

ROLE OF HYSTEROLAPAROSCOPY IN THE EVALUATION OF PRIMARY INFERTILITYSanyukta Dawle¹, Anuja Bhalerao², Bhavana Kumare³, Krutika Bhalerao⁴**HOW TO CITE THIS ARTICLE:**

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ABSTRACT: Infertility has always been one of the most elusive symptom complexes that perplex a gynecologist. Laparoscopy is the most rapidly evolving area in medicine. **AIMS AND OBJECTIVES:** To evaluate the role of hysterolaparoscopy in comprehensive work up of infertility and to help in planning appropriate management. To identify the incidence of various pathological condition in female reproductive tract leading to infertility. To develop the plan of therapy for such patient. To analyze the rate of complications in diagnostic hysterolaparoscopy. **MATERIAL AND METHODS:** 100 infertile women with primary infertility of the age group 18-40 years with normal hormone profile and without male factor infertility were randomly selected from Infertility clinic of rural tertiary care hospital over 2 and ½ year from 1st January 2011 to October 2013. Initially all women were examined by taking detailed history, physical examination, basic endocrinological investigations, USG pelvis, endometrial biopsy and semen analysis. After that general examination, systemic and genital examinations were carried out on patients selected for the study. Hysterolaparoscopy was performed in post menstrual phase under general anesthesia. **RESULTS:** The present study showed maximum cases of infertility (40%) in the age group of 21-25 years followed by (35%) cases of infertility in the age group of 26-30years. Mean age of women was 24.6 years. On laparoscopy 34 patients revealed abnormal findings and rest had normal pelvic findings. Tubal blockage without adhesion was found to be the most important abnormality and was seen in 11 cases followed by tubal blockage with adhesion 7 cases. Laparoscopy revealed 18 cases of tubal blockage (11 bilateral and 7 unilateral) and 78 cases were with normal tubal patency. Out of 78 cases, 12 cases had other abnormalities (endometriosis-2, PCOD-3, peritubal adhesions-7) 21 women conceived after ovulation induction, IUI and tubal cannulation (cornual). Of them 10 have delivered and 11 are yet to deliver. **CONCLUSION:** Diagnostic hysterolaparoscopy is an effective and safe tool in comprehensive evaluation of infertility, particularly for detecting tubal blockages, peritoneal endometriosis, adnexal adhesions and bicornuate uterus. Needless to emphasize that hysterolaparoscopy is a very useful tool that can detect various structural abnormalities can be considered as a definitive day care procedure for evaluation and treatment of female infertility.

KEYWORDS: Laparoscopy, Hysteroscopy, Infertility.

INTRODUCTION: Infertility has always been one of the most elusive symptom complexes that perplex a gynecologist. Infertility affects 10-15% of reproductive age couples¹. Female factors contribute 40-45% in etiology of infertility.² Infertility has nowadays become not only a medical, but a social problem as well. Laparoscopy is the most rapidly evolving area in medicine.

Laparoscopy (Greek "lapara" flank or loin and "skopiein" to see, view). Laparoscopy is a gold standard as it provides direct visual access to inner pelvic anatomy without a major abdominal surgery so that physiology of uterus, ovaries, and fallopian tubes can be studied in more details and

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abnormalities can be treated at the same time. Hysterolaparoscopy is quintessential tool for diagnosis, treatment and prognosis. As it allows the gynecologist to develop a plan of therapy in infertile patient.

AIMS AND OBJECTIVES:

- To evaluate the role of hysterolaparoscopy in comprehensive work up of infertility and to help in planning appropriate management.
- To identify the incidence of various pathological condition in female reproductive tract leading to infertility.
- To develop the plan of therapy for such patient.
- To analyze the rate of complications in diagnostic hysterolaparoscopy.

MATERIALS AND METHODS:

Type of Study: Hospital based longitudinal study.

Setting: Infertility clinic of rural tertiary care hospital.

Duration: 2 and ½ year from 1st January 2011 to October 2013.

100 Infertile women with primary infertility of the age group 18-40 years with normal hormone profile and without male factor infertility were randomly selected.

Inclusion Criteria:

1. Infertile women with primary infertility of the age group 18-40 years with normal hormone profile and without male factor infertility.

Exclusion Criteria:

1. Infertile women with secondary infertility.
2. Infertile women with age less than 18years or more than 40 years.
3. Infertile women with abnormal hormone profile and.
4. Couples with male infertility.

Initially all women were examined by taking detailed history, physical examination, basic endocrinological investigations, USG pelvis, endometrial biopsy and semen analysis. After that general examination, systemic and genital examinations were carried out on patients selected for the study.

Hysterolaparoscopy was performed in post menstrual phase under general anesthesia. The chromotubation was carried out in all cases of infertility to test the patency of the tube under laparoscopic vision by using 10-15ml of 0.5% autoclaved methylene blue dye. Hysteroscopy was performed later.

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RESULTS:

Sr. no.	Age in years	No. of cases	Percentage (%)
1	18-20	5	5
2	21-25	40	40
3	26-30	35	35
4	31-35	16	16
5	36-40	4	4

Table 1: Showing distribution of primary infertility according to age

The present study showed maximum cases of infertility (40%) in the age group of 21-25 years followed by (35%) cases of infertility in the age group of 26-30years. Mean age of women was 24.6 years.

Sr. no.	Findings	No. of cases	Percentage
1	Normal pelvic organ	66	66
2	Tubal blockage with adhesion	11	11
3	Tubal blockage without adhesion	7	7
4	Tubal patency with adhesion	7	7
5	Endometriosis	2	2
6	PCOD	3	3
7	Bicornuate uterus	2	2
8	Mullerian agenesis	2	2

Table 2: Laparoscopic findings (N=100)

In our study, on laparoscopy, 34 patients revealed abnormal findings and rest had normal pelvic findings. Tubal blockage without adhesion was found to be the most important abnormality and was seen in 11 cases followed by tubal blockage with adhesion 7 cases.

There were 2 cases of MRKHS who came for infertility workup.

Sr. no.	Findings	No. of cases	Percentage
1	Fibroid	3	3.1
2	Polyp	2	2.08
3	Septum	1	1.04
4	Synechiae	7	7.29
5	Normal	83	86.45

Table 3: Hysteroscopy findings (n=96)

On hysteroscopy, 13 patients revealed abnormal findings and rest (83) had normal findings. Synechiae was found to be the most important abnormality and was seen in 7 cases followed by fibroid in 3 cases.

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Tubal patency	laparoscopy	%
Both tubes patent	78	82.29%
Unilateral block	7	7.29%
Bilateral block	11	11.4%

Table 4: Tubal Factors on laparoscopy (n=96)

Laparoscopy revealed 18 cases of tubal blockage (11 bilateral and 7 unilateral) and 78 cases were with normal tubal patency. Out of 78 cases, 12 cases had other abnormalities (endometriosis-2, PCOD-3, peritubal adhesions-7).

Plan of Management: Septal resection for septate uterus, polypectomy in cases of endometrial polyp, adhesiolysis, tubal surgery, tubal cannulation for cases tubal blockage and ovarian drilling for PCOS was performed.

21 women conceived after ovulation induction, IUI and tubal cannulation (cornual). Of them 10 have delivered and 11 are yet to deliver.

DISCUSSION: In our study the Mean age of women was 24.6 years. This is in contrast with Jedrzejczak et al³ where the mean age was 28.5 years.

Tubal blockage and peritoneal pathology account for the primary diagnosis in 18% and 20% of infertile couples respectively. The gold standard technique for diagnosing these disorders is laparoscopy, which is a better predictor of future spontaneous pregnancy in infertile couples with unexplained infertility. Jayakrishnan et al⁴ Prassanta et al⁵ from India detected pelvic pathology in 26.8% and 30% cases of infertile patients by laparoscopic evaluation respectively.

We got similar result (pelvic pathology: 20 %) in our study. In a study by Jedrzejczak et al and Sinawat et al,⁶ it was 42.5%. there were only 2% of cases of PCOD and endometriosis each, which is consistent with a study by Priti Kanal et al² where it was 5% and in contrast to study by Prassanta et al, where it was 29%.

On laparoscopy tubal blockages were present in 18% cases. 7.29% cases were having unilateral tubal blockage and 11.4% cases were having bilateral tubal blockage.

On hysteroscopy, synechie was the most common pathology. Recent literature mentions hysterosalpingo contrast sonography (HyCoSy) is a cost effective screening test for tubal patency.

Developmental uterine anomalies have long been associated with pregnancy loss and obstetric complications, but the ability to conceive is generally not affected. On hysteroscopy bicornuate uterus was the most important intrauterine abnormality in our study.

The pooled data suggest that the prevalence of bicornuate uterus is similar in infertile and fertile women, but is significantly higher in women with recurrent pregnancy loss. In a study by Prassanta et al, septate uterus was the most common pathology found on hysteroscopy. We had none. Interestingly, there were 2 cases of MRKHS who came for infertility workup.

Diagnostic hystero-laparoscopy is a very safe procedure.

COMPLICATIONS: Other than mild abdominal pain, there were no major surgical or anesthetic complications in any of our patients.

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CONCLUSION: Diagnostic hysterolaparoscopy is an effective and safe tool in comprehensive evaluation of infertility, particularly for detecting tubal blockages, peritoneal endometriosis, adnexal adhesions and bicornuate uterus. Needless to emphasize that it is a very useful tool that can detect various structural abnormalities in multiple sites like pelvis, tubes, and the uterus in the same sitting in patients with normal ovulation and seminogram. When done by experienced hands and with proper selection of patients, hysterolaparoscopy can be considered as a definitive day care procedure for evaluation and treatment of female infertility.

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