LAPAROSCOPY IN GYNECOLOGICAL CONDITIONS—ITS BENEFITS AND DANGERS

by

ROHINEE MERCHANT,* M.D., D.G.O. (Bom.), F.I.C.A., F.I.C.S.

and

CHAMPA NARIANI,** M.D.

Introduction

Although Laparoscopy-celioscopy was an established procedure of the yester years, it fell into disrepute because of serious complications. Fortunately, a judicious training and an expertise in the procedure has brought the rate of complications to a virtual zero today. So then, from a humble beginning as a "look-in-view" of abdomen and pelvis, laparoscopy now ranks high as a vehicle for even operative intervention in a variety of gynaecological conditions. Today laparoscopic procedures are performed for diagnostic, investigative and therapeutic purposes through just a puncture technique.

Material, Method and Results

The present series is a compilation of our experience with 254 laparoscopies in different gynaecological conditions, including those for the purpose of occluding the tube. The study was spread over a period of two years and reveals the importance of laparoscopy, particularly in cases of infertility work up. This laparoscope enabled us (a) To assess and diagnose the unknown problems, (b) To evaluate the known problems, (c) It offered in itself a surgical tool.

Storz 11 mm single puncture laparoscope with fibre optic light source was used in majority of cases. The type of anaesthesia and the gas for pneumoperitoneum used was as shown in Table 1.

TABLE I

The Type of Anaesthesia Gas Used for Pneumoperitoneum

Anaesthesia	No. of cases	Pneumoperitoneum with	No. of cases
General	100	CO_2	30
Neuroleptanalgesia and local infiltration with 1% Xylocaine	136	N_2O	36
Neuroleptanalgesia with local infiltration with 1% Xylcaine supplemented with Sodium Pentothal	18	Air	188
Total	254	Ttal	254

The laparoscope was passed through wide semilunar incision through the lower border of the umbilicus using standard technique.

*Hon. Associate Obstetrician & Gynecologist, B.Y.L. Nair Hospital, Bombay 400 008. Hon. Associate Professor, Obstetrics & Gynecology, T.N. Medical College, Bombay 400 008.

**Assistant Professor, Obstetrics & Gynecology, B.Y.L. Nair Hospital and T.N. Medical College, Bombay 400 008.

From, Deparment of Obstetrics & Gynecology, B.Y.L. Nair Hospital, Bombay 400 008 and Merchants' Hospital, Bombay 400 022.

Accepted for publication on 24-3-77.

The study was divided into 2 groups viz. Group A comprising 120 cases of laparoscopy done for diagnostic, investigative and therapeutic purposes and Group B comprising 134 cases wherein laparoscopic tubal sterilisation was carried out by different techniques. Table II shows

TABLE II
Indications for Laparoscopy Group A Cases

Indication	No. of cases	Percentage
1. Infertility	66	55 %
2. Primary and secondary amenorrhoea	10	8.3%
3. Menorrhagia	1	0.8%
4. Dyspareunia	5	4.2%
5. Acute pain in abdomen	21	17.5%
6. Pelvic mass	17	14.2%
Total	120	

the clinical diagnosis and indications for laparoscopy among 120 cases of Group A. The commonest indication in over half the number of cases was infertility. Acute pain in abdomen and pelvic masses were responsible for 17.5% and 14.2% of the cases respectively. A definite pathology was detected on laparoscopy in all but 12 cases of infertility (Table III) inspite of no abnormality detected clinically. Tubal pathology was responsible in 45.5% of cases and ovarian factor was responsible in 28.7% of cases. Endometriosis was found in 7.6% of cases of infertility while pelvic organs were found to be normal in 12 cases. Laparoscopic findings in cases of menstrual disorders are listed in Table IV. Amongst 21 cases of acute pelvic pain (Table V), 6

TABLE III
Laparoscopic Findings in 66 Cases of Infertility

	No. of cases	Percentage
1. Pelvic inflammation mainly tubal	25	37.9%
2. Tubal block without inflammation	5	7.6%
3. Sclerocystic ovarian disease with enlarged ovary	13	19.7%
4. Sclerocystic ovarian disease with small ovary	4	6.0%
5. Ovarian dysgensia	5	3.0%
6. Endometriosis	2	7.6%
7. Normal	12	18.2%
Total ..	66	

TABLE IV
Laparoscopic Findings in Cases of Unexplained Menstrual Disorders and Dyspareunia

Indication	Laparoscopic findings	No. of cases
1. Primary or secondary amenorrhea (10 cases)	Ovarian dysgenesis	4
	Ovarian Atrophy	4
	Absent uterus	2
2. Menorrhagea (one case)	Ovarian thicosis	1
3. Dyspareunia	Pelvic endometriosis	3
	Prolapsed ovaries	2
	Total	16

TABLE V
Acute Pelvic Pain

	Laparoscopic findings	No. of cases
Acute pain in lower abdomen (21 cases)	Pelvic inflammation	6
	Twisted ovarian cyst	4
	Tubal pregnancy	5
	Corpus luteum haemorrhage	1
	Adinocarcinoma of ovary	1
	Pelvis normal	4
	Total	21

were cases of pelvic inflammation, 6 tubal pregnancies, 4 twisted ovarian cysts, one adenocarcinoma of ovary and in 4 cases

the pelvis was normal. The clinically uncertain pelvic pathology was ascertained at laparoscopy among 17 cases of pelvic mass as per Table VI. Table VII enumerates the surgical and therapeutic procedures undertaken during laparoscopy in Group A cases.

TABLE VI
Pelvic Mass

	Laparoscopic findings	No. of cases
Pelvic Mass (17 cases)	Pelvic inflammation	4
	Myoma uterus	4
	Ovarian cyst	4
	Bicornuate uterus	2
	Polycystic ovarian disease	2
	Broad ligament cyst	1
	Total	17

TABLE VII
Surgical/therapeutic Procedures Through the laparoscope

	No. of cases
1. Ovarian biopsy	6
2. Aspiration of ovarian cyst	3
3. Aspiration chocolate cyst ovary	1
4. Fulguration of endometriotic lesions	4
5. Ventral suspension of uterus	1
6. Aspiration of peritoneal fluid for bacteriology and cytological studies	12
Total	27

The different techniques used for a laparoscopic tubal sterilisation amongst 134 cases in Group B are indicated in Table VIII.

Table IX shows the complications encountered in the present series. In 12 cases a pneumoperitoneum could not be created at the first attempt through the usual site (i.e. lower border of the umbilicus). However, a different site which

TABLE VIII
Laparoscopic Sterilisation: Group B cases

Method	No. of cases
Conventional cauterisation	57
Bipolar coagulation	4
Falope ring	43
Total	134

TABLE IX
Complications Encountered in the Present Series

	No. of cases
Failed pneumoperitoneum at 1st attempt	12
Pneumothorax with surgical emphysema of neck	1
Bowel burns	1
Postoperative shoulder pain	35
Wound sepsis	2
Postoperative pain in abdomen and vomiting	2

was devoid of the scar or much fat, enabled the creation of a successful pneumoperitoneum. In 2 cases we had to go through the culdesac to perform the pneumoperitoneum. In one patient, there was a pneumothorax and surgical emphysema which required a closed aspiration and the lungs expanded fully by 3rd day. A superficial, ½ cm diameter bowel burn occurred in one case of tubal cauterisation. The patient was kept under observation for 10 days and recovered completely. Shoulder pain was complained of postoperatively by 35 patients, particularly when air was used for creating a pneumoperitoneum.

Discussion

There is no doubt that in laparoscopy a gynaecologist has an indispensable tool which allows one to solve many diagnostic problems with accuracy, speed and sim-

plicity. Ordinarily the investigations for a case of infertility would take anything from 4-12 months while a competent laparoscopy as a routine investigation could shorten the time very considerably. In many a cases of pelvic disease of unknown origin, a mere laparoscopy has avoided a laparotomy particularly in cases of tubal abortions, corpus leteum haemorrhage, ovarian cyst and where there has been no pathology in pelvic organs as evidenced in this series. In certain situations laparoscopy has been a valuable therapeutic adjunct. In this small series, 2 cases of twisted ovarian cyst were successfully aspirated. Both accompanied pregnancy during early 2nd trimester and on both occasions some 250 c.c. of clear straw coloured fluid was aspirated. In one case of a multiple follicle cyst of the ovary, the cysts were punctured or aspirated. On one occasion 150 c.c. of tarry fluid from a chocolate cyst was aspirated and this patient is doing well with long acting progestogens. Lysis of pelvic adhesions can be carried out and in one case even a ventral suspension of the uterus was performed through the laparoscope. Further, a laparoscopy can be of immense help as a prelude to a tuboplasty and can be performed on adolescents and even infants for an accurate assessment of the internal genitalia in cases of primary and secondary amenorrhea, gonadal dysgenesis and inter-sexuality.

Benefits and Dangers

Amongst the many benefits of laparoscopy in gynaecological management those of prime importance are low operative risk and increased diagnostic information. Regarding laparoscopic sterilisation the benefits are high success rate, decreased operative and recuperative time, low cost, insignificant patient inconvenience and feasibility to carry it out on an outpatient basis. All these have made laparoscopy increasingly popular with the physicians and patients alike.

Although a safe, quick and a simple procedure, competent laparoscopic performance demands the acquisition of a new surgical skill that combines visual orientation and manual dexterity. Laparoscopy is not an innocuous procedure—make no mistake about it. The surgeon must familiarise himself with the potential dangers that surround his patient i.e. the gas, the anaesthesia, the cautery and the surgery. Emphysema and hypercarbia are known to occur during pneumoperitoneum procedures. Complications due to anaesthetic agents are too well-known and are beyond the scope of the present discussion. Cauterisation procedures can cause accidental burns on the person of the surgeon besides burning the bowel of his patients. Surgery in its own turn can cause haemorrhage or traumatise the viscera like stomach, bowel and even the posterior abdominal wall. Awareness of these potential hazards is therefore mandatory and risks inherent in each of these 4 groups can be minimised, with (a) an adequate training to develop the desired skill and proficiency, (b) adequate equipment, (c) adequately administered anaesthesia, (d) adequate attention to details during the procedure. These alone will eliminate the many pitfalls and traps.

Summary

Laparoscopy today enjoys the status of a superspeciality in practice of gynaecology. Although it is not a new procedure, it has had a strong reawekening in modern medicine and spans the void between palpation and exploratory laparotomy. Its many advantages far outweigh the minor drawbacks of its cost and the expertise

needed in its use. A bowel burn continues to be a dreaded complication. However, more safer methods of tubal sterilisation such as falope ring, Hulka clips and bipolar coagulation are improvements of great promise over the standard cauterisation techniques. To sum up, the beneficial impact of this exciting technique has made laparoscopy the hall-mark of modern reproductive biology and revolutionised the practice of gynaecology.

Acknowledgement

We are deeply indebted to the members of the staff of Obst-Gynec. department at Nair Hospital and Merchants' Hospital for their help. We are grateful to Dr. Joshi, the Head of the Obstetrics and Gynaecological department, Nair Hospital for his valuable suggestions. Our thanks are also due to the Dean, B.Y.L. Nair Hospital for his permission to use the hospital records.