

# A Retrospective Analysis of Hysteroscopy Findings of Unexplained Infertility Patients in a Tertiary Care Hospital

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## Abstract

**Introduction:** Infertility, according to the WHO, is defined as failure to conceive after 12 months or more of regular unprotected sexual intercourse. As routine examinations and procedures are often unable to diagnose some pelvic pathologies, hysteroscopy has become an important diagnostic modality to detect some hidden pelvic pathology in infertile females.

**Purpose:** To determine the role of diagnostic hysteroscopy in the evaluation of unexplained infertility.

**Materials and Methods:** This is a retrospective study conducted at Guru Teg Bahadur Hospital in Infertility Clinic during 2012 (January) to 2015 (May). In the present study, unexplained infertility patients were recruited, and they underwent diagnostic hysteroscopy between 1<sup>st</sup> January 2012 and May 2015. Those patients who had no detectable pathology based on history, physical examination, and ultrasound and had treatment for three or more cycles in the form of ovulation induction and intrauterine insemination were included in the study. Moderate and severe male factor infertility was exclusion criteria.

**Results:** Of 130 patients, pelvic pathology by hysteroscopy was found in 81 (62.3%) of cases and pelvic inflammatory disease pathology was the most common finding (39.2%). Major hysteroscopic abnormality in our study was septum in 14 cases (10.7%).

**Conclusions:** Hysteroscopy is an effective diagnostic tool for evaluation of certain significant and correctable tuboperitoneal and intrauterine pathologies such as peritoneal endometriosis, adnexal adhesions, and subseptate uterus, which are usually missed by other imaging modalities.

**Key words:** Hysteroscopy, Infertility, Lapar

## INTRODUCTION

Infertility, according to the WHO, is defined as failure to conceive after 12 months or more of regular unprotected sexual intercourse. It affects about 10-15% of reproductive age couples.<sup>1,2</sup> Female factors are responsible for 40-45% of infertility etiologies. As routine examinations and procedures are often unable to diagnose some pelvic pathologies and

due to lack of guidelines for treating unexplained infertile women, hysteroscopy has become an important diagnostic modality to detect some hidden pelvic pathology in infertile females, but due to the cost and risk involved in this procedure, its use is debatable in the investigation of infertility. Diagnostic hysteroscopy also has become an important investigative tool for detecting uterine pathologies.<sup>3</sup> Keeping this in view, the present study was designed to evaluate the efficacy of hysteroscopy in the evaluation and causes of female infertility.

## MATERIALS AND METHODS

This study was conducted in the Department of Obstetrics and Gynecology in a tertiary care hospital from January

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2012 to May 2015 retrospectively. All the infertile patients who underwent diagnostic hysterolaparoscopy were fulfilling the following inclusion criteria. Women aged 20-40 years, primary or secondary infertility, normal ovulatory cycles and normal serum level of thyroid-stimulating hormone, prolactin, normal semen analysis, and hysterosalpingogram. Patients with active genital infection were excluded; 130 patients with unexplained infertility were enrolled in our study.

Diagnostic hysterolaparoscopy with chromopertubation was performed in the follicular phase in all the patients. The following parameters such as tubal pathology, ovarian pathology, peritubal, periadnexal and pelvic adhesions, endometriosis during laparoscopy, and abnormality of uterine cavity and bilateral tubal ostium during hysteroscopy were noted.

## RESULTS

Of 130 cases, 82 cases (63.07%) had primary infertility and 48 (36.92%) had secondary infertility (Figure 1). The majority of cases (80, 61.5%) belonged to the age group of 26-30 years. A total of 10 cases (7.7%) were in the age group of 20-25 years, 32 (24.6%) belonged to 31-35 years, and 8 (6.1%) to 36-40 years (Figure 2).

Our study showed pelvic pathology by laparoscopy in 81 (62.3%) of cases, and the results are as follows. Pelvic inflammatory disease pathology was the most common finding (39.2%), followed by ovarian pathology (21.5%). Tubal block comprised 9.2% whereas distorted uterus by fibroid in 6.15% and pelvic endometriosis in 6.9% of infertile cases were diagnosed.

Major hysteroscopic abnormality in our study was septum in 14 cases (10.7%).

## DISCUSSION

Hysterolaparoscopy has been proven as an effective tool in investigation of unexplained infertility patients as early therapeutic interventions or early decisions for artificial reproductive technique can be taken place.<sup>4</sup>

In our study, 63% of cases had primary infertility and 37% of cases had secondary infertility. Similar results were seen in Nayak *et al.*'s study, 69% had primary infertility, and 35% had secondary infertility.<sup>5</sup>

In our study, laparoscopy detected pelvic pathology in 62.3% of cases, whereas Jayakrishnan *et al.* found findings by laparoscopy in 87.4% of cases,<sup>6</sup> every laparoscopic finding

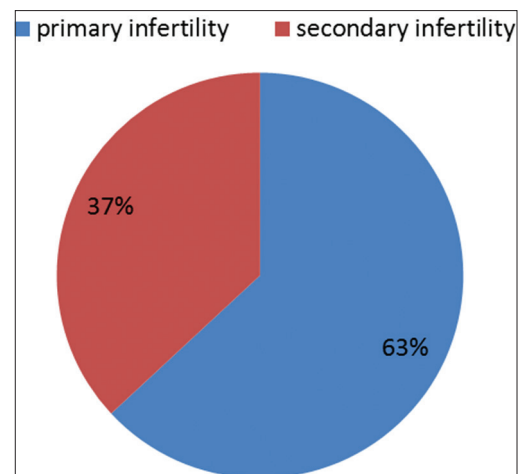


Figure 1: Infertility distribution

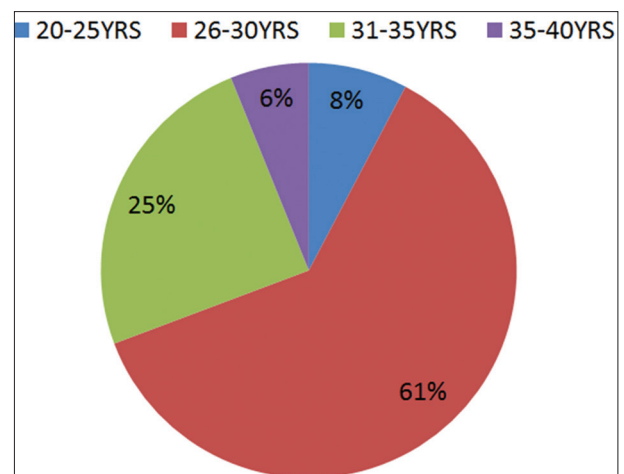


Figure 2: Age distribution

was not significant enough to affect fertility; therefore, Capelo *et al.* defined positive laparoscopy consisting of Stage III or IV endometriosis, an endometrioma, pelvic adhesion, or tubal disease (Table 1).<sup>7</sup>

Nayak *et al.* detected positive pelvic pathology in 30% of cases by laparoscopy,<sup>5</sup> Jayakrishnan *et al.* detected pelvic pathology in 26.8% of cases,<sup>6</sup> whereas in our study, significant pelvic pathology was detected in 29.2% of cases.

In our study, the most common pathology detected by laparoscopy was ovarian pathology, accounting for 31.5% of all cases. Similar results were seen in studies done by Puri *et al.*, they detected polycystic ovarian syndrome in 22% of cases<sup>8</sup> and study by Kabadi and Harsha, they found ovarian pathology in 20.8% of cases.<sup>9</sup>

Congenital uterine anomalies have been associated with pregnancy loss and obstetric complications. Our study found septate uterus as the most common anomaly 10.7% which was similar to study of Kabadi and Harsha, they

**Table 1: Laparoscopic findings**

Finding	N	%
Normal study	48	36.9
Tubal block	12	9.2
Unilateral block	6	
Bilateral block	7	
Polycystic ovaries	31	23.8
Adhesions	38	29.2
Fibroid uterus	8	6.15
Endometriosis		
Ovarian endometriosis	10	7.7
Pelvic endometriosis	9	6.9

**Table 2: Hysteroscopy findings**

Finding	N (%)
Normal study	101
Polyp	10 (7.7)
Synechiae	5 (3.8)
Septum	14 (10.7)

found septate uterus in 13.8%.<sup>9</sup> Septate uterus is associated with highest reproductive failure rate, 65% losses occurring in the first trimester.<sup>10</sup> Surgical correction of septum improves the pregnancy outcome uterus with 80% term delivery, 5% preterm delivery, and 15% pregnancy loss.<sup>11</sup>

In our study, hysteroscopic abnormalities also revealed myoma and polyp in 10 (7.7%) and synechiae in 5 (3.8%), which was similar to other studies result (Table 2).<sup>5,9,12</sup>

Our study revealed bilateral tubal block in 5.38% of cases and unilateral block in 4.6% of cases whereas Kabadi and Harsha found bilateral block in 4.3% and unilateral block in 3.2% of cases.<sup>9</sup>

Many studies found that laparoscopy done before starting the infertility treatment have detected significant abnormalities in unexplained infertile women.<sup>13-15</sup>

Thus, diagnostic hysterolaparoscopy is the important diagnosing tool in unexplained infertile women.

## CONCLUSION

Diagnostic hysterolaparoscopy is an effective, safe, and minimal invasive tool in the evaluation of infertility

by which we can also correct the abnormalities that are missed by routine history, examination, and usual imaging procedures. Hence, hysterolaparoscopy should be considered as a definitive investigative daycare procedure for evaluation of unexplained infertility patients. However, further randomized studies are needed to prove its definite role.

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