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One year study of cases of hysteroscopy in infertile women

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Abstract
Objectives: To study clinical profile of women who have undergone hysteroscopy and to assess factors of infertility through hysteroscopy, complemented by laparoscopy at Sir Sayaji General Hospital, Vadodara.
Methods: This was a prospective study conducted at the Department of Obstetric and Gynaecology, Sir Sayajirao General Hospital, Vadodara over a period of 1 year. A total of 69 women were enrolled. Study was conducted over a period of one year from 16th April, 2009 to 15th April, 2010. Complete biodata and clinical history were elicited. Women were thoroughly examined and investigations were carried out. Hysteroscopy with 5mm, 30° hysteroscope was used and laparoscopy was performed in conjunction with it. Women were followed up after six weeks and at six months.
Results: maximum no. of women were between 26-30 years of age group (33 women) with mean age of 27.9 years and a range of 15-35 years. 49 had primary infertility (71%) and 20 had secondary infertility (29%). Diagnostic hysteroscopy was performed in 66 women; whereas, operative hysteroscopy was done in 3 women (4.34%). Hysteroscopy was normal in 6o women. 13 women conceived with ovulation induction drugs. Out of 22 women who revealed abnormal HSG, hystero-laparoscopy in same women revealed abnormality in only 13 women.
Conclusion: Hysteroscopy and laparoscopy are diagnosing and treating both uterine and tubal infertility as well as some ovarian abnormalities. They permit to correct data from the HSG and to improve the pregnancy rate.

Keywords: Hysteroscopy, laparoscopy, infertility

Introduction
Infertility affects about 10-15% of reproductive age couples [1]. The diagnosis and treatment of this disorder stands out as one of the most rapidly evolving area in medicine. Endoscopic visualization of internal genital organs has opened a new field in Diagnostic Gynaecology. The hysteroscope and laparoscope has allowed the gynaecologist to replace his minds eye on an eye capable of far greater accuracy. Furthermore diagnostic hysteroscopy can be a relatively minor outpatient procedure that may be done under no anesthesia or a combination of local anesthesia with sedation. The risks of complications are minimal and total time taken in competent hands should not exceed five or ten minutes.
There are 2 types of hysteroscopy – diagnostic hysteroscopy is performed to examine the uterus for signs of normalcy or abnormality. Operative hysteroscopy is performed to treat a disorder after it has been diagnosed.
Hysteroscopy is better than TVS in detecting submucous fibroid. Both hysteroscopy polypectomy and hysteroscopy myomectomy enhance fertility compared with infertile women with normal cavity. Despite concern that hysteroscopic resection of large myoma might ablate a large surface area of the endometrial cavity the reproductive benefit appears greater than risk. Women with uterine septum and otherwise unexplained infertility might benefit from hysteroscopic metroplasty.
Hysteroscopy is no longer a “procedure looking for an indication”.

Method
This was a prospective study conducted at the department of obstetric and gynaecology, Sir Sayajirao General Hospital, Baroda Medical College over a period of 1 year. A total of 69 women were enrolled. Study was conducted over a period of one year from 16th April, 2009 to 15th April, 2010.

Complete biodata and clinical history specifically were elicited. Women were examined for general condition and vitals. Thorough systemic examination, per speculum and per vaginum examination were carried out.

Investigations like hemogram, blood group, urine analysis, blood urea, serum creatinine, S. LFT were carried out. Other investigations like S. prolactin, S. TSH, HSG, HSA, etc were carried out as per indication.

Women underwent laparoscopy along with hysteroscopy. 5mm, 30° hysteroscope of Karl Storz no 26163 was used for the purpose.

Women were followed up after six weeks and at six months.

Observations

A total of 69 women underwent laparoscopy along with hysteroscopy.

Table 1 shows that maximum no. of women were between 26-30 years of age group (33 women), thus, mean age is 27.9 years, with a range of 15-35 years.

Table 1: Age distribution of study population

Age	Infertility
< 20	01
21-25	20
26-30	33
31-35	15

Table 2 shows that 49 women had primary infertility (71%) and 20 had secondary infertility (29%).

Table 2: Infertility in study population

Infertility	No. of Women	%
Primary	49	71
Secondary	20	29
Total	69	100

Table 3 shows that hysteroscopy was normal in 6o women. 6 women showed supseptate uterus, whereas myoma was seen in 1 patient. 2 women showed presence of intra-uterine adhesions.

Table 3: Hysteroscopy findings in infertility

Hysteroscopy	No. of Women
Normal	60
Polyp	00
Myoma	01
Intrauterine adhesions	02
Supseptate uterus	06

Table 4 shows that out of 66 women who underwent diagnostic hysteroscopy, 13 women conceived with ovulation induction drugs, whereas no patient conceived during 6 months follow-up in whom therapeutic procedure in form of metroplasty and cornual cannulation were done.

Table 4: Hysteroscopic procedures and infertility outcome

Procedure	No. of women	No. of women conceived
Only diagnostic	66	13
Hysteroscopic metroplasty	02	00
Lysis of intrauterine adhesions	00	00
Electroresection of fibroid	00	00
Electroresection of polyp	00	00
Hysteroscopic cornual cannulation	01	00
Removal of foreign bodies	00	00

Table 5 shows that out of 22 women who revealed abnormal HSG, hystero-laparoscopy in same women revealed abnormality in only 13 women, whereas 9 women showed no abnormality of hystero-laparoscopy.

Table 5: Discrepancies of HSG and Hystero-laparoscopy findings

HSG	Hystero-laparoscopy
Hydrosalpinx	Normal
Cornual block	Normal
Tubal block	Sub-septate uterus
Irregular uterine cavity with b/l patent tubes	Normal uterus with rt fallopian tube patent
Partial filled fallopian tube with no spillage	Normal
Endometritis adhesion with fimbrial block	Incomplete septum with mid tubal block
B/L tubal block	Delayed spillage
Peri-tubal adhesions	b/l tubes block
Lt tubal block and rt hydrosalpinx	Normal
Lt cornual block and b/l hydrosalpinx	Rt hydrosalpinx,no spillage on rt side

Discussion

Factors from either one or both partners may contribute to difficulties in conceiving; therefore it is important to consider all possible causes in an infertile couple. In some cases, no specific causes are detected despite an extensive and complete evaluation. On the other hand, often more than one cause is identified in a couple. Therefore in the present study, all the couples, after thorough history and physical examination, were subjected to multiple directions of investigation culminating in hystero-laparoscopy. In our study, majority of the patients belonged to the age group of 26- 30 years. Majority of the patients presented with primary infertility of less than or equal to 5 years of duration as the couples are very anxious to conceive after marriage [1, 2]. In our study group of 69 patients, hysteroscopy detected abnormalities in 09 patients (13%) and the remaining 60 patients (87%) had no demonstrable pathologies. Uterine cavity was irregular due to fibroid in 1 patient, septum was detected in 6 patients and intrauterine adhesions were detected in 2 patients. Septum causes deficient implantations, and patients with uterine septum may come with history of abortion in previous pregnancies. Hysteroscopic septum resection was done in 2 of them under laparoscopic

guidance. Laparoscopic guided hysteroscopic metroplasty is safe and allows spontaneous delivery and short term pregnancy planning, in infertile women with history of more than 1 spontaneous abortions [3, 4].

Diagnostic laparoscopy should be performed on all women to search for a tubal or pelvic cause of infertility [5]. And also in cases of unexplained infertility or in sub fertile women as many abnormalities are found following laparoscopy [5, 6]. Endometriosis regardless of its severity rarely causes radiographic abnormalities on HSG and therefore can be diagnosed only by laparoscopy [7]. Definitive diagnosis of endometriosis is made after visualization of endometriotic lesions during laparoscopy and by histological confirmation of laparoscopic impression. Ablation of endometriotic lesions plus adhesiolysis to improve fertility in minimal-mild endometriosis is effective compared to diagnostic laparoscopy alone [8]. Thus laparoscopy is considered a gold standard for the diagnosis of endometriosis [9]. The other most common cause of infertility seen in India is Tuberculosis, and the incidence is almost 3.2 to 6.2% of genital tuberculosis affecting the fertility [10].

Conclusion

Hysteroscopy and laparoscopy are diagnosing and treating both uterine and tubal infertility as well as some ovarian abnormalities. They permit to correct data from the HSG and to improve the pregnancy rate.

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