

## Role of Diagnostic Hysterolaparoscopy in Primary Infertility

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**Aims And Objectives:** To evaluate the role of diagnostic hysterolaparoscopy in female Infertility

**Materials and Methods:** Study Design: Prospective study

**Place and duration:** Coimbatore Medical College Hospital, Coimbatore Tamilnadu

**Method:** Primary Infertile women of age (21-40yrs) attending obstetrics and gynaecology out patient partment for female factor evaluation by laparoscopy and simultaneous hysteroscopy

Patients were examined, hormone analysis (FSH, LH, PROLACTIN, TSH) done in indicated patients, HSG done. Consent obtained for concurrent corrective endoscopic surgery in the same sitting. Preoperative anaesthetic evaluation done and procedure is done under general anaesthesia. Sample size is 50. Duration of study April 2015-April 2016. Inclusion Criteria- Primary infertility- Women with failed induction of ovulation for minimum of 3 cycles- Abnormal findings in HSG Exclusion criteria -Secondary infertility-Malefactor-Age > 40yr -Active pelvic infection -Contraindications to general anaesthesia

### I. Observation And Results

**Table 1**  
Age distribution

Age	Percent	Valid percent	Cumulative percent	
20-25yr	11	22.0	22.0	22
26-30yr	30	60.0	60.0	82
31-35yr	9	18.0	18.0	100
Total	50	100.0	100.0	

In the present study the most common age group was between 26-30yr and followed by age group 20-25 yr then 31-35 yr

**Table 2**

Duration of Infertility

Duration	Frequency	Percent	Valid percent	Cumulative percent
1-3yr	9	18.0	18.0	18.0
4-6yr	27	54.0	54.0	72.0
7-9yr	9	18.0	18.0	90.0
10-12yr	2	4.0	4.0	94.0
13-15yr	2	4.0	4.0	98.0
16-18yr	1	2.0	2.0	100.0
Total	50	100.0	100.0	

Duration of infertility in majority of the patients (27%) was between 4-6 yr.

**Table 3**

Hysteroscopic Findings

	Frequency	Percent	Valid percent	Cumulative percent
Adenomyosis	2	4.0	4.0	4.0
Cervical stenosis	1	2.0	2.0	6.0
Endometrial polyp	1	2.0	2.0	12.0
Endometrioticspots	1	2.0	2.0	14.0
Intrauterineadhesion	1	2.0	2.0	16.0
Normal	37	74.0	74.0	90.0
Submucus fibroid	4	8.0	8.0	98.0
Uterine septum	1	2.0	2.0	100.0
Total	50	100	100.0	

In hysteroscopy 37(74%) patients had normal uterine cavity,3 patients had endometrial polyp,2 had adenomyosis,4 had submucous fibroid,1 had endometriotic spots,1 intrauterine adhesions and 1 had uterine septum.

**Table 4**

Laparoscopic findings of uterus

	Frequency	Percent	Valid Percent	Cumulative percent
Adherent to POD	1	2.0	2.0	2.0
Endometriotic spots	1	2.0	2.0	4.0
Left unicornuate,Right rudimentary	1	2.0	2.0	6.0
Normal	43	86	86	92.0
Perihepatic adhesion	1	2.0	2.0	94.0
Subserous fibroid	2	4.0	4.0	98.0
Hypoplastic uterus	1	2.0	2.0	100.0
Total	50	100	100	

86% of study group had normal uterine finding. 4% had sub serous fibroid. In the remaining 1 had perihepatic adhesions, another 1 patient had bicornuate uterus and one had hypoplastic uterus.

**Table 5**

Laparoscopic findings of tubal factor

	Frequency	Percent	Valid Percent	Cumulative percent
Bilateral hydrosalpinx	3	6.0	6.0	6.0
Left hydrosalpinx	2	4.0	4.0	10.0
Left tube adherent to POD	1	2.0	2.0	12.0
Normal	41	82.0	82.0	94.0
Peritubal adhesions	1	2.0	2.0	96.0
Right medial blind	1	2.0	2.0	98.0
Right TO mass				
Right tubal adhesion	1	2.0	2.0	100.0
Total	50	100	100	

82% patient had normal tubes. 5 patients (10%) had Hydrosalpinx , out of these 6% had bilateral hydrosalpinx and 4% had Unilateral hydrosalpinx.

**Table 5**

Laparoscopic findings of ovarian factor

	Frequency	Percent	Valid Percent	Cumulative percent
Left TO mass	1	2.0	2.0	2.0
Bilateral endometriosis	2	4.0	4.0	6.0
Bilateral PCOD	13	26.0	26.0	32.0
Unilateral endometrioma	2	4.0	4.0	36.0
Normal	30	60.0	60.0	96.0
Unilateral functional cyst	2	4.0	4.0	100.0
Total	50	100.0	100.0	

60% patient had normal ovaries. Among the ovarian pathologies, PCOD is the most common, it is around 26% .4% had bilateral endometrioma,2% had unilateral endometrioma.

**Table 6**

Laparoscopic findings of peritoneal factors

	Frequency	Percent	Valid Percent	Cumulative percent
Adhesions	4	8.0	8.0	8.0
Endometriosis	5	10.0	10.0	18.0
Obliteration of POD	4	8.0	8.0	26.0
Normal	37	74.0	74.0	100.0
Total	50	100.0	100.0	

Out of 50 patients, 13 patients had abnormal findings. 5 had endometriosis, 4 (8%) had adhesions 4 (8%) had obliteration of POD.

**Table 7**

**Tubal patency test**

	Frequency	Percent	Valid Percent	Cumulative percent
Bilateral negative	5	10.0	10.0	10.0
Bilateral positive	40	80.0	80.0	90.0
Unilateral negative	5	10.0	10.0	100.0
Total	50	100.0	100.0	100.0

In chromopertubation test 40 patients (80%) had bilateral Spillage positive. 5 patients (10%) had unilateral tubal block, 5 patients (10%) had bilateral tubal block.

**Table 8**

**Laparoscopic findings**

Abnormality in	Frequency	Percent
Uterus	7	14.0
Tubes	9	18.0
Ovaries	20	40.0
Peritoneum	13	20.0

Out of 50 patients 20 (40%) had ovarian pathology, 13 (26%) had peritoneal pathology and 9 (18%) had tubal pathology in 7 (14%) had uterine pathology.

## II. Discussion

The development of advance endoscopic instruments in recent years demonstrates the superiority of direct visualization over radiographic examination of various body cavities. Diagnostic laparoscopy is the standard means of diagnosing the tubal pathology, peritoneal factors, endometriosis and intra abdominal causes of infertility. Diagnostic hysteroscopy offers a reliable evaluation of the uterine cavity and subsequent detection of intrauterine disease. Cumming and Taylor in their studies argue that hysterosalpingography does not provide accurate evaluation as Hysteroscopy for the detection of intrauterine lesions in infertile patients.

### Age Group:

An important factor that has to be considered in the investigation and the management of infertility is the age of patient. The reduction in fertility and fecundity with advancing age has been well documented. Overall fertility rates 4-8% lower in female aged 25-29, 15-19% lower between 30-34, 24-46% lower in women aged 35-39 and as much as 95% lower between ages 40-45.

In present study most common age group was between 26-30 years (60%), followed by age group of 21-25 years (22%) followed by age group of 30-35 years (18%). In Boricha K.G et al 43% belongs to the age group of 21-25 years.

### Duration of infertility

In 50 cases, maximum number of cases had duration of infertility of 4-6 years (54%). It is comparable with Brochia et al study group Dor et al conducted the study of duration of infertility. In this study maximum patients falls in duration of 1-5 years (67.5%)

### Hysteroscopic findings

Hysteroscopy reveal normal findings in 37 (74%) patient, and abnormal findings in 26 patients. out of 26%, endometrial polyp 6%, Cervical Stenosis (2%), Submucous fibroid (8%), Anomalous uterus(2%), Hypoplastic uterus (2%), Asherman Syndrome (2%) .In a study conducted by Godinjak Z et al 7.2% patients had endometrial polyp, 5.2% had anomalous uterus, 0.8% had Asherman syndrome.

### Uterine factor

In the present study uterine factors were responsible for 18% cases. In studies conducted by Nakade K D et al, sortey K D et al uterine factors were responsible for 12%, 11% respectively.

### Tubal factor

Various studies conducted by Chakraborti et al, BhideA G et al, Chitrakumari et al on tubal factors shows that tubal factor occurrence is about 30-34%.In our study tubal factors responsible for 34% of infertility cases, which correlates with other studies.

### Ovarian factor

Out of 50 patients, 60% had normal ovaries, only 40% had abnormal findings, in which most common is PCOD in 26%, next endometrioma in 8% patients, functional ovarian cyst seen in 4% of patients which correlate with studies conducted by Chakraborti et al .

### Peritoneal factor

In the present study endometriosis is seen in 10% of cases where as in the study conducted by Sharma et al it is about 6.6%.

## III. Conclusion

In this prospective study of 50 patients of infertility, diagnostic hysterolaparoscopy was found to be useful in the following aspects.

1. Presence of peritoneal factors, tubal and endometrial factors were diagnosed in the same sitting thereby improving the efficacy of infertility evaluation.
2. It avoids unnecessary radiological evaluation in a majority of cases. (HSG) 3 .It decreases hospital stay and decreases costs and inconvenience to the patients and It also decreases the time required to complete the infertility work up.
4. Majority of patients with abnormalities as a probable cause of Infertility were diagnosed in this study.
5. This procedure is also helpful in carrying out further required therapeutic procedures in the same sitting. Hence it can be concluded that diagnostic hysterolaparoscopy is invaluable in routine infertility work up.

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