Review Article:
Laparoscopic Findings in Infertility

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A study was carried out over a period of 12 months from 1.1.95 to 31.11.95, in which 200 (female) patients were subjected to laparoscopy to evaluate various factors regarding infertility. The study highlighted various symptoms of infertile patients (female) and obvious pathologies seen with the laparoscope such as tubal adhesions, uterine diseases, status of ovaries or any associated condition like endometriosis or pelvic inflammatory disease. The study also illustrates the complications occurring during the laparoscopic procedures
Key Words: Laparoscopy, Infertility.

Laparoscopy is a real milestone in the field of gynecology. Over the last 25 years indications for laparoscopy have been defined and its use widely advocated through out the world. In Europe at least 20% of all gynecological operations are carried out with the use of laparoscope.

Materials and Methods:
Patients were selected at random but with chief complaints of infertility. All the patients were admitted through out-patient clinic. Initial evaluation and relevant investigations, depending upon the clinical presentations, were carried out in all patients and were given date and time for operation at least a week before admission. All patients were admitted one day before the procedure. Preanesthetic evaluation was carried out in the evening. Prophylactic antibiotic was injected I/V, 30 minutes before procedure. Pneumoperitoneum was created using Veress needle which was introduced through an infraumbilical stab. CO_2 was insufflated to a pressure of about 10 to 14 mm of Hg. During creation of pneumoperitoneum a steep trendelenborg position of the patient was achieved and was then later changed for better enhancement of various abdominopelvic organs. In the procedure only 2 portals of entry were made.

Results:
Study was conducted over a period of 12 months from 1.1.95 to 31.12.95. 200 patients were subjected to laparoscopy who had infertility. Out of 200 infertile patients 160 (80%) patients presented with primary infertility and 40 patients (20%) presented with secondary infertility (TABLE I). 84 patients (52.2%) with primary infertility were asymptomatic. 76 patients (47.5%) presented with various symptoms like pelvic pain (7%) in 11 patients, dysparunia and pelvic pain in 14 patients (8.6%), dysparunia with dysmenorrhoea in 28 patients (17.4%). 11 had menorrhagia and 12 had (7.8%) menstrual irregularities. 28 patients (69%) had pelvic pain with secondary fertility, 11 (27.6%) had no symptoms and only 1 (3.4%) presented with menorrhagia (Table II).
Laparoscopic findings were variable among primary infertility group 65 patients had normal findings while 95 had various abnormal findings in the form of blocked tubes endometriosis, fibroids, ovarian problems pelvic adhesions and congenital anomalies. In secondary fertility 18 had normal findings while 22 had abnormal findings in the form of tubal blockage, dense adhesions, fibroids and ovariancysts (Table III).

Table I

Type of Infertility	n=	%age
Primary Infertility	160	80
Secondary Infertility	40	20
Total	200	100

Table II

Symptoms	Primary Infertility	%age	Secondary Infertility	%age
No Symptoms	84	52.2	11	27.6
Pelvic Pain	11	7	28	69
Pelvic Pain with Dysparunia	14	8.6	0	-
Dysmenorrhoea with dysparunia	28	17.4	0	-
Menorrhagia	11	7	1	3.4
Menstrual Irregularity	1	7.8	0	-
Total	160	100	40	100%

Table III

Laparoscopic Findings	Primary Infertility	%age	Secondary Infertility	%age
Abnormal Findings				
Symptomatic Patients	67	41.7	19	48.27
Asymptomatic Patients	28	17.39	3	6.89
Normal Findings				
Symptomatic Patients	10	6.08	10	24.13
Asymptomatic Patients	55	34.78	8	20.68

11 patients (27.5%) with secondary infertility and 11 patients with primary infertility gave history of chronic PID. It was secondary infertility patients which were affected the most and showed a higher percentage of adhesions which could be the cause of their problem (Table IV). Patients with primary infertility, 31% had tubal adhesions and blocked tubes and 15% patients of secondary infertility had tubal blockage and adhesions. In total 46% of patients showed tubal pathology. This study

shows that laparoscopy is an excellent method for the assessment of tubal patency. It was seen that the commonest causes in infertile patients were tubal adhesions and blockage (Table V). 21 patients (13%) of primary infertility had endometriosis. On the contrary out of 40 secondary infertile patients no endometriotic lesions could be detected (Table VI).

Table IV Detailed laparoscopic findings in cases of infertility

Laparoscopic Findings	Primary Infertility	Secondary Infertility
Chronic PID	11	11
a. Extensive Adhesions	7	8
b. Minimal Adhesions	3	1
c. Chronic PID with hydrosalpynx	1	2

Table V Detailed laparoscopic findings in cases of infertility

Laparoscopic Findings	Primary Infertility	Secondary Infertility
Tubes	11	11
a. Normal Tubes	65	18
b. Tubal Blockage	29	4
i. Bilateral	18	4
ii. Unilateral	11	0
c. With pelvic adhesions	12	1
Suspected Tuberculosis	9	1

Table VI

Laparoscopic Findings	Primary Infertility	Secondary Infertility
Endometriosis	21	0
Mild	15	0
Extensive	6	0
With Blocked Tubes	4	0
With Open Tubes	17	0

As shown in the tables regarding primary infertility 13 patients (7.8%) had fibroid uterus with adhesions and endometriosis, 15 patients (9.5%) had ovarian problems while 6 (3.47%) had congenital anomalies. In secondary infertility 4 had fibroids (10.3%) 3 patients had ovarian problem (6.6%) (Table VII, VIII & IX).

Table VII

Laparoscopic Findings	Primary Infertility	Secondary Infertility
Uterus		
a. Fibroid	13	4
1. Single	7	4
2. Multiple	6	0
b. Adhesions	3	1
c. Endometriosis	0	1

Table VIII

Laparoscopic Findings	Primary Infertility	Secondary Infertility
Ovarian problems		
a. Streak ovaries	1	0
b. Polycystic ovaries	4	1
c. Absent Follicular activity	3	0
d. No signs of ovulation	5	1
e. Ovarian Cysts	2	1

Only one patient (0.5%) had post laparoscopic fever, 59 patients (29%) had shoulder tip pain on the first day and 140 patients had no complaints at all (Table X).

Table IX

Laparoscopic Findings	Primary Infertility	Secondary Infertility
Congenital Anomalies		
a. Unicornuate Uterus with one tube	3	0
b. One tube only	1	0
c. Absent uterus with two tubes only	2	0

Table X Complications of Laparoscopy in 200 patients

Complication	No.	%
Fever	1	0.5
Shoulder tip pain	59	29
No complications	140	70
Total	200	100

Discussion And Conclusion

Laparoscopy is an invaluable technique and is mandatory procedure for complete assessment of female infertility. It alone provides such a lot of information regarding tubal status, any pelvic adhesions, ovarian status, uterine pathology that it has replaced certain old procedures like gas insufflation in assessing the tubal patency. It was found superior to HSG for detection of peritubal, periovarian adhesions. It provided a panoramic view and details of entire length of fallopian tubes from one end to the other. By injecting dye tubal patency was confirmed and to some extent pinpointed the sight of tubal obstruction.

On visual inspection the appearance of ovaries were suggestive of certain clinical conditions e.g. white atrophic ovaries and cystic ovaries with smooth thick pearly glistening capsule (PCO) were suggestive of non ovulation. Visualization of corpus luteum suggestive ovulation and a growing dominant follicle was seen in preovulatory phase.

Pelvic inflammatory disease, endometriosis, torsion and other intra pelvic pathologies like pelvic congestion, tuberculosis or appendicitis which resulted into abdominal and pelvic pain were accomplished in a more timely manner by usual inspection of pelvis through laparoscope. There was a significant reduction in complications and mortality that resulted due to delay in the diagnosis of these diseases.

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