COMBINED PREMENSTRUAL D & C LAPARO - HYSTEROSCOPY IN THE INVESTIGATION OF INFERTILITY

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SUMMARY

Combined premenstrual D & C Laparo-Hysteroscopy was performed in 100 consecutive infertile subjects (primary infertility in 74, secondary infertility in 26) to assess the intraperitoneal, intrauterine and ovulatory causes of infertility by a one-time only procedure. The combined procedure was performed successfully in every case without significant complications. The rate of diagnosis of 38% by laparoscopy alone, was increased to 57% when hysteroscopic findings were included. In 12 cases the intrauterine abnormalities were immediately treated by operative hysteroscopy. These findings testify to a potentially important role for the combined procedure in the diagnosis and therapy of infertility.

INTRODUCTION

Laparoscopy is now a universally accepted procedure for evaluating the intraperitoneal and peritubal causes of infertility in the female. Evaluation of the uterine cavity however, falls outside the purview of the laparoscope. Hysteroscopic studies of infertile patients have reported rates of intrauterine abnormalities, ranging from 19% to 62% (Valle and Sciarra 1979). Though the clinical significance of these intrauterine abnormalities remains to be fully evaluated, their high frequency has led to the increasing application of hysteroscopy in the evaluation of infertility in clinical practice.

The use of combined laparoscopy and hysteroscopy has been reported for investigating the ovulatory infertile female, ovulation being earlier confirmed by a timed endometrial biopsy or serum progesterons assays (Cumming and Taylor 1980). In most studies hysteroscopy is preferentially performed in the proliferative phase of the

Nowrosjee Wadia Maternity Hospital, Bombay. *Accepted for Publication : 18/3/91*

menstrual cycle (Valle 1980).A contrary opinion still recommends the use of hysterosalpingography as the screening procedure for an abnormal uterine cavity, with hysteroscopy being reserved for confirmation of abnormal findings (Fayez et al 1987).

We propose the premenstrual performance of a combined D&C Laparo-Hysteroscopy to evaluate female infertility; laparoscopy to study intraperitoneal factors and tubal patency, hysteroscopy to assess the intrauterine milieu and endocervical canal and premenstrual curettage to evaluate ovulation status and for a histopathological diagnosis of tuberculous endometritis. Besides the possibility of early evaluation of multiple factors some of which are amenable to immediate correction, a one-time only procedure offers significant savings in terms of time, effort and the expense of hormonal assays and radiological studies. Our aim in this study is to assess the clinical value of performing such a combined endoscopic procedure in the premenstrual period.

MATERIAL AND METHODS

Combined premenstrual D&C Laparo-hysteroscopies were routinely performed and prospectively evaluated in 100 consecutive infertile patients (primary infertility in 74, secondary infertility in 26) at the Wadia Maternity Hospital. The duration of infertility varied from 1 to 14 years (Table I). Every case underwent a routine work-up for infertility, the male factor being excluded.

Laparo-hysteroscopy was performed in the week before the next expected date of menses in women with regular menstrual cycles. Every procedure was carried out under general anaesthesia, beginning with a hysteroscopy, followed by a laparoscopy with chromopertunbation and finally a curettage. The findings were prospectively recorded in a standard format.

A 4mm 30 foreoblique panoramic hysteroscope (Storz) was used with a 5 mm diagnostic sheath or a 7 mm operative sheath. In the first 50 cases uterine distension was achieved using 50% Dextrose (Khandwala 1988), a medium we found effective, economical and safe. In the remaining 50 cases uterine distension was achieved using carbon dioxide delivered by a hysteroflator (Storz).An Olympus OM2 camera was used to record abnormal hysteroscopic findings.

All the combined procedures were performed successfully with no significant complication except slight bleeding or air bubbles in the medium every patient being discharged within 24 hours.

RESULTS AND ANALYSIS

Laparoscopic diagnosis of intraperitoneal abnormalities:

Intrapelvic disease sufficiently severe to cause infertility was discovered in 38% of cases. The nature of intraperitoneal lesions is shown in Table II. Adhesions (17%) end bilateral tubal occlusion (10%) were the commonest positive findings, with active or old tuberculosis accounting for 8%. Endometriosis and polycystic ovaries were each detected in a further 6% of cases.

Hysteroscopic diagnosis of intrauterine abnormalities:

Intrauterine abnormalities were detected in 38% of cases. The nature of intra-

TABLEI
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	Primary infertility	Secondary infertility
Total cases	74	26
Mean age (Range)	24.7 (19 - 39)	29.5 (18 - 39)
Mean duration (Range)	4.0 (2 - 14)	3.8 (1 - 10)

TABLEII
INTRAPERITONEAL ABNORMALITIES DETECTED LAPAROSCOPICALLY

Abnormality	Primary Infertility		Secondary Infertility		Total
	No	percent	No	percent	No. / percent
Adhesions	12	16.2	5	19.2	17
Tubal occlusion	9	12.2	1	3.8	10
Endometriosis	5	6.8	1	3.8	6
PCOD	4	5.4	2	7.7	6
Ovarian cyst	3	4.1	2	7.7	5
Fibromyoma	3	4.1	-	-	3
Long tubes	1	1.4	-	-	1
Total	29	39.2	9	34.6	38

TABLEIII
INTRAUTERINE ABNORMALITIES DETECTED HYSTEROSCOPICALLY

Abnormality	Primary Infertility		Secondary Infertility		Total
	No	percent	No	percent	No. / percent
Adhesions	17	23.0	3	11.5	20
Polypoid endometrium	7	9.5	3	11.5	10
Fibromyoma	-	-	3	11.5	3
Subseptate uterus	2	2.7	5	19.2	7
Total	25	33.8	13	50.0	38

TABLE IV
NORMAL AND ABNORMAL FINDINGS AT COMBINED LAPARO-HYSTEROSCOPY

Findings	Primary Infertility		Secondary Infertility		Total
	No	percent	No	percent	No. / percent
Both procedures normal	35	47.3	8	30.8	43
Both procedures abnormal	15	20.3	4	15.4	19
Laparoscopy abnormal	14	18.9	5	19.2	19
Hysteroscopy abnormal	10	13.5	9	34.6	19
One or both abnormal	39	52.7	18	69.2	57

uterine lesions is shown in Table III. At 20% adhesions were the commonest lesions (23% in primary infertility and 11.5% in secondary infertility), a diagnosis of tuberculosis being made in 9%. Seven cases had a subseptate uterus, 5 cases having a bad obstetric history and short periods of secondary infertility. Three cases with secondary infertility were diagnosed to have submucous fibromyomas.

Findings at combined laparo-hysteroscopy:

The pooled findings of the combined procedure are shown in Table IV. The rate of diagnosis of abnormal findings of 38% by laparoscopy alone, was significantly increased to 57% by the combined procedure of Laparo-hysteroscopy. A diagnosis of anovulation was made by histopathology in 24% of cases.

Operative hysteroscopy:

Hysteroscopic adhesiolysis and the incision of uterine septae were performed using semirigid miniature scissors through the 7mm operative sheath in 9 cases and 3 cases respectively.

DISCUSSION

The significant incidence of intrauterine abnormalities (38%) in infertile subjects reported by this study, conforms with other studies reporting an incidence ranging from 19% to 62% (Valle and Sciarra 1979, Cumming and Taylor 1980). The superiority of hysteroscopy over hysterosalpingography in diagnosing intrauterine lesions is also well established (Valle 1980). In view of these observations, supplementing the almost routinely performed premenstrual D&C laparoscopy with a simultaneous hysteroscopy for investigating infertility would be beneficial both in terms of evaluating multiple factors in a one-time only procedure, as also in an increased pick up rate for abnormal findings.

The combined procedure was performed successfully with no significant complications inspite of timing it in the secretory phase of the menstrual cycle and the hysteroscopy was not found to interfere with the performance of the subsequent laparoscopy and curettage.

Operative hysteroscopy is now consid-

ered the procedure of choice for intrauterine lesions such as adhesions (Valle and Sciarra 1988) and uterine septae (March and Israel 1987). The combined procedure allowed us to immediately treat intrauterine abnormalities in 9% of cases.

Should all gynaecologists use a hysteroscope in daily practice? The answer should be 'Yes' because the technique permits more accurate diagnosis at a modest cost (Lewis 1988). It is hence recommended that this combined procedure of premenstrual D&C Laparo-hysteroscopy be incorporated into routine clinical practice to evaluate and sometimes treat the tubal, peritoneal, intrauterine and ovulatory factors causing female infertility.

ACKNOWLEDGEMENT

The authors thank Dr.S.N.Daftary, Dean,N.Wadia Maternity Hospital Bombay and Dr.A.C.Mehta, Director, Sir Ness Wadia Research Centre for supporting the study.

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