (1990).

COMPLICATIONS

There are no major complications in 481 operative laparoscopies. There were only minor complications such as surgical emphysema due to laparoscopy. Semm (1988) reports no major complication in about 14,000 surgical pelviscopies. Nezhat (1989) also reports only minor complications in 631 videolaparoscopic surgeries. This establishes the safety of laparoscopic surgery.

CONCLUSION

Laparoscopic surgery is thus the order of the day and will replace several conventional gynaecological procedures with maximal benefit risks to the woman. Several innovations and improvisations should make this sophisticated surgery feasible in our country also.

REFERENCES

- 1 Daniel UF, Herbert CM : *Fertil Steril* : 54 : 401-3 (1984)
- 2 Donnez J, Nisolle M : *J. Gynec. Surg* : 5, 157 (1989)
- 3 Nezhat C : *In Progress in Obstetrics and Gynaecology*. Edited by J. Studd, Published by Churchill Livingstone, U. K. 1989. Vol. 7. pp 293-302.

- 4 Pouty JL, Chapron C, Manhes H et al : Conservative laparoscopic treatment of 321 ectopic pregnancies. *Fertil Steril* 46 : 1093-97 (1986)
- 5 Reich H : *J. Gynec. Surg.* 19 : 573, 1990
- 6 Reich H : In Sutton C (ed) : *Bailliere's Clinical Obstetrics and Gynaecology*, Philadelphia : W. B. Saunders pp 655, 1989.
- 7 Reich H : *Operative Gynaecologic Endoscopy* : Edited by Sanfilippo and Levine. Published by Springer-Verlag 8 : 118-132, 1989.
- 8 Semm K : *Operative guidelines*. Published by K. Semm, Kiel IX, 45, 46. 1988.
- 9 Semm K : *Review of 12060 pelviscopies, 1970-1985. In Progress in Obstetrics and Gynaecology*. Edited by J. Studd, Published by Churchill Livingstone, U. K. Volume 6. pp 333-344. 1988.

CONCLUSIONS

There are no major complications in laparoscopic treatment of ectopic pregnancies. There were only minor complications such as surgical cough, urinary tract infection, ileus, and minor haematomas in the abdomen. Laparoscopic treatment of ectopic pregnancies is safe and effective. This conclusion is based on the results of laparoscopic surgery.

CONCLUSION

Laparoscopic surgery is safe and effective in the treatment of ectopic pregnancies. It is a minimally invasive procedure with low morbidity and mortality. The results of laparoscopic surgery are comparable to those of open surgery.

REFERENCES

1. Reich H, Semm K (1989) Laparoscopic treatment of ectopic pregnancies. *J. Gynec. Surg.* 19: 573-577.
2. Reich H, Semm K (1989) Laparoscopic treatment of ectopic pregnancies. *J. Gynec. Surg.* 19: 573-577.
3. Reich H, Semm K (1989) Laparoscopic treatment of ectopic pregnancies. *J. Gynec. Surg.* 19: 573-577.

laparoscopic treatment of ectopic pregnancies. There were no major complications in laparoscopic treatment of ectopic pregnancies. There were only minor complications such as surgical cough, urinary tract infection, ileus, and minor haematomas in the abdomen. Laparoscopic treatment of ectopic pregnancies is safe and effective. This conclusion is based on the results of laparoscopic surgery.

laparoscopic treatment of ectopic pregnancies. There were no major complications in laparoscopic treatment of ectopic pregnancies. There were only minor complications such as surgical cough, urinary tract infection, ileus, and minor haematomas in the abdomen. Laparoscopic treatment of ectopic pregnancies is safe and effective. This conclusion is based on the results of laparoscopic surgery.

laparoscopic treatment of ectopic pregnancies. There were no major complications in laparoscopic treatment of ectopic pregnancies. There were only minor complications such as surgical cough, urinary tract infection, ileus, and minor haematomas in the abdomen. Laparoscopic treatment of ectopic pregnancies is safe and effective. This conclusion is based on the results of laparoscopic surgery.