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Hysteroscopy in infertile Nigerian women

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Summary

The uterine cavity was evaluated by hysteroscopy in 20 Nigerian women aged 23-40 years, as part of the investigations of primary or secondary infertility. Intra-uterine abnormalities were detected in 45% of the patients. These abnormalities included intra-uterine adhesions (20%), endometrial polyps (10%), sub-mucous fibroids (5%), endometrial atrophy (5%), and endocervical cysts (5%).

This preliminary report reveals a high diagnostic yield with hysteroscopy. The advantages and complications of the procedure are discussed.

Résumé

La cavité utérine de vingt Nigérianes entre l'âge de 23 à 40 ans a été étudiée avec la méthode d'hystéroscopie. Cette étude fait partie de nos recherches sur la stérilité primaire ou secondaire. Une malformation intrautérine a été constatée chez 45% des malades. Les malformations sont les suivantes: adhérences intra-utérines (20%), polype endométriose (10%), sousmuqueuses fibroïdes (5%), atrophie de l'endomètre (5%) et kyste endocervicale (5%).

Ce rapport préliminaire révèle que la méthode de l'hystéroscopie donne un haut diagnostic d'efficacité. Les avantages et les complications de ce procédé sont élaborés.

Introduction

The incidence of uterine factor in infertility varies from centre to centre [1,2]. The hysteroscope offers the opportunity to observe the uterine cavity directly, and has found a place in the management of infertility. Pantaleoni, in

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1859, is credited with the first endoscopic view of the uterine cavity. Several workers have reported the advantages of the use of the hysteroscope in the diagnosis and treatment of uterine factor in infertility [3-8]. The uses of the hysteroscope were broadened in 1979 with the introduction of the Hamou microcolpohysteroscope [9]. This instrument permits observation of the superficial layers of the cervical canal and uterine cavity (including the first few millimetres of the fallopian tubes) at varying magnifications ($\times 1$ to $\times 150$). It therefore permits panoramic hysteroscopy, contact hysteroscopy and microcolpo-hysteroscopy. This 4 mm sheathed hysteroscope requires no prior cervical dilatation and can be used without anaesthesia in the out-patient gynaecological clinic.

To the best of our knowledge, there has been no previous report of hysteroscopy from this country. For this reason, our preliminary report on the use of this instrument is thought to be timely.

Subjects and methods

Between August 1985 and January 1986, 20 consecutive patients undergoing laparoscopy as part of a routine investigation of infertility, also had a hysteroscopy. They were unselected in terms of specific indications for hysteroscopy. The procedures were carried out during the secretory phase of the cycle. The age range of the subjects was 24-40 years with a mean of 28 years.

Instrumentation and technique

All the instruments used in this study were manufactured by Karl Storz GMBH (Tuttlingen, West Germany). The Hamou microcolpohysteroscope was used in the panoramic mode

in all cases except one when it was used in the contact mode. Light was provided by a cold light source and fibre-optic cable. A TTL computer flash unit was used. The distension medium used was carbon dioxide delivered through a hysteroflator. For panoramic hysteroscopy, the pressure was kept below 100 mmHg and the gas flow varied between 30 and 60 ml per minute.

Subjects were under general anaesthesia and were placed in the lithotomy position. General anaesthesia was necessary because laparoscopy was carried out at the same time. The subject's vulva and vagina were cleansed and then draped. The bladder was catheterized and digital vaginal examination was carried out. A Sim's speculum was passed and the anterior lip of the cervix was grasped with a tenaculum. The cervix was cleaned with a dry sterile gauze swab to remove mucus. The Hamou hysteroscope and sheath were gently inserted into the external OS with an initial magnification of $\times 20$. The instrument was then gently advanced as the CO₂ distended the cervical canal. Careful observation of the endocervical canal was made at this magnification, as it was transversed by the hysteroscope. Once the uterine cavity was entered, the magnification was reduced to $\times 1$ and an orderly examination was carried out. The fundus and tubal ostia were the first areas examined, followed by the rest of the uterine cavity. At the end of the procedure, laparoscopy was carried out as part of an investigation into infertility.

Results

Hysteroscopy was performed in all 20 subjects with no failures. It was necessary on two occasions, however, to dilate the cervix. Table 1 shows the hysteroscopic finding in the 20 subjects. The uterine cavity was normal in 11 (55%) of the subjects while intra-uterine abnormality was detected in nine (45%) of the subjects. The most common intra-uterine abnormality detected was intra-uterine adhesion, which accounted for 20%. The adhesion was of the central type in three subjects and marginal type in one. Three of the patients with intra-uterine adhesions had complained of primary infertility while one had secondary infertility. All four subjects had a history of

Table 1. Hysteroscopic findings

| Finding | No. of subjects | (%) |
|---------------------------|-----------------|-----|
| Normal cavity | 11 | 55 |
| Intra-uterine abnormality | 9 | 45 |
| Intra-uterine adhesions | 4 | |
| Endometrial polyps | 2 | |
| Submucous fibroids | 1 | |
| Endometrial atrophy | 1 | |
| Endocervical cyst | 1 | |
| Total | 20 | 100 |

previous diagnostic curettage. The subject with secondary infertility had had two curettages following manual removal of the placenta. The hysterosalpinographic (HSG) findings on all the subjects were compared with the hysteroscopic finding.

There was agreement between the HSG and hysteroscopic findings in two cases. The only complication of the procedure was perforation of the uterus which occurred in one subject during a contact hysteroscopy. The perforation was recognized at laparoscopy and, as there was no active bleeding from the site of the perforation, no further management was necessary.

Discussion

In this study, we have reported on 20 consecutive hysteroscopies, which included subjects whose HSGs were reported as normal. The hysteroscopic detection rate of intra-uterine lesions in this study is 45%. The rate in most centres varies from 19–62% [8,10].

There was under-diagnosis of intra-uterine lesions using the HSG, when compared to the hysteroscopy. The reverse is true with other studies. Valle [8] found that in 63 subjects with an abnormal HSG, 20 subsequently demonstrated no abnormalities when examined by hysteroscopy. Siegler [11] obtained hysteroscopic confirmation of abnormal findings in 13 out of 19 subjects with an abnormal HSG. We agree that a hysteroscopy achieves a more accurate assessment of the uterine cavity in cases of infertility than does an HSG. Although Taylor and Cumming [12] have suggested that hysteroscopy should replace HSG in the investi-

gation of uterine factors in infertility, we share the view of Valle [8] and Siegler [11], that hysteroscopy and HSG should remain complementary procedures in infertility management.

The most common abnormality detected in this study was intra-uterine adhesion. This was more common in subjects with primary infertility (30%) than in those with secondary infertility (10%). Valle [8] noted that only three out of 82 (3.2%) subjects with primary infertility had intra-uterine adhesions while 25 out of 60 (41.7%) subjects with secondary infertility had intra-uterine adhesions. Dilatation and curettage (D & C) is arguably the most abused procedure in the investigation of infertile subjects. Most infertile subjects in Nigeria actually request a D & C as a 'therapeutic' procedure in the management of infertility. Although intra-uterine manipulation, especially therapeutic curettage, is the main aetiological factor in intra-uterine adhesion formation, diagnostic curettage may also contribute [13,14]. If this is so, an increased role for uterine factors may be expected in infertility clinics in Nigeria, with more widespread use of improved diagnostic methods such as hysteroscopy.

There are complications associated with the use of the hysteroscope. We used the combined approach (laparoscopy and hysteroscopy) in this study, and perforation of the uterus was easily recognized by this approach. The combined approach is also advisable, when hysteroscopic resection, of septum, of sub-mucous myoma or of dense intra-uterine adhesions is undertaken. These manipulations are associated with a high risk of perforation. Perforation of the uterus, as a complication of hysteroscopy is not frequent. Siegler *et al.* [15] recorded five perforations in 257 hysteroscopies performed, while March *et al.* [16] reported two perforations in 66 subjects. There was only one perforation in our subjects. Other risks associated with hysteroscopy include cervical lacerations, anaesthetic complications and infection. None of these occurred in our study. The procedure has a failure rate that varies from 0-8% [12,17]. We did not record a failure but this is probably due to the small number done so far. Common causes of failure include cervical stenosis, bleeding, inadequate uterine distension and 'gas bubbles'.

In conclusion, our preliminary report has

shown a high success rate with the hysteroscope. The technique is simple and may be used to advantage as an out-patient procedure.

References

1. Katayama KP, Ju KS, Manuel M, Jones GS, Jones HW. Computer analysis of etiology and pregnancy rate in 636 cases of primary infertility. *Am J Obstet Gynecol* 1979;135:207-14.
2. Wilson EA. The infertile couple: interview and physical examination. In: Given R, ed. *The Infertile Female*. City Year Book. Medical Publishers Inc., 1979:31.
3. Linderman HJ, Mohr J. CO₂ hysteroscopy: diagnosis and treatment. *Am J Obstet Gynecol* 1976;124:129-32.
4. Edstrom K, Fernstrom I. The diagnostic possibilities of modified hysteroscopic technique. *Acta Obstet Gynecol Scand* 1970;49:237-42.
5. Phillips JM. Hysteroscopy: an overview and history of gas insufflation. *J Reprod Med* 1976;16:329-45.
6. Cohen, Dmowski WP. Modern hysteroscopy — diagnostic and therapeutic potentials. *Fertil Steril* 1979;24:905-8.
7. Hamou J. Microcolpohysteroscopy. In: Van der Pas H, Van Herendael B, Van Lith D, Keith L, eds. *Hysteroscopy*. MTP Press Ltd, 1983:55-67.
8. Valle RF. Hysteroscopy in the evaluation of female infertility. *Am J Obstet Gynecol* 1980;137:425-31.
9. Hamou J. Microhysteroscopy: a new procedure and its original application in gynaecology. *J Reprod Med* 1981;26:375-82.
10. Rosenfeld DL. A study of hysteroscopy as an adjunct to laparoscopy in the evaluation of infertile women. In: Phillips JM, ed. *Endoscopy in Gynaecology*. St Louis Christian Board of Publishers, 1978:285-8.
11. Siegler AM. Hystero-graphy and hysteroscopy in the infertile patient. *J Reprod Med* 1977;18:143-6.
12. Taylor PJ, Cumming DC. Hysteroscopy in 100 patients. *Fertil Steril* 1979;31:301-4.
13. Taylor PJ, Cumming DC, Hill PJ. The significance of intrauterine adhesions detected hysteroscopically in eumenorrhic infertile women and role of antecedent curettage in their formation. *Am J Obstet Gynecol* 1981;139:239-42.
14. Taylor PJ, Graham G. Is diagnostic curettage harmful in women with unexplained infertility? *Br J Obstet Gynaecol* 1982;89:296-8.
15. Siegler AM, Kemman E, Gnetile GP. Hysteroscopic procedures in 257 patients. *Fertil Steril* 1976;27:1267-70.

16. March CM, Israel R, March AD. Hysteroscopic management of intrauterine adhesions. *Am J Obstet Gynecol* 1978;130:653-7.
17. Sciarra JJ, Valle RF. A clinical experience with 320 patients. *Am J Obstet Gynecol* 1977;18:143-6.

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