

OPERATIVE LAPAROSCOPY

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SUMMARY

Laparoscopic surgery, if performed carefully and with skill and experience, has a significant place in the surgical armamentarium of gynaecologists. It could avoid the need for laparotomy in quite a number of situations. It is noteworthy that there were no complications arising out of diagnostic or operative laparoscopy. This is because only those simple cases which could be effectively managed through the laparoscopy were subjected to endoscopic surgery. Those where injury to other viscera are possible and those with well formed dense adhesions and big pelvic masses were carefully selected at laparoscopy for laparotomy correction.

While many of the acute abdominal conditions due to ectopic gestation, ovarian cysts, and endometriosis were completely cured following endoscopic surgery, a good number of infertile subjects could achieve conception following endoscopic coagulation of endometriosis were completely cured following endoscopic surgery, a good number of infertile subjects could achieve conception following endoscopic coagulation of endometrial implants, release of ovarian adhesions, aspiration of follicular cysts. Moreover, in those with unexplained infertility, diagnostic endoscopy has been therapeutic, probably by the effect of tubal lavage, cervical dilatation and peritoneal manipulations. Thus many patients have become pregnant following diagnostic laparoscopy.

Introduction

The reputed role of laparoscopy in the diagnosis of previously unsuspected causes for infertility or gynaecological disorders is well established. Nonetheless, an area of continued controversy in-

volves operative procedures through the laparoscope for correction of fertility disorders and management of gynaecological problems. Surgeons operating through the laparoscope believe that operative laparoscopy is only an extension of diagnostic laparoscopy and is an additional benefit to the diagnostic procedure, and is made possible by a variety of less traumatic safer accessory instruments,

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and thus obviates the need for a laparotomy in many occasions.

We feel that a judicious application of laparoscopic surgery after carefully weighing the risk-benefit ratio is always beneficial to a good number of patients in whom fertility disorders or gynaecological diseases are diagnosed at laparoscopy. In this communication we give an account of the surgical procedures successfully completed through laparoscope in patients with gynaecological disorders or infertility.

Material and Methods

In our service laparoscopy is liberally employed for the diagnosis of fertility disorders, endocrine dysfunction and acute or chronic pelvic pain. Over the period of 2 years, and 6 months beginning from 3-4-81 we have performed diagnostic laparoscopy for infertility and other pelvic disorders in 352 patients (Table I). We always employ the double puncture technic for the diagnostic procedure and wherever there is an indication for surgery and if it will be possible through the laparoscope we extend the diagnostic procedure to an operative laparoscopy. Diagnostic and operative laparoscopy are always performed under general anaesthesia.

TABLE I
Indications

| | |
|---------------------|-----|
| Infertility | 329 |
| Pain abdomen | 19 |
| Pelvic mass | 1 |
| IUD removal | 1 |
| Primary Amenorrhoea | 2 |

Laparoscopic Operations

Tubal lavage or chromopertubation employing methylene blue solution for

determining the tubal patency, and peritoneal lavage by saline-steroid mixture into the peritoneal cavity and cleansing by aspiration are the simple operative procedures we employ as the integral part of laparoscopic procedure in all infertile subjects. Apart from these simple operative procedures the other laparoscopic surgical measures offered are: fulguration of endometrial implants, coagulation and lysis of ovarian adhesions, aspiration of simple ovarian cysts, endometrial cysts and follicular puncture, ovarian cystectomy, ovarian mini wedge, removal of paraovarian cyst, coagulation and resection of tubal ectopic pregnancy, lysis of tubal and peritoneal inflammatory adhesions, myomectomy, removal of IUD, and appendectomy. (Table II).

TABLE II
Laparoscopic Surgical Procedures

| | |
|---|----|
| 1. Fulguration of endometrial deposits | 24 |
| 2. Coagulation and lysis of ovarian endometriosis | 6 |
| 3. Aspiration of endometrial cysts | 2 |
| 4. Aspiration of follicular cyst | 9 |
| 5. Aspiration of ovarian cyst | 3 |
| 6. Puncture of follicles in polycystic ovary | 8 |
| 7. Ovarian mini wedge | 5 |
| 8. Ovarian cystectomy | 2 |
| 9. Removal of paraovarian cyst | 1 |
| 10. Lysis of tubal and peritoneal adhesions | 4 |
| 11. Coagulation and resection of ectopic | 4 |
| 12. Appendectomy | 1 |
| 13. Myomectomy | 4 |
| 14. Removal of IUD | 1 |

Endometriosis

Endometrial deposits on the surface of the ovaries, uterosacral ligaments, round ligaments and surface of uterus are effectively fulgurated with bipolar coagulation forceps. Endometrial cysts if possible are aspirated and small cysts are co-

agulated. Wherever possible ovarian adhesions are released by coagulation and cutting, and raw surface and endometrial implants on the ovarian surface are coagulated, and thus complete haemostasis obtained. Adhesions involving other viscerae such as fallopian tubes, intestines or ureteric fold are not intervened through laparoscope. At the completion of the surgery the peritoneal cavity is rinsed with saline-steroid mixture and all the peritoneal collections are aspirated out. We have recorded pregnancy following coagulation of endometrial deposits in 2 patients.

Ovarian Pathology

As a part of infertility evaluation or investigation of acute pain in abdomen when follicular cysts or other cystic enlargements of the ovaries are encountered at laparoscopy we aspirate the cysts. It is felt that aspiration of such cysts will relieve the pain and improve the fertility through better ovarian-tubal positional relationships. If the aspiration suggests the possibility of ovarian tumour, such as dermoid, either ovarian cystectomy or ovariectomy is performed. For this purpose the ovary is grasped by the holding forceps through the suprapubic puncture and delivered out by slightly extending the incision. Ovarian cystectomy was performed in 2 subjects, 1 for bilateral dermoid cysts, and 1 in a young girl with mucinous cyst in the only ovary present.

In polycystic ovaries we attempt to puncture all the follicles as a therapeutic measure, and we have achieved pregnancy in 3 subjects following aspiration of the follicular cysts or puncture of multiple follicles.

Ovarian biopsy by ovarian mini-wedge was performed in 5 subjects with anovulatory infertility and polycystic

ovaries. We achieved pregnancy in 2 subjects following medical induction of ovulation. However, we do not perform ovarian biopsy for this indication anymore since ovarian biopsy does not further contribute to diagnosis and carries the hazard of formation of pelvic adhesions. Therapeutic results were also achieved only after medical induction of ovulation with clomiphene, dexamethasone and gonadotropins. However, we perform gonadal biopsies in patients with primary amenorrhoea for determination of the histology of the gonad. Two cases of gonadal biopsies performed suggested ovarian tissue with follicle, and a diagnosis of mullerian agenesis was made in them.

One case of para-ovarian cyst, investigated for acute abdomen was removed through the laparoscopy second wound in the manner described for ovarian tumours.

Lysis of Flimsy Tubal or Peritoneal Adhesions

Flimsy inflammatory adhesions extending between the tubes ovaries and peritoneal surfaces are cut with laparoscopic scissors, or coagulated if bleeding is suspected. Formed adhesions between the tube and ovaries are not subjected to endoscopic surgery.

Tubal Gestation

In 17 patients on whom a diagnostic laparoscopy was performed for acute pain in abdomen, ectopic pregnancy was diagnosed in 8 subjects (50%), and among them 4 could be operated through laparoscope. In all the 4 cases the pregnancy was contained inside the tubes either in the form of tubal rupture or tubal abortion, with minimal peritoneal bleeding. In 2 subjects the tubal segment

was completely coagulated, and in the other 2 subjects the tubes were delivered through the second puncture and tubectomy performed. They made uneventful recovery, and a laparotomy could be avoided in all these 4 subjects.

Myomectomy

Myomectomy was performed in 4 subjects with pedunculated small fibroids. Myomectomy certainly can be performed on pedunculated lesions, but the necessity or sagacity for such a procedure is questionable.

Removal of Displaced IUD

Lippes loop embedded in the uterovesical fold of peritoneum on the surface of the uterine isthmus was located in 1 patient investigated for IUD displacement. The uterovesical peritoneum was cut by the endoscopic scissors, and the IUD was pulled out from the surface of uterine isthmus, and was delivered out successfully through the second puncture sleeve. The raw area on the surface and the peritoneal surfaces were coagulated and the minimal oozing was effectively

controlled. Tubal sterilisation was performed by bipolar coagulation. The patient made uneventful recovery.

Appendectomy

The technic of appendectomy followed as follows: The appendix was held at its tip and was steadied. The mesoappendix was coagulated near the base by the bipolar coagulation forceps, and the coagulated area was cut by the endoscopy scissors, then the appendix was also coagulated near the base for one half of its thickness and was cut, then the rest of the inact portion of the appendix was coagulated and cut, and thus the appendix was separated from the caecum. The proximal stump was further coagulated. The dissected appendix was removed through the second puncture sleeve. This procedure was undertaken in 1 subject who was investigated for pain in abdomen. She made good recovery after the procedure.

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