The role of hysteroscopy in evaluation of infertility

Alka Prakash, Kamla Sharma, Veena Chowdhury
Department of Obstetrics and Gynaecology and department of radiology, Maulana Azad Medical College, Lok Nayak and associated hospitals, New Delhi.

Summary

Infertility is defined as one year of unprotected coitus without conception. This study was aimed to gain a further insight into the unanswered problem of infertility and to study whether hysteroscopy should be used in the routine assessment of infertile patients in our setup. In the present study a total of 50 cases of infertility were randomly selected from the patients attending OPD/infertility clinic, Lok Nayak Hospital. Hysteroscopy was found to be more accurate for diagnosis of intrauterine pathology and detected this in 28% of cases as compared to HSG which could diagnose it in only 12% of cases. The major difference of diagnostic potential was seen in cases of intrauterine adhesions and polyps. The direct view of uterine cavity afforded by hysteroscopy offers a significant advantage over other methods as other modalities offer only a blind or indirect view of the cavity.

Introduction

Infertility is defined as one year of unprotected coitus without conception. It affects approximately 10-15% of couples. Hysteroscopy has emerged in the recent years as an accurate method of assessing and treating intrauterine pathology. This study is aimed to gain a further insight into the unanswered problems of infertility by hysteroscopic evaluation for more precise and rational approach.

Material and Methods

The present study was conducted in the departments of Obstetrics, Gynaecology and radiology, Maulana Azad medical College and associated Lok Nayak and G B pant Hospitals, New Delhi. A total of 50 cases of infertility were randomly selected from the patients attending OPD/infertility clinic, Lok Nayak Hospital. All patients were subjected to preliminary investigations including endometrial biopsy, post-coital test and husband semen analysis. After excluding male factors of infertility, all patients underwent HSG, hysteroscopy and laparoscopy. Statistical analysis of data was done using chi-square and Fischer's exact test.

Result

On random selection, it was seen that 60% (n=30) had primary infertility and 40% (n=40) secondary infertility. On HSG 42% of patients were found to have normal findings. The precise nature of abnormalities detected are shown in Table-I.

Table I

Hysterosalpingography findings observed in the study group.

Findings on HSG	Cases According to type Of infertility		Total no.	%
	Primary	Secondary		
Normal	11	10	21	42
Synechiae	0	1	1	2
Filling defects	0	2	2	4
Congenital anomaly	1	2	3	6
Tubal pathology				
- unilateral block	8	2	10	20
- bilateral block	11	5	16	32
Hydrosalpinx	2	1	3	6

Among the 50 patients included in this study, normal hysteroscopic findings were found in 20 cases. Of these 13 were cases of primary and 7 of secondary infertility. One patient of primary infertility had a stenosed endocervical canal and scope could be negotiated through it only with difficulty after dilatation upto 6 no. dilator. The most common intrauterine abnormality detected was intrauterine adhesions. This was detected in a total of 7 patients, of which 2 were cases of primary and 5 of secondary infertility. All the 5 cases of secondary infertility had past history of interference in the form of curettage done previously. The detection of intrauterine adhesions was not accurate by hysteroscopy as compared to HSG. However this difference was not

found to be statistically significant. The exact nature of findings detected is documented in Table-II. A comment on patency of cornual opening was made depending on the flow of fluid media towards the cornual opening.

Table II
Hysteroscopic findings in cases of infertility

Findings on HSG Hysteroscopy	Cases According to type Of infertility		Total no.	%
	Primary	Secondary		
Normal	13	7	20	40
Endocervical canal				
- Normal	24	24	48	96
- Stenosed	1	0	1	2
- Others	0	1	1	2
Cavity				
- Regular	27	10	37	74
- Septum	1	2	3	6
- Synechiae	2	5	7	14
- Fibroid	0	2	2	4
- Polyp	0	2	2	4

On diagnostic laparoscopy normal findings were seen in a total of 17 patients. A large number of patients showed tubal and peritubal pathology. Peritubal adhesions were seen in a total of 19 patients. The next most common pathology was that of bilateral tubal block. Diagnostic laparoscopy has no role in the diagnosis of intrauterine pathology, though it helps in the detection of tubal and pelvic factors associated with infertility as shown in Table-III. A few patients showed more than one abnormality. There were no major complications attributable to any of the procedure.

Table III
Findings on diagnostic laparoscopy

Findings on HSG Laparoscopy	Cases According to type Of infertility		Total no.	%
	Primary	Secondary		
Normal	8	9	17	34
Congenital anomaly	0	0	0	0
Fibroid	1	0	1	2
Endometriosis	3	0	3	6
Tubal pathology				
- Unilateral block	6	3	9	18
- Bilateral block	10	4	14	28
- Hydrosalpinx	5	2	7	14
- Peritubal adhesions	14	5	19	38

Discussion

From our results it is seen that hysteroscopy is a better mode for evaluation of intrauterine pathology. Intrauterine adhesions were seen in 14% of patients. The study also revealed that adhesions were more common in patients of secondary infertility with previous history of curettage as seen by Taylor (1977) and Schenker and Margalioth (1982). Sugimoto (1978) suggested that though hysterography makes it possible to diagnose intrauterine adhesions, subsequent hysteroscopy is of great help in confirming the presence and location of adhesions more distinctly. Table IV shows intrauterine abnormality detected in present study as compared to that detected by other authors. The figure in our study was less, probably due to the fact that in our study, there were fewer cases of secondary as compared to primary infertility.

Table IV
Percentage of intrauterine abnormality as detected by various authors

Author	% of intrauterine abnormalities
Cohen & Dmowski (1973)	31.2
Mohr & Lindemann (1977)	59.3
Valle (1978)	39.9
Prevedourakis et al (1994)	31.3
Present study	28

When comparative analysis was done in the present study, it was seen that intrauterine abnormalities were detected in 12% cases by HSG and 28% cases by hysteroscopy.

Hysteroscopy was more accurate in the diagnosis of adhesions and polyps. This was more so in cases of secondary infertility. However in HSG besides detecting intrauterine abnormality, tubal pathology was also detected in 50% of cases which was not detected by hysteroscopy. Similarly when comparing hysteroscopy to laparoscopy, it was seen that both the modalities were complimentary to each other, in that hysteroscopy detected intrauterine abnormality while laparoscopy was found to be more accurate for pelvic and peritubal pathology.

Conclusion

From the above study it can safely be

concluded that hysteroscopy is ideal for detecting intrauterine abnormalities and is indicated in any situation in which intrauterine visualization will enhance diagnostic accuracy and define therapy. Modern hysteroscopy has two major applications in infertility viz. the diagnosis and management of intrauterine defects. The direct view of the uterine cavity afforded by hysteroscopy offers a significant advantage over other diagnostic methods as all other modalities offer only a blind or indirect view of the cavity.

Bibliography

1. Cohen M R, Dmowski W P: Fertil Steril: 24: 5: 1973.
2. Mohr J, Lindemann H J: J. Reprod. Med: 19: 161: 1977.
3. Prevedourakis C, Loutradis D, Kalianidis C, Makris N, Aravantinos D: Hum-Reprod: 9: 2353: 1994.
4. Schenker J G, Margalioth E J: Fertil Steril: 37: 593: 1982.
5. Sugimoto O: Am. J. Obst-Gyn: 131: 539: 1978.
6. Taylor P J: J. Reprod. Med: 18: 339: 1977.
7. Valle R F: J. Reprod. Med: 20: 115: 1978.