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HYSTEROLAPROSCOPIC EVALUATION OF INFERTILE FEMALES IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Background: Childbearing and raising are extremely important events in every human's life and are strongly associated with the ultimate goals of happiness and family integration.Infertility is a major health problem.As commonly used investigations are unable to detect majority of pelvic pathology in infertile women,DHL has become an essential part of infertility evaluation. **Objective:** To evaluate various factors causing primary and secondary infertility by Diagnostic Hysterolaproscopy. **Materials and Methods:** This was a cross sectional,observational study which included 100 females with primary and secondary infertility during 1 year study period fulfilling the inclusion and exclusion criteria.Intraoperative findings were noted and cause of infertility was assessed. **Results:** Out of 100 patients included in the study, 68 presented with primary infertility and 32 presented with secondary infertility. Majority of primary infertility group (66.2%) belonged to 21 -25 years of age and 50.0% of secondary infertility cases presented in 26-30 years of age. Hysteroscopy showed abnormal findings in 32% cases. In our study, Laproscopy revealed that the tubal factor was the most common cause contributing to 58% of infertility. ovarian factors were diagnosed in 41%,peritoneal factors were present in 37% and uterine factors contributed 23%. **Conclusion:** Comprehensive evaluation of infertility has been made easy by using safe and effective hysterolaproscopy technique.It helps in diagnosing and treating various conditions in same sitting.

KEYWORDS : Hysterolaproscopy,infertility,hysteroscopy,laproscopy

INTRODUCTION

Infertility is a major health problem, which is present as long as the history of mankind. Infertility is defined by WHO as inability to conceive after one year of unprotected regular intercourse[1]. It is a multifactorial health problem with social and economic consequences.

Primary infertility is when a pregnancy has never been achieved by a couple, and secondary infertility is when atleast one prior pregnancy has been achieved irrespective of the pregnancy outcome. The prevalence of infertility is about 10%-15% of reproductive age couples[2,3,4]. WHO has estimated that the prevalence of infertility ranges from 3.9% to 16.8% in India. Accurate diagnosis is the first step towards a good treatment plan. Once the exact nature of the cause of infertility is identified, an optimal treatment plan can be individualized to meet the couples fertility goals.

The ability to visualize the pelvic cavity, identify peritoneal factors, tubal morphology, patency, ovarian size,morphology, its relationship to the tubes, uterine size, shape and pathology through a laparoscope makes its use valuable. Similarly, using a hysteroscope to visualize the uterine cavity and identify hitherto missed cavity abnormalities has made hysteroscopy an essential part of infertility evaluation. The additional advantage of correcting a few of the identified abnormalities by operative hysterolaparoscopic procedures makes this procedure an essential step in the comprehensive work up of female infertility.

AIMS AND OBJECTIVES

the aim of the study was to evaluate various factors leading to primary and secondary infertility by diagnostic hysterolaproscopy.

MATERIALS AND METHODS

The present cross sectional observational study was conducted in the department of Obstetrics and Gynaecology, in M.G.M Medical College, Indore from June 2021 to May 2022. A total of 100 cases of primary and secondary infertility were included in the study satisfying the inclusion and exclusion criteria and gave informed consent to know the role of combined diagnostic laparoscopy and Hysteroscopy in the evaluation of infertility. Ethical clearance was obtained for this study from the institution.

Inclusion Criteria

1) Females with normal HSG findings who are unable to conceive for three years
2) Patients with abnormal HSG findings
3) Females with failed ovulation induction for minimum 6 cycles

Exclusion Criteria

1) Patients with endocrine disorder causing chronic anovulation such as PCOS, hyperprolactinemia and thyroid disorder
2) Patients having any relative or absolute contraindication for laparoscopy
3) Patients with active pelvic infection.

After taking thorough history, clinical examination, initial assessment and all necessary investigations, patients were taken for hysterolaproscopy postmenstrually in the proliferative phase after taking proper consent.

Statistical Analysis

Appropriate statistical measurements were applied to obtain the results of the study. Chi Square test was used to test the associations. The p-value of <0.05 was considered

significant. The data was analysed by statistical software SPSS 25.Microsoft office was used tabulation.

RESULTS AND OBSERVATIONS

In the present study, 68 cases (68%) presented with primary infertility and 32 cases (32%) with secondary infertility . Majority of patient with primary infertility belonged to the age of 21 to 25 years (66.20%) and with secondary infertility belonged to the age of 26 to 30years (50.00%).58.8% of the primary infertility couples were married for 1-4years and 59.4% of couples with secondary infertility were married for 5-8years.In this study hysteroscopy shows abnormal findings in 32% cases. Submucous fibroid was present in 5%, Submucous polyp in 10%, intrauterine adhesion in 1% of infertility patients. Uterine anomalies were present in 16% cases, of which septate uterus in 10%, bicornuate uterus in 5% cases and unicornuate uterus in 1% cases.In our study ,tubal factor was found to be the most common cause in 58% of infertility. During laparoscopic chromopertubation, bilateral tubal block was present in 17%, unilateral block in 25%, Hydrosalphinx diagnosed in 16% of cases. PCOS present in 25%, Tubo -ovarian mass in 16% of cases .Peritoneal factors were present in 37% patients, out of which endometriosis seen in 17% and pelvic adhesions in 18% of cases.Fibroid was diagnosed in 14%, arcuate uterus in 2%, unicornuate uterus in 1% and Bicornuate uterus in 5% and hypoplastic uterus in 1% of patients.

Table 1: Causes Of Infertility In Diagnostic Hysteroscopy

Causes	Primary infertility		Secondary Infertility		Total	
	Number of Patients	%	Number of Patients	%	Number of Patients	%
Submucosal fibroid	4	5.9%	1	3.1%	5	5%
Submucosal polyp	3	4.4%	7	21.8 %	10	10%
intra uterine adhesion	1	1.5%	-	-	1	1%
Septate uterus	7	10.2%	3	9.4%	10	10%
Unicornuate uterus	1	1.5%	-	-	1	1%
Bicornuate uterus	3	4.4%	2	6.3%	5	5%
Normal	49	72.1%	19	59.4%	68	68%
Total	68	100	32	100	100	100

Table 3: Tubal Factor In Diagnostic Laparoscopy

Tubal factor	Primary infertility		Secondary infertility		Total	
	Number of Patients	%	Number of Patients	%	Number of Patients	%
B/L tubal patent	26	38.2%	16	50.0%	42	42%
B/L tubal block	13	19.1%	4	12.5%	17	17%
U/L tubal block	18	26.5%	7	21.9%	25	25%
Hydro salphinx	11	16.2%	5	15.6%	16	16%
Total	68	100%	32	100%	100	100%

Table 2: Uterine Factors In Diagnostic Laparoscopy

Uterine factor	Primary infertility		Secondary Infertility		Total	
	Number of Patients	%	Number of Patients	%	Number of Patients	%
Normal	50	73.5%	27	84.4%	77	77%
Myoma	11	16.2%	3	9.4%	14	14%
Arcuate Uterus	2	2.9%	-	-	2	2%
Bicoruate uterus	3	4.4%	2	6.2%	5	5%
Unicornuate uterus	1	1.5%	-	-	1	1%
Hypoplastic uterus	1	1.5%	-	-	1	1%
Total	68	100%	32	100%	100	100%

Table 4: Ovarian Factor In Diagnostic Laparoscopy

Ovarian factor	Primary infertility		Secondary Infertility		Total	
	Number of Patients	%	Number of Patients	%	Number of Patients	%
Normal	39	57.3%	20	62.5%	59	59%
PCOS	18	26.5%	7	21.9%	25	25%
Tubo Ovari an mass	11	16.2%	5	15.6%	16	16%
Total	68	100.0 %	32	100.0 %	100	100. 0%

Table 5: Peritoneal Factor In Diagnostic Laparoscopy

Peritoneal Factors	Primary infertility		Secondary Infertility		Total	
	Number of Patients	%	Number of Patients	%	Number of Patients	%
Normal	43	63.2%	20	62.5%	63	63%
Endo-metriosis	7	10.3%	10	31.25%	17	17%
Pelvic adhesion	18	26.5%	2	6.25%	20	20%
Total	68	100%	32	100%	100	100%

DISCUSSION

In the present study out of 100 cases , primary infertility is 68% and secondary infertility is 32%.

In our study majority of patients of primary infertility (66.2%) are in the age group of 21-25 years and secondary infertility (50.0%) in the age of 26- 30 years. BorichaY.G et al[5] shows similar findings in their study.Present study shows primary infertility group more commonly presented with 1-4 years duration(58.8%) and secondary infertility presented with 5-8years duration(59.4%).

During laproscopy ,uterine anomaly is seen in 9% and fibroid uterus in 14% .

Godinjak Z et al[6]found fibroid in 8.6%, uterine anomaly in 36.5% cases. and Kabadi YM et al[7] documented myoma in 6.5% and uterine anomaly in 13.8% of infertile patients.

In our study we found that tubal factor was the leading cause of infertility. Tubal block was present in 42% cases and hydrosalphinx in 16% cases. This may be due to increase incidence of pelvic inflammatory diseases, chronic infections and genital tuberculosis. Godinjak Z et al[6]found tubal block in 13.3% and Kabadi YM et al[7] found tubal block in 16.4% of cases. Ugboaja J. et al[8]found similar results i.e. tubal block in 56.5% of patients and hydrosalphinx in 41.7%.

In the present study ovarian factors accounts for 41% cases. Among these PCOS is the most common cause in 25% cases followed by TO mass in 16% cases.

Ugboaja J. et al[8]found PCOS in 33% and tubo ovarian mass in 5.2% cases . Godinjak Z et al[5]documented TO mass in 6.6% cases while Kabadi YM et al.[7] in 14.28% of cases.

In the present study, endometriosis was seen in 17% and pelvic adhesion in 20% cases .Study by Ugboaja J. et al[8].

showed endometriosis in 8.8% and pelvic adhesion in 39.6% cases .According to Godinjak Z et al[5] ,endometriosis was documented in 14.16% and pelvic adhesion in 11.11% cases. Kabadi YM et al[7]found endometriosis in 12% and pelvic adhesion in 19.7% cases.

The incidence of asymptomatic endometrial polyps in infertile women has been reported to range from 10% to 32%[9,10].Among all congenital uterine abnormalities,septate uterus is the most common cause associated with highest reproductive failure rate[11,12].

Hysteroscopically submucous fibroid was detected in 5% ,submucous polyp present in 10%,uterine anomalies 16% and intrauterine adhesion in 1% of cases. Uterine anomalies which were undiagnosed by prior USG and other routine investigations were diagnosed during diagnostic hysteroscopy. Uterine anomalies usually cause recurrent pregnancy loss and pregnancy outcome dramatically improved after surgical correction in these patients.

Godinjak Z et al[5] found endometrial polyp in 7.22% as the most common causes detected in hysteroscopy.Postoperative period was uneventful .Mild postoperative pain was controlled with analgesics.

CONCLUSION

From our study, it is concluded that the diagnostic hysteroscopy and laparoscopy is an effective and safe tool in evaluation of female infertility. It provides direct and magnified view of all pelvic organs. Diagnostic hysterolaparoscopy is a "definitive daycare procedure" in evaluation of infertility. It helps in the diagnosis of specific causes of infertility, which is not diagnosed by other investigations like hormonal study, USG and HSG .It is an acceptable and feasible procedure, as it offers benefit of shorter hospital stay, less post operative pain and quick return of routine activity. Diagnostic hysterolaparoscopy can be used as "ONE TIME APPROACH" as evaluation and therapeutic procedures can also be done in the same sitting if needed.DHL guides the gynaecologist in decision making and planning further management of infertility in these women.

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