

## LAPAROSCOPIC EVALUATION OF CASES OF PRIMARY AND SECONDARY INFERTILITY

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### SUMMARY

Laparoscopic evaluation of 225 cases of infertility over a period of two years is presented. 151 cases were of primary infertility and 74 cases were of secondary infertility. Pathology was detected in 28.5% (43/151) cases of primary infertility, out of which Genital tuberculosis (TB) was observed in 37.2% (16/43) followed by Endometriosis in 27.9% (12/43). Pathology was detected in 63.5% (47/74) cases of secondary infertility, out of which pelvic Inflammatory Disease (PID) was observed in 63.8% (30/47) and Genital TB in 17.02% (8/47). It is concluded that Laparoscopy is an indispensable tool in diagnosis of infertility.

### INTRODUCTION

Being infertile or barren is the biggest social stigma faced by Indian women. It accounts for a large number of women undergoing laparoscopic appraisal in our institution. Infertility may be primary or secondary. Primary infertility is defined as the inability to

achieve pregnancy after at least one year of unprotected coitus. Secondary infertility implies at least one year of infertility with proven past fertility including ectopic gestation (Devi et al, 1982). The various causes of infertility in women can be subdivided into :

- i) Uterine Factors
- ii) Cervical Factors
- iii) Tubal Factors and PID
- iv) Endometrial Factors

The present work was undertaken

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to assess the predominant causes in the two groups laparoscopically. Chromopertubation test (CPT) was performed to substantiate tubal patency and blockade. Endometrial biopsy (EB) was taken to assess the hormonal milieu of the patient. The degree of tubal occlusion and fimbrial involvement could be assessed precisely and this helped to decide on possible tuboplasty, to effect lysis of peritubal adhesions and to bring about tubal dilatation.

#### **MATERIAL AND METHODS**

This was a study of diagnostic laparoscopies for infertility performed over a period of two years in the Department of Gynaecology & Obstetrics, S.M.S Medical College, Zanana Hospital, Jaipur. The methodology included :

- 1) Detailed history of the patient
- ii) General, systemic and local examination and
- iii) Battery of routine and specific investigations.

A total of 225 women underwent laparoscopy. Standard procedure was used for laparoscopy which included creating a pneumoperitoneum with CO<sub>2</sub> under general anaesthesia (GA) in each patient after a preliminary per vaginal (PV) examination (Thompson et al, 1992).

#### **RESULTS**

The majority of patients of primary infertility (66.2%) belonged to the age group of 21-25 years and that of secondary infertility (47.2%) belonged to the age group of 26-30 years (Table I).

**TABLE I**  
**AGE DISTRIBUTION IN CASES OF PRIMARY**  
**& SECONDARY INFERTILITY**

Age groups (in years)	Primary Infertility	Secondary Infertility	Total Cases
16-20	20	00	20
21-25	100	05	105
26-30	31	36	67
31-35	-	28	28
36-40	-	05	05
40	-	00	-
	151	74	225

**TABLE II**  
**DURATION OF MARRIAGE IN PRIMARY INFERTILITY**

Duration (in years)	No. of Cases	Percentage
1-5	90	59.6%
6-10	45	29.8%
11-15	09	05.96%
16-20	05	3.31%
21-51	02	1.32%
	151	

**TABLE III**  
**OBSTETRICAL HISTORY OF THE 74 CASES OF**  
**SECONDARY INFERTILITY**

Obstetrical Category	Percentage of cases
Normal delivery	32.4%
Previous abortion	51.3%
Preterm delivery	8.1%
Intrauterine foetal death	8.1%

**TABLE IV**  
**HUSBAND SEMEN ANALYSIS IN 114 CASES OF**  
**PRIMARY INFERTILITY**

Result	No. of cases	Percentage
Normal limits	100	87.7%
Oligospermic	12	10.52%
Azoospermic	02	1.75%
	114	

**TABLE V**  
**RESULTS OF CHROMOPERTUBATION TEST**

Chromopertubation Test	No. of Cases
Negative	40
Bilateral Positive	125
Unilateral Positive	08
Delayed spillage (Bilat)	05
Delayed spillage (unilat)	09
Not received	38
	<b>225</b>

**ENDOMETRIAL BIOPSY**

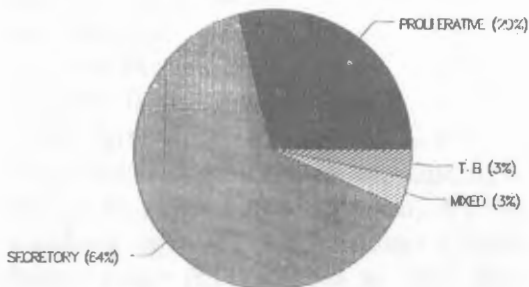


FIGURE - 1

Fig. 1. Endometrial Biopsy

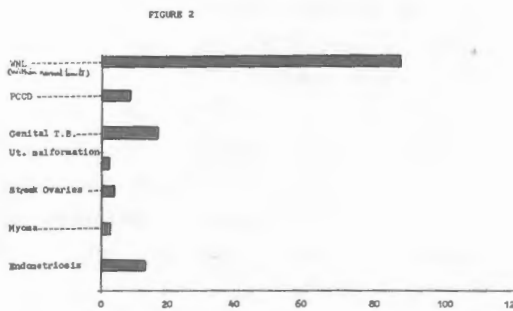


Fig. 2. Bar diagram depicting the incidence of various causes of Primary infertility

The incidence of primary infertility was 67.1% and that of secondary infertility was 32.8%. The duration of marriage ranged from 1-5 years in majority of cases (59.6%) of primary

infertility as shown in Table II. The findings of menstrual flow pattern in the present series were as follows :  
i) Regular scanty flow - 19.5%

FIGURE - 3.

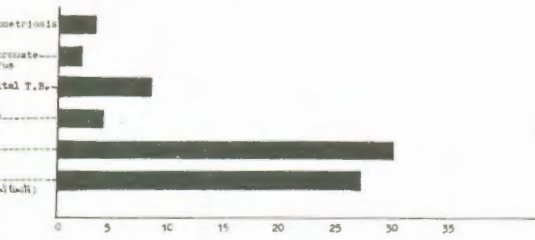


Fig. 3. Bar diagram depicting the incidence of various causes of secondary infertility

ii) Irregular scanty flow - 8.9%

iii) Normal flow - 71.6%

The obstetrical history of 74 cases of secondary infertility were as shown in Table III. Husband semen analysis (HSA) was available in 114 cases of primary infertility (Table IV), of which 87.7% were within normal limits. Results of EB are shown in Figure 1 wherein predominant (64.1%) were in secretory phase.

The results of CPT are shown in Table V where majority (55.5%) cases were bilaterally positive. The distribution of causative factors in primary and secondary infertility are shown in Figure 2 and 3.

## DISCUSSION

Laparoscopy serves as a valuable tool in diagnosing various pathological conditions of pelvic organs with accuracy and in the therapeutic management of some. In the present study 225 cases of infertility were evaluated by diagnostic laparoscopy. Here tubal block was detected in 17.7% and endometriosis in 6.6%. Similar studies

conducted by Hamid et al (1994) reported an incidence of same in 15% and 9% respectively. In the present series the findings in 151 cases of primary infertility were :

Genital TB - 10.6%

Endometriosis - 7.9%

Polycystic Ovarian Disease (PCOD) - 5.8%

Streak ovaries - 1.9%

Uterine myomas & unicornuate uterus - 1.3%

Similar study was conducted in the past by Semchysyn et al (1976) in 231 cases of primary infertility and the findings were :

Tubal damage - 17.7%

PCOD - 6.5%

Endometriosis - 3.5%

Uterine myomas - 0.8%

Streak ovaries - 0.4%

We detected genital TB in 10.8% cases of secondary infertility. Rattan et al (1993) have established an excellent co-relation between laparoscopic detection of TB & its confirmation by detection of Mycobacterial antigen, in 75% (9/12) cases where there were laparoscopic abnormalities indicative of TB (definitive diagnosis), in 21.7% (5/23) cases where TB was probable and only in 6.6% (1/15) cases which were laparoscopically negative for TB.

Endometriosis was detected in 6.6% cases of infertility in our study. Similar studies in the past conducted by Mahmood et al (1991) reported an incidence of 21% and Duignam et al (1972) an incidence of 4.5% endometriosis as a cause of infertility. In this study PID was a cause of infertility in

40.5% while Hamid et al (1994) have reported it as 30%.

The uterine malformations detected in secondary infertility in this study was bicornuate uterus in 2.7%. Nalbanski et al (1990) studied 200 cases and inferred that laparoscopy is the basic current diagnostic method for obtaining the true picture of the state of internal genital organs and also for evaluating the necessity and possibility for performing microsurgical reproductive operations.

### CONCLUSION

Laparoscopy is an indispensable tool with advantages of accuracy, speed and simplicity. Erroneous diagnosis for various gynaecological problems can be avoided and proper treatment can be instituted. It is concluded, therefore, that diagnostic laparoscopy

in conjunction with detailed general and physical examination, bimanual examination and routine and specific investigations can be a very specific tool in diagnosing infertility.

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