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Original Article

Role of Diagnostic Hysterolaproscopy in Infertility Management at Tertiary Care Hospital in South India

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ABSTRACT

Background: Infertility affects approximately 10–15% of reproductive-age couples, with female factors contributing significantly. Diagnostic hysterolaparoscopy (DHL) is considered the gold standard for evaluating tubal patency and detecting pelvic and uterine pathologies that may not be identified by routine clinical examination or ultrasonography.
Objective: To evaluate the role of diagnostic hysterolaparoscopy in the assessment and management of female infertility in a tertiary care hospital.
Methods: A retrospective observational study was conducted among 82 women aged 20–40 years who underwent diagnostic hysterolaparoscopy for infertility evaluation between May 2020 and February 2023 at Dr. B. R. Ambedkar Medical College and Hospital. Data were retrieved from medical records and analyzed using SPSS software. Clinical characteristics and hysteroscopic and laparoscopic findings were assessed.
Results: Primary infertility was observed in 73.2% of women, while 26.8% had secondary infertility. The mean age was 27.2 ± 2.6 years, and most patients (56.1%) belonged to the 25–29-year age group. The majority (87.8%) had infertility of ≤5 years' duration. Overweight and obesity were present in 57.3% and 14.6% of patients, respectively. Laparoscopic abnormalities were more frequent than hysteroscopic abnormalities, with tuboperitoneal pathology being the predominant finding. Bilateral peritubal adhesions and hydrosalpinx were the most common abnormalities. The most common hysteroscopic finding was an endometrial polyp. Simultaneous therapeutic procedures such as adhesiolysis and ablation of endometriotic lesions were performed whenever indicated.
Conclusion: Diagnostic hysterolaparoscopy is a valuable minimally invasive procedure for the comprehensive evaluation of female infertility. It facilitates the diagnosis of occult pelvic and intrauterine pathologies while allowing simultaneous therapeutic intervention, thereby improving clinical management of infertile women, particularly in resource-limited settings.

Keywords: *Diagnostic hysterolaparoscopy, Infertility, Primary infertility, Secondary infertility, Tuboperitoneal factor, Tubal patency, Hysteroscopy, Laparoscopy, Hydrosalpinx, Peritubal adhesions.*

INTRODUCTION

WHO Definition of Infertility - "A disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse."

The prevalence of infertility is about 10%–15% of reproductive age couples.

Among the causes of infertility female factor (40%–55%) remains the foremost reason followed by male factor (30%–40%), combined factor (10%), whereas in 10% cases etiology remains unexplained.

Among female factor infertility, the most common cause is tuboperitoneal pathology accounting for 30%–35% cases followed by ovulatory dysfunction (20%–30% cases) and uterine pathology (15% cases).

Diagnostic hysterolaparoscopy (DHL) has emerged as the essential tool for the evaluation of female infertility and is the gold standard investigation for tubal patency.

The importance of DHL lies in the fact that it gives a detailed, direct visualization and analysis of the uterine cavity, endometrium, tubal morphology and patency, uterine, ovarian, and adnexal pathology.

These pathology findings are often missed in routine clinical examination and ultrasound scan. This study was undertaken to find out role of DHL in evaluation of female infertility.

OBJECTIVE
The objective of this study is to analyze the role of diagnostic hysterolaparoscopy (DHL) for evaluation of infertility and management in a tertiary care hospital.

STUDYDESIGN- Retrospective observational Study

STUDY PERIOD- MAY 2020 - FEB 2023

SAMPLESIZE-84

STUDYPLACE-DR B R Ambedkar medical college and Hospital

METHODOFCOLLECTION-data collected from bmedical record department

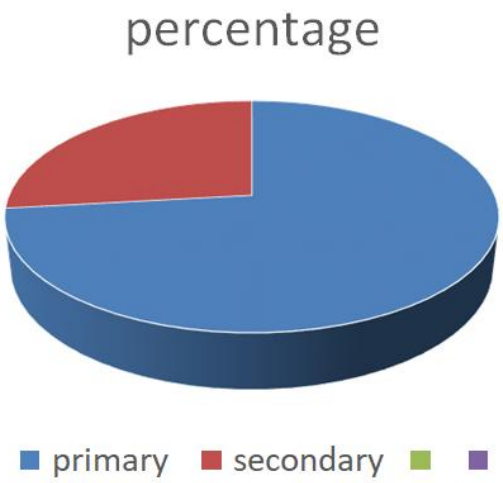
INCLUSIONCRITERIA
All patients between 20-40 years presented within fertility(primary and secondary) who has undergone DHL as a part of management.

EXCLUSIONCRITERIA
When cause of infertility is known either by USG, HSG, Hormone analysis.

STATISTICALANALYSIS
Statistical analysis was performed using SPSS (IBM Corp .SPSS Statistics for Windows, Version 22.0. Armonk, NY: IBM Corp.) software version 16. Student'st-test and Chi-square test were performed for comparison of continuous variable and proportions, respectively.

RESULTS
A total number of 84 patients underwent DHL out of which 60 (73.2%) suffered from primary infertility and 22(26.8%) suffered from secondary infertility.

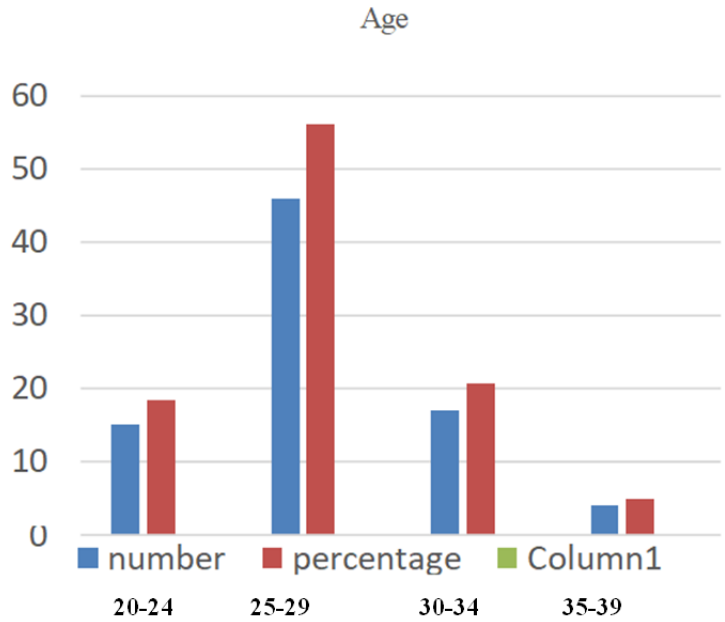
Type	Number	Percentage
Primary	60	73.2
Secondary	22	26.8
Total	82	100.0



AGE

Majority of the patients belong to age group 25 to 29 years. The mean age of patients with infertility was 27.2 ± 2.6 years

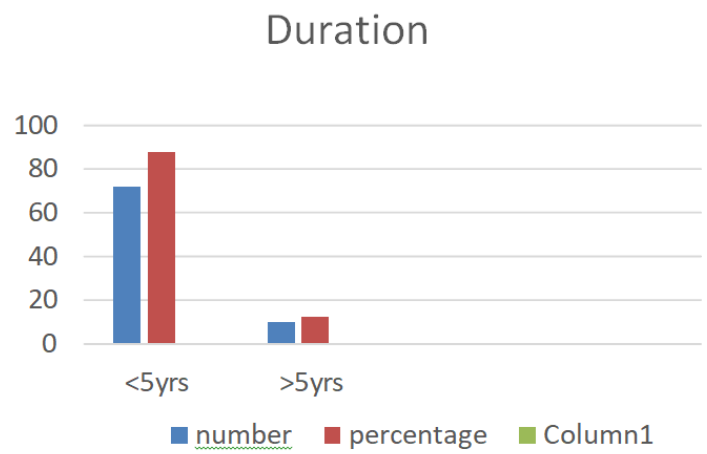
Age	Number	Percentage
20to24Years	15	18.3
25to29Years	46	56.1
30to34Years	17	20.7
35to39Years	04	04.9
Total	82	100.0



DURATION

Majority of the cases of infertility belong to the duration of <5 yrs. The mean durationof infertility in primary and secondary infertility was 4.9 ±2.2 years and 4.8 ± 2.7 years, respectively. However it is statistically insignificant.

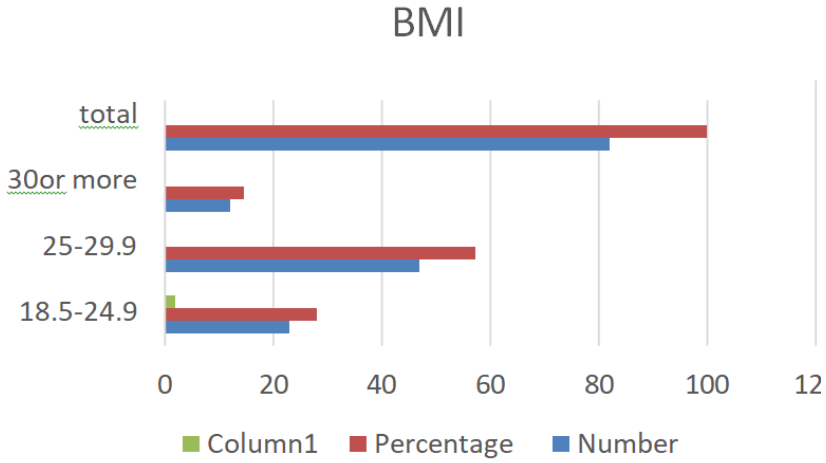
Duration	Number	Percentage
<=5 Years	72	87.8
>5 Years	10	12.2
Total	82	100.0



BMI

Among84 cases, 23 cases(28.1%) belongto normalBMI,and47(57.3%) belong to overweight category, and 12 cases (14.6%) belong to obese category. Statistically Significant association with BMI is seen.

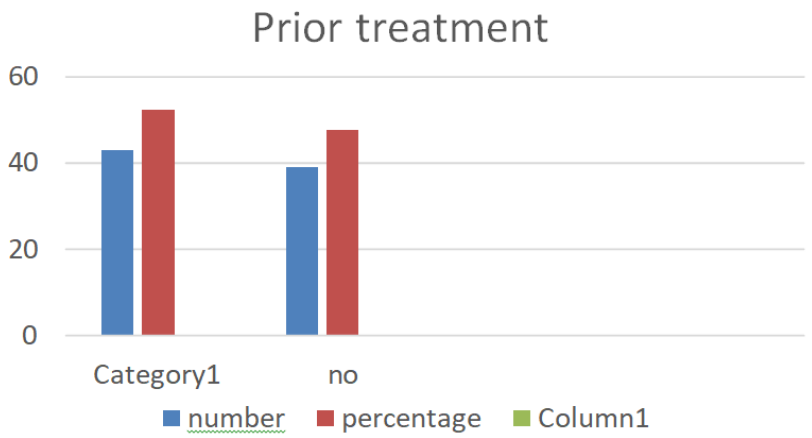
BMI	Number	Percentage
18.5to 24.9(Normal)	23	28.1
25to 29.9(Overweight)	47	57.3
30andMore(Obese)	12	14.6
Total	82	100.0



PRIOR TREATMENT

Around43 cases(52.4%) prior treatment with ovulation induction and IUI. And majority of cases have been taken treatment for 3 years which was failed.

Treatment	Number	Percentage
Yes	43	52.4
No	39	47.6
Total	82	100.0
Priortreatment	Primaryinfertility	Secondary infertility
OI	22	7
IUI	9	11



ABNORMALFINDINGS

In both primary and secondary infertility patients, laparoscopic abnormalities (37.6% and 49.2%) were more common thanthe hysteroscopic ones (7.3% and 14.2%). In both groups tubal factors was predominant, of which bilateral peritubal adhesions and hydrosalphinx found to be the most common cause.

Adhesion	Number	Percenatge
NIL	50	61.0
Present	29	35.4
Adhesions +in pod and fimbrialendofrighttube	1	1.2
Dense	1	1.2
Noted	1	1.2
Total	82	100.0

Tubes	Number	Percentage
Patent	65	79.2
Hydrosalphinx(b/l)	6	7.3
U/ltubepatent	2	2.4
Adhesions present at right fimbrial end	1	1.2
B/lblockage	1	1.2
Flimsyadhesions	1	1.2
Normal,b/lsp+	1	1.2
Righthydrosalphinx,u/l patent	1	1.2
Righthydrosalphinx,u/lsp+	1	1.2
Rightishthmicnodosa,tubes patent	1	1.2
Submucosalfibroid	1	1.2
U/lblockage	1	1.2
Total	82	100.0

Around2%ofpatientsendometrioticspotswasseeninlaparoscopyand ablation of them was done in the same sitting. The most common abnormality in hysteroscopy was uterine polyp.

Hysteroscopy	Number	Percentage
Normal	66	80.5
Polyp	6	7.3
Endometritis	2	2.4
Submucosalfibroid	2	2.4
Adhesions	1	1.2
Fibroid	1	1.2
Flimsyadhesions	1	1.2
Septateuterus	1	1.2
Subseptateuterus	1	1.2
Unicornuateutrerus	1	1.2
Total	82	100.0

CONCLUSION

From this study it is noted that primary infertility is more common than secondary infertility, in mean age group of 27

yrs. Incidence increases with rise in BMI. Peritubal adhesions due to PID was the most common cause and simultaneous a dhesiolysis was done.

DHL is helpful in identifying undetected treatable causes of infertility. It also gives advantage of providing simultaneous correction at the same instance and of course, it is a minimal invasive procedure.

Reversible causes of infertility such as a dnexaladhesions, tubal blockade, uterine synechiae, etc., can easily be diagnosed and treated by hysterolaparoscopy.

However, in the era of advanced ultrasound, in developing countries diagnostic hysterolaparosccopy may still offer some hope to the in fertile couple.

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