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Role of Hysterolaproscopy in the Evaluation of Infertility

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Abstract: ***Objective: 1) To evaluate the role of hysterolaparoscopy in comprehensive work up of infertility. 2) To identify the incidence of factors leading to infertility. 3) To decide further plan of management. 4) To asses the complications of the procedure. Methods: A total of 1000 women underwent diagnostic laparoscopy during the period of november 2014 to august 2016. Age ranged from 21 years to 40 years. After initial workup, diagnostic laproscopy was done under general anesthesia along with Chromopertubation for testing tubal patency. Results: Of the total study population 445 members had primary subfertility and 555 members had secondary sub fertility. Among the 1000 patients studied 626 (62.6%) patients had normal uterine cavity and intra uterine pathology in 37.4% of study population. septum was found in 192 members and susequent septal resection was done in 158 members in the same sitting and intra cavitary synaechae were found in 85 patients and adhesiolysis was done in the same sitting. polyp were found in 70 members and subsequent polypectomy was done and submucous fibroids were found in 27 members. Tubal block comprised 15.2 % whereas distorted uterus by fibroid in 10.7 % Ovarian pathology was the most common finding (21.7 %), and pelvic endometriosis in 19.3 % of infertile cases were diagnosed. Conclusion: Diagnostic hysterolaparoscopy is an effective and safe tool in detailed evaluation of infertility, particularly for identifying tubal blockages, peritoneal endometriosis, adnexal adhesions and mullarian anamolies. In today's era of assisted reproductive techniques , laparoscopy is one of the first step in the evaluation of an infertile patient***

Keywords: Laparoscopy, Hysteroscopy, Infertility

1. Introduction

Infertility affects 10-15% of reproductive age couples[1]. Female factors contribute 40-45% in etiology of infertility.[2] The terms coined for this inability to conceive after one year of unprotected regular intercourse are [3].infertility or sub fertility.

Advent of minimal access procedures have redefined the evaluation and treatment of infertile female particularly with tubal causes. Laparoscopy is perceived as a minimally invasive surgical technique that provides both a panoramic and highly magnified view of the tubes and allows surgery at the time of diagnosis only.

Hysterolaparoscopy is an excellent diagnostic modality to detect hidden pathology in patients without any overt clinical manifestations. Laparoscopy can reveal the presence of peritubal adhesions, periadnexal adhesions, tubal pathology and endometriosis in 35–68 % of cases even after normal HSG[4].

Diagnostic hysteroscopy is an equally important modality to detect uterine anomalies and other intrauterine pathologies [5]

Infertile women with normal ovulatory cycles, seminogram and hormonal profiles have higher possibility of having tuboperitoneal and subtle endometrial pathologies. These women undergo series of procedures like HSG, receiving treatment for timing ovulation with coitus, controlled ovulation stimulation with follicular tracing by transvaginal ultrasound, laparoscopy and hysteroscopy before being referred for ART. Performing hysterolaparoscopy as single step procedure straightway in these patients proves to be more fruitful as therapeutic interventions or early decisions for ART or both can be undertaken simultaneously [6]

Keeping this in view, the present study was designed to assess the role of hysterolaparoscopy in the evaluation and management of Infertility.

2. Aims and Objectives

- To evaluate the role of hysterolaparoscopy in comprehensive work up of infertility.
- To identify the incidence of factors leading to infertility.
- To decide further plan of management.
- To asses the complications of the procedure.

3. Material and methods

This study was conducted in the Department of Obstetrics and Gynecology in a tertiary care hospital from November 2014 to August2016 retrospectively. All the infertile patients who underwent diagnostic hysterolaparoscopy in the above mentioned period fulfilling the following criteria were included in this study.

1) Women aged 19–40 years
2) Primary or secondary infertility
3) Normal serum level of TSH, FSH, LH, prolactin 4.

The data collected were demographic factors such as age, duration and type of infertility intraoperative finding, surgical interventions and complications during procedure were noted. The following parameters such as tubal block, peritubal, periadnexal and dense pelvic adhesions, endometriosis during laparoscopy, abnormality of cervical canal, uterine cavity, bilateral tubal ostium and endometrium during hysteroscopy were noted and tabulated.

4. Results

The present study showed maximum number of cases in the age groups between 20-25.

Table: Age distribution

Age (in years)	Number
20-25	438
26-30	323
31-35	237
>35	2

Of the total study population 445 members had primary subfertility and 555 members had secondary sub fertility Hysteroscopy findings were tabulated below.

Table 2: Hysteroscopy findings

	Findings	number	percentage
Uterine cavity	Normal cavity	626	62.6
	Septum	192	19.2
	Synaechae	85	8.5
	Fibroid	27	2.7
	Polyp	70	7.0
Ostia	Normal	784	78.4
	Deeply seated	132	13.2
	Not seen	85	8.5

Among the 1000 patients studied 626 (62.6%) patients had normal uterine cavity and intra uterine pathology in 37.4% of study population. septum was found in 192 members and susequent septal resection was done in 158 members in the same sitting and intra cavitary synaechae were found in 85 patients and adhesiolysis was done in the same sitting. polyp were found in 70 members and subsequent polypectomy was done and submucous fibroids were found in 27 members .

Laproscopy findings

Table 3

	Findings	number	Percentage
Uterus	Normal	829	82.9
	Congested	30	3
	Bicornuate	34	3.4
	Fibroid	107	10.7
Adhesions	Bowel	85	8.5
	Omental	151	15.1
	Peritubal	111	11.1
Endometriosis	Mild	93	9.3
	Moderate	27	2.7
	Severe	63	6.3
Tubal findings	Bilateral normal and patent	472	47.2
	Bilateral block	152	15.2
	Unilateral block	261	26.1
	Unilateral absent	28	2.8
	Bilateral hydrosalpynx block	17	1.7
	Bilateral hydrosalpynx patent	40	4.0
	unilateral hydrosalpynx block	130	13.0
	unilateral hydrosalpynx patent	47	4.7
Ovarian findings	Bilateral normal	288	28.8
	Bilateral pco	383	38.3
	Bilateral dermoid	8	0.8
	Bilateral endometriotic cyst	63	6.3
	Unilateral absent	26	2.6
	Unilateral endometriotic cyst	24	2.4
	Unilateral dermoid	26	2.6
Tubo ovarian mass		55	5.5
Fimbrial cyst		98	9.8

Tubal block comprised 15.2 % whereas distorted uterus by fibroid in 10.7 % Ovarian pathology was the most common finding (21.7 %), and pelvic endometriosis in 19.3 % of infertile cases were diagnosed.

5. Discussion

Tubal and peritoneal pathology account for the primary diagnosis in approximately 30 to 35% of infertile couples.[7]

Jayakrishnan et al.,[8] from India detected pelvic pathology in 26.8% cases of infertile patients by laparoscopic evaluation. We got similar result (pelvic pathology: 27.9) in our study.

In addition, endometriosis and adnexal adhesions were the two major abnormalities found among infertile patients in different studies similar to our findings.[9,10]

Uterine pathologies are the cause of infertility in as many as 15% of couples seeking treatment and are diagnosed in as many as 50% of infertile patients.[11,12,13] our study showen 17.1 % incidence of uterine anamolies.Septate uterus was the most common intrauterine abnormality in our study, which was undiagnosed by prior ultrasonography.

Other than septate uterus, the major hysteroscopy abnormalities in our study were myomas and polyps similar to another study.[14]

The incidence of asymptomatic endometrial polyps in women with infertility has been reported to range from 10% to 32%.[15.16] our study showed 7% incidence of endometrial polyps. In the present study, ovarian pathology was the most common finding 32.1% greater than 20.8 % of another study.

Opetative interventions

Septal resection for septate uterus (158), polypectomy in cases of endometrial polyp (70), adhesiolysis(85), tubal surgery (100), tubal cannulation (250) for cases tubal blockage and ovarian drilling for PCOS(383) was performed.

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

6. Conclusion

Diagnostic hysterolaparoscopy is an effective and safe tool in comprehensive evaluation of infertility, particularly for detecting peritoneal endometriosis, adnexal adhesions, and septum in the uterus. These are correctable abnormalities that are unfortunately missed by routine pelvic examination and usual imaging procedures. 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 infertile patients. When done by experienced hands and with proper selection of patients, hystero-laparoscopy can be considered as a definitive investigative day care procedure for evaluation of female infertility. This helps in formulating specific plan of management.

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