

ORIGINAL RESEARCH

Role of Hysteroscopy in evaluation of infertility: A one year prospective study

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ABSTRACT

Hysteroscopy is the standard procedure for uterine cavity exploration. Even though Hysterosalpingography (HSG) provides information on tubal patency or blockage is not the only method of Investigating an infertile women. Office hysteroscopy is only recommended by the WHO when clinical or complementary exams (ultrasound, HSG) suggest intrauterine abnormality or after *in vitro* fertilization (IVF) failure. Infertile women attending OBS & GYN OPD were evaluated by laparoscopy and simultaneous hysteroscopy under general anaesthesia. Observation of pelvic and intrauterine cavity was done. In hysteroscopy, endometrial polyp was detected in 2 (4%) cases, cervical stenosis in 2 (4%) cases and submucous fibroid in 1 (2%) cases, 3 (6%) case of septate uterus was identified. 40 (80%) patients had normal hysteroscopy findings. In evaluation of female infertility a combined laparoscopy and simultaneous hysteroscopy provides a best approach to diagnose the causes.

Keywords: Laparoscopy, Hysteroscopy, Infertility

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Introduction

Parenthood is one of the important goals in adulthood and most people have life plans that include children. But all couples will not become pregnant spontaneously some need medical help to solve fertility problems. Worldwide there are 7 crore couples having infertility problem. In developing countries like India, negative consequences of infertility is more.¹

They think it as a curse, and socially they will be isolated. Laparoscopy and hysteroscopy is not only diagnostic but also therapeutic procedures. In certain conditions it is not done initially during treatment, usually done as final step in infertility workup. Before giving infertility treatment, there is an increase in tendency to bypass laparoscopy and hysteroscopy after normal hysterosalpingogram. But Laparoscopy is essential in peritubal adhesions and endometriosis. Hysteroscopy is the standard procedure for uterine cavity exploration.²

Even though Hysterosalpingography (HSG) provides information on tubal patency or blockage is not the only method of Investigating an infertile women. Office hysteroscopy is only recommended by the WHO when clinical or complementary exams (ultrasound, HSG) suggest intrauterine abnormality or

after *in vitro* fertilization (IVF) failure. This hysteroscopy is used as a first-line routine exam for infertility patients regardless of guidelines. It is considered that combined laparoscopy and hysteroscopy to be one of the most important procedures in the evaluation of female infertility.^{3,4}

Methodology

- 1. Study Population:** Infertile women admitted in Institute of Medical Sciences & Hospital
- 2. Study Design:** Prospective study
- 3. Sample Size:** 50
- 4. Inclusion Criteria:**
 - Women with primary or secondary infertility as per WHO definition.
 - Normal serum level of TSH, FSH, LH, prolactin.
- 5. Exclusion Criteria:**
 - Medical disorders which are contraindication for general anesthesia.
 - Female genital tract cancer
 - Male factor found abnormal
 - H/O Tubectomy

Methods of Collecting Data

Patients admitted in hospital with H/O infertility was evaluated by taking a detail history, performed a clinical examination and relevant investigation. After obtaining anesthesia fitness, suitable patient was posted for hysterolaparoscopy procedure under general anesthesia & intra op findings was documented.

Assessment Criteria

- Type of infertility
- Duration of infertility
- Menstrual History
- Past History
- Per Speculum findings
- Per Vaginal findings
- Laparoscopic findings of Uterus, Tubes, Ovaries and Peritoneum
- Hysteroscopy findings, CPT (Chromopertubation test)

Results

Table 1: Distribution of Study Subjects according to the Laparoscopic Findings (N=50)

Uterus	No.	Percent
Normal	33	66.0
Hypoplastic Uterus	1	2.0
Fibroid	7	14.0
Fundus Broad Depressed at the Center	1	2.0
Endometriotic Spot	2	4.0
Adhesion	3	6.0
Unicornuate	1	2.0
Fundus Broad and Flat	1	2.0
Uterus Didelphys	1	2.0

Out of 50 study subjects, 33(66%) had normal uterus and 17(34%) had uterine lesions. Among which fibroid uterus (14%) is most common. Followed by uterine

adhesions 3(6%), endometriosis 2(4%). Hypoplastic uterus, arcuate uterus, unicornuate uterus, bicornuate uterus and uterus didelphys 1(2%) each

Table 2: Distribution of Study Subjects according to the Laparoscopic Findings (N=50)

Fallopian Tube	No.	Percent
Normal	42	84.0
Hydro-Salpinx	3	6.0
Adhesion	1	2.0
Unilateral Tube buried due to adhesion	2	4.0
Tubo-Ovarian Mass	1	2.0
Tube absent on one side	1	2.0

Out of 50 study subjects, 42(84%) had normal fallopian tube and 8(16%) had fallopian tube lesions. Among which hydrosalpinx (6%) is most

common followed by fallopian tubes buried due to adhesions 2(4%), tubal adhesions, tuboovarian mass, absent tube on one side 1(2%) each.

Table 3: Distribution of Study Subjects according to the Laparoscopic Findings (N=50)

Ovaries	No.	Percent
Normal	24	48.0
Polycystic Ovaries	13	26.0
Adhesion	1	2.0
Ovaries buried in adhesion	1	2.0
Simple Ovarian Cyst	4	8.0
Endometriotic Cyst	5	10.0
Shrunken Ovary	1	2.0
Endometriotic Spot	0	0.0
Absent on one side	1	2.0

Out of 50 study subjects, 24(48%) had normal ovaries and 26(52%) had ovarian lesions among which Polycystic ovaries (26%) is most common followed

by endometriosis 5(10%), simple ovarian cyst 4(8%). Ovaries buried in adhesions, adhesions, shrunken ovaries, absent on one side 1(2%) each

Table 4: Distribution of Study Subjects according to the Chromo-Pertubation Test (N=50)

CPT	No.	Percent
Bilateral Patent	38	76.0
Bilateral Block	5	10.0
Unilateral Patent	4	8.0
Could not be done	3	6.0

Out of 50 study subjects 38(76%) fallopian tubes which 2 had cervical stenosis, 1 had blind vaginal bilateral patent, 5(10%) had bilateral block, opening. 4(8%) unilateral block. 3(6%) could not be done among

Table 5: Distribution of Study Subjects according to the Hysteroscopic Findings (N=50)

Hysteroscopy	No.	Percent
Normal	40	80.0
Partial Septum	2	4.0
Complete Septum	1	2.0
Endometrial Polyp	2	4.0
Submucous Fibroid	1	2.0
Adhesions	2	4.0
Blind Vagina	1	2.0

Out of 50 study subjects, 40(80%) had normal hysteroscopy and 10(20%) had abnormal hysteroscopic findings. Uterine anomalies 4(8%) of which partial septum uterus 2(4%), complete septum uterus 1(2%), blind vagina 1 (2%). Endometrial polyp 2(4%), submucous fibroid 1 (2%). Adhesions 2(4%), it could be cervical stenosis or Asherman syndrome.

Table 6: Distribution of Study Subjects according to the Operative Procedure (N=50)

Operative Procedure	No.	Percent
Diagnostic	24	48.0
Uterine Septal Resection	2	4.0
Bilateral Ovarian Drilling	12	24.0
Cystectomy	8	16.0
Fulguration of Endometriotic Spot	1	2.0
Adhesionolysis	2	4.0
Salpingectomy	1	2.0

Out of 50 study subjects, 24(48%) had normal hysteroscopic findings, 26(52%) had abnormal hysteroscopic findings. 12(24%) had bilateral ovarian drilling, 8(16%) had ovarian cystectomy, 2(4%) had uterine septal resection, 2(4%) had adhesionolysis, 1(2%) had fulguration of endometriotic spot, 1(2%) had salpingectomy.

Table 7: Distribution of Study Subjects according to the Complications (N=50)

Complications	No.	Percent
Nil	48	96.0
Vault Perforation	1	2.0
Bladder Injury	1	2.0

Out of 50 study subjects, 48 (96%) had no intra or postoperative complications. 1 (2%) had vault perforation, 1(2%) bladder injury.

Discussion

Our study hysteroscopic findings were Mullerian anomalies (8%), which is comparable with Madhuri N, *et al.* (8%)⁵, Nanewar, *et al.* (6%)⁶. Our study had 4% adhesions, which is comparable with Sairem, *et al.* (4%)⁷, Nanewar, *et al.* (6%)⁶, Madhuri N, *et al.* (6%)⁵. Our study had 4% Endometrial polyp, which is comparable with Nanewar, *et al.* (4%)⁶, G D Maitri, *et*

al. (6%)⁸, Sairem, *et al.* (2%)⁷. Our study had 4% Abnormal ostea, which is comparable with Nanewar, *et al.* (4%)⁶, Madhuri N, *et al.* (4%)⁵. Our study had 2% Fibroid uterus, which is comparable with Sairem, *et al.* (2%)⁷, Nanewar, *et al.* (4%)⁶, G D Maitri, *et al.* (4%)⁸. 3 cases hysteroscopy couldn't be completed. Of which 2 cases had cervical stenosis, one had blind vagina.

Our study laparoscopic findings were 8% Mullerian anomalies, which is comparable with Nanewar, *et al.* (3.5%)⁶, G D Maitri, *et al.* (14%)⁸. Our study had 12% tubal adhesions, which is comparable with Madhuri N, *et al.* (13%)⁵, G D Maitri, *et al.* (14%)⁸. Our study had

14% Fibroid uterus, which is comparable with Madhuri N, *et al.*⁵(12%). Our study had 26% PCOD, which is comparable with Madhuri N, *et al.*⁵(19%). Our study had 14% Endometriosis, which is comparable with G D Maitri, *et al.*⁷(12%), Madhuri N, *et al.*⁵(18%).

Our study had 76% bilateral patent fallopian tubes, which is comparable with Madhuri N, *et al.*⁵(77%), Nanewar, *et al.*⁶(76.4%). Our study had 8% unilateral blockage of fallopian tubes, which is comparable with Nanewar, *et al.*⁶(14.2%), Madhuri N, *et al.*⁵(14%). Our study had 10% bilateral fallopian tube blockage, which is comparable with Nanewar, *et al.*⁶(9.4%), Madhuri N, *et al.*⁵(9%) +5.

Conclusion

- Hysteroscopic findings were as follows, 40(80%) had normal findings, 2(4%) of them had endometrial polyp, 2(4%) of them had cervical stenosis, 1(2%) of them had submucous fibroid, 3(6%) of them had septate uterus, another 1(2%) of them had blind vagina.
- Laparoscopic findings were as follows, 13(26%) of them had polycystic ovaries, 24(48%) of them had normal study, 7(14%) of them had endometriosis, 5(10%) had bilateral tubal block, 4(8%) had unilateral tubal block, 9(18%) had pelvic adhesions, 7(14%) myomas, 5(10%) had uterine anomaly, 2(4%) of them had Fitz-Hugh-Curtis Syndrome.

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