

LAPAROTOMY CONFIRMATION OF TUBAL DISEASE DETECTED ON PREOPERATIVE EVALUATION BY HYSTEROSALPINGOGRAPHY AND LAPAROSCOPY

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SUMMARY

The study included forty infertile women who had laparotomy for tuboplasty. All had hysterosalpingography (HSG) and diagnostic laparoscopy as a part of their infertility workup. At laparotomy, findings were compared with HSG and laparoscopic assessments. Analysis of data revealed that the accuracy for the diagnosis of tubal patency or tubal blockage was quite similar for both procedures. However, laparoscopy was superior in diagnosing nontubal factors.

INTRODUCTION

Tubal disease is reported to account either in total or in part for infertility in 25% to 50% of investigated couples (Arronet et al, 1969 and Harrison et al, 1981). Both HSG and laparoscopy are commonly used to evaluate tubal patency. Several studies have compared the accuracy of results obtained with these two procedures and recommended that these two tests should

be performed together as a part of infertility work-up (Gabos, 1976, Ismajovich et al, 1976, Mogbissi et al, 1975 and Maathuis et al, 1972). However, most of these studies are not based on confirmation of results by an objective accurate end point. The purpose of this retrospective study is to compare HSG and laparoscopic assessment of tubal disease with the results obtained during laparotomy performed for tubal reconstructive surgery.

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MATERIAL & METHODS

The study population consisted of forty women who underwent laparotomy for tubal reconstructive surgery over a period of two years (July 1991 to June 1993) in a clinical unit. The patients were between 25 to 39 years of age with a mean age of 29.8 years. Twenty two (55%) patients were nulliparous and had attempted pregnancy for an average of 11.45 years (range 5 to 20 years) before laparotomy. The remaining 18 (45%) women presented with secondary infertility for an average of 7.44 years (range 2 to 19 years). Patients undergoing tubal recanalization following elective tubal ligation were not included in the study. The fertility assessment tests (i.e. ovulation, male function and post coital tests) were uniformly performed on all the patients including HSG and laparoscopy.

HSG was performed during the proliferative phase of menstrual cycle using a water soluble contrast medium. The films were interpreted by the senior author (Mittal S).

Laparoscopy was performed in the proliferative phase of the menstrual cycle under general anesthesia with endotracheal intubation. All procedures were performed at A.I.I.M.S. Hospital using carbon-dioxide insufflation for the creation of pneumoperitoneum. After careful examination of the pelvic organs, diluted methylene blue solution was injected through the uterine cervix with Rubin's canula to evaluate tubal patency.

During laparotomy, the entire pelvis was visualised and diluted methylene blue dye was injected transfundally after occluding the isthmus of uterus to check the patency of fallopian tubes.

RESULTS

Forty women underwent laparotomy for macrosurgical tubal repair. Five of them (12.5%) had bilateral patent tubes but there were pelvic adhesions and in two patients, there was evidence of pelvic endometriosis along with adhesions. Bilateral tubal block was present in 19 (47.5%) women and

Table I

HSG and laparoscopic assessments of tubal blockage compared to findings at laparotomy

	No. with bilateral block tube	No. with unilateral blocked tubes	No. with bilateral patent tubes
HSG	25	12	3
LAPAROSCOPY	26	12	2
LAPAROTOMY	19	16	5

unilateral block with adhesions in 16 (40%) patients (Table 1). All 19 cases of bilateral blocked tubes were diagnosed by laparoscopy and HSG whereas out of total 16 patients with unilateral blocked tubes, only 12 patients were diagnosed by laparoscopy and HSG as having unilateral block. Rest were considered to be having bilateral tubal block on HSG and laparoscopy. This may be explained by the fact that at laparotomy, the tubal patency was tested after adhesiolysis and this may have released the block.

Laparoscopy was found to be better than HSG in the diagnosis of peritoneal adhesions in 11 patients (Table-II). In 6 (15%) women, pelvic pathology was found during laparotomy which was not diagnosed by HSG or laparoscopy. These were ovarian cyst (1), uterine fibroids (2) and endometriosis (3). Moreover, the diagnosis of submucous fibroids in one woman was made exclusively by HSG and con-

firmed at laparotomy.

DISCUSSION

It seems that laparotomy is the accurate objective method to confirm HSG and laparoscopic tubal assessments. Okonofua et al, 1989 have utilized this approach. Though there has always been a controversy regarding assessment of tubal disease by both HSG and/or laparoscopy, alone or in sequence. there was a good correlation in the findings of HSG and laparoscopy in the diagnosis of tubal patency (Table-I), this study agrees with other studies of Maathuis et al, 1972, in that peritubal adhesions were frequently missed by HSG. In addition to its value in the diagnosis of tubal patency, HSG does provide information about uterine cavity abnormalities.

However, laparoscopy complements and broadens the diagnostic scope of HSG. In

Table II

Laparoscopic Findings Undiagnosed by HSG

Diagnosis	No. Made by Laparoscopy	No. Confirmed by Laparotomy
Pelvic Adhesions	11	11
Uterine Fibroids	3	3
Bicornuate Uterus	1	1
Endometriosis	3	3
To mass (tubo-ovarian mass)	1	0

addition to the diagnosis of pelvic adhesions, other pelvic pathologies were discovered (Table-II) on laparoscopy in 19 women (45%) and these various conditions were confirmed at laparotomy in 18 women. The fact that laparoscopy can be diagnostic as well as operative adds tremendously to its value in the evaluation of infertile women. Adhesions can be lysed so as to improve the accuracy of diagnosing the tubal patency and better visualization of pelvic organs. The tubo-ovarian mass suspected laproscopically along with dense adhesions was unconfirmed at laparotomy. Similarly, 6 women had various pathologies (ovarian cyst, fibroids, endometriosis) on laparotomy which were not diagnosed by either HSG or laparoscopy. The availability of better instruments and improvement in technique may reduce the incidence of such missed diagnosis on laparoscopy.

In conclusion, laparoscopy plus dye hydrotubation is the optimum method not only assessing tubal patency but for

discovering other hitherto unsuspected disease of possible significance to the infertile couple. Moreover, operative laparoscopic procedures like adhesiolysis can be performed in the same sitting, thus avoiding laparotomy in some of the infertile women. It is suggested that laparoscopy can be combined with hysteroscopy to ensure that the diagnosis of endometrial factors in which HSG has clear advantage can still be made out, thus avoiding another costly investigation at different time.

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