

COMPARISON OF HYSTEROSALPINGOGRAPHY & LAPAROSCOPY IN THE EVALUATION OF TUBAL FUNCTION IN INFERTILITY

by

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The age old problem of infertility still continues to baffle the gynaecologist and amongst all the causes of infertility the tubal factor is responsible for majority of them. Various tests are now in vogue for the study of tubal patency. The commonly used ones are Rubin's test, hysterosalpingography and endoscopic evaluation of tubes. Evaluation of tubes may be fallacious if a single test is employed.

Hence we have evaluated hysterosalpingography findings by performing laparoscopy in cases of infertility.

Material and Methods

Hundred and twenty cases of infertility attending the out patient Dept. of B. Y. L. Nair Charitable Hospital and T.N.M.C. Bombay-40 008 during two year period from Jan. 1975 to Dec. 1976, underwent both hysterosalpingography and laparoscopy.

Out of 120 cases, 78 were of primary infertility while remaining 42 were of secondary infertility of more than 2 years duration. In all patients laparoscopy followed hysterosalpingography at an inter-

val of 2 to 3 months. Hysterosalpingography was performed during proliferative phase of the cycle using conrey 1280. A Hysterosalpingogram was considered normal when both tubes were well outlined by free flow of dye through them without any coiling or localisation of the dye (suggesting adhesions). Laparoscopy was performed using Karl-Storz Laparoscope under G.A.

One per cent methylene blue solution was used to check tubal patency. In addition uterus, ovaries and tubes were also observed. Intravasation of the dye and pelvic adhesions were also looked for.

Results

Table I shows the comparison of laparoscopy and H.S.G. findings. Though there were 84 cases with normal findings at hysterosalpingography, laparoscopy revealed normal findings in 69 cases only, while in 14 cases there were peritubal, tubo-ovarian and periovarian adhesions. Totally there were 32 cases which showed either unilateral tubal block (11 cases) or bilateral tubal block on hysterosalpingography. However, Laparoscopy revealed normal patent tubes in 7 of them and confirmed H.S.G. findings in the remaining cases. Laparoscopy was very useful in these cases as it could help us in finding out possible etiological factors in tubal

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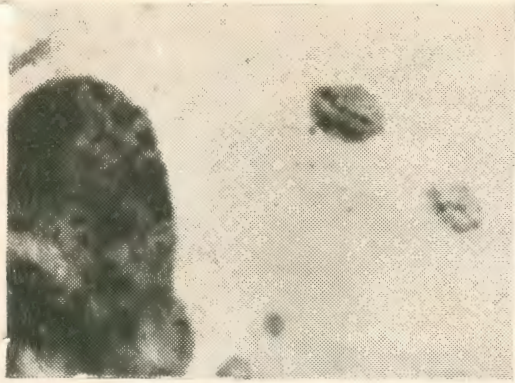


Fig. 1

Showing Beta-glucuronidase in the corpus luteum and stroma of the ovary during puerperium. Fishman and Baker (x94).

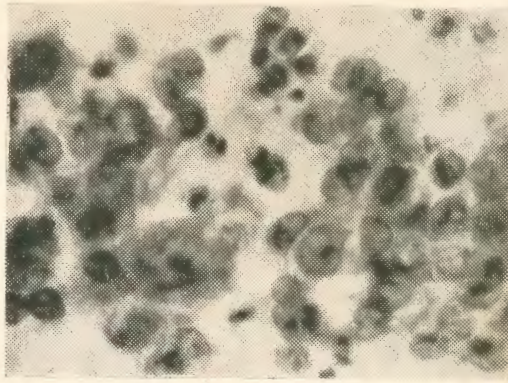


Fig. 1

Shows uterine aspiration smear pap x 250 groups of malignant cells showing variation of cellular and nuclear size and prominent nucleoli.

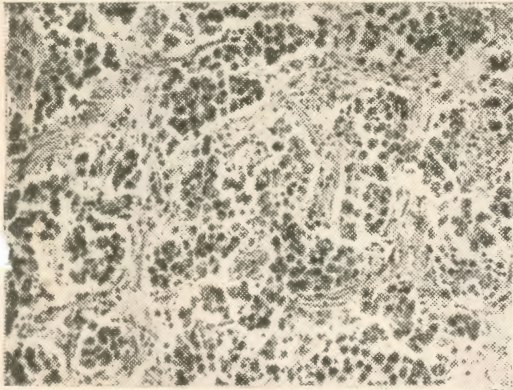


Fig. 1

Pure Dysgerminoma.

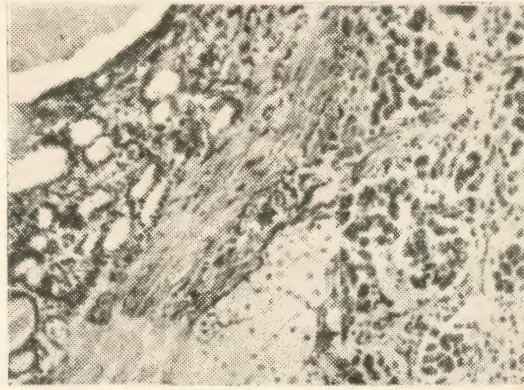


Fig. 2

Dysgerminoma combined with cystic teratoma.

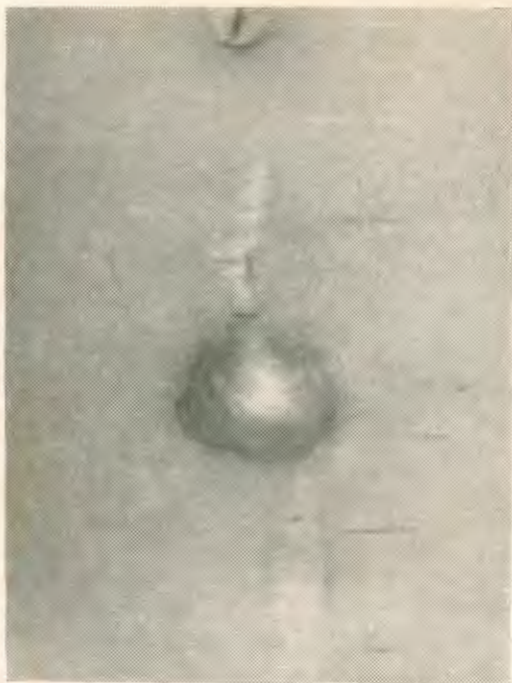


Fig. 1

Shows bluish endometriotic nodule in a post-caesarean abdominal scar. It developed after six months of operation.



Fig. 2

Cut section of an endometrioma removed from transverse scar following caesarean section. Arrow indicates haemorrhagic spots.

Placenta Praevia Accreta, Goswami et al, 686-689



Fig. 1. Shows hysterectomy specimen with placenta partially remaining adherent. The arrow indicates focal indentation caused by pull on accretic placenta.

An Unusual Complication Following Medical Termination—Chakravarty & Rao pp. 675-676



Fig. 1

Cystogram showing filling defect in the bladder.

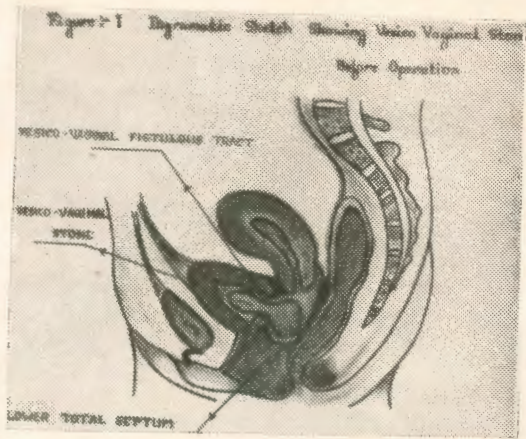


Fig. 1
Diagrammatic sketch showing Vesico Vaginal
stone before operation.

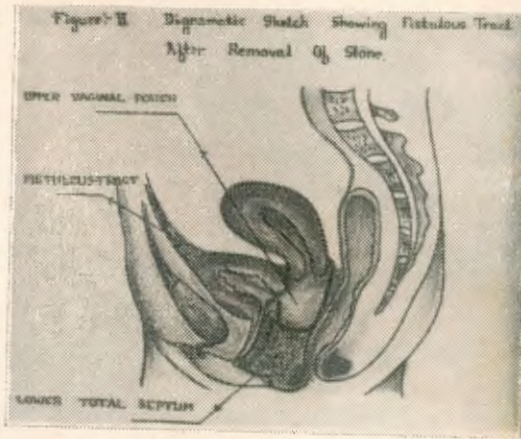


Fig. 2
Diagrammatic sketch showing fistulous tract
after removal of stone.

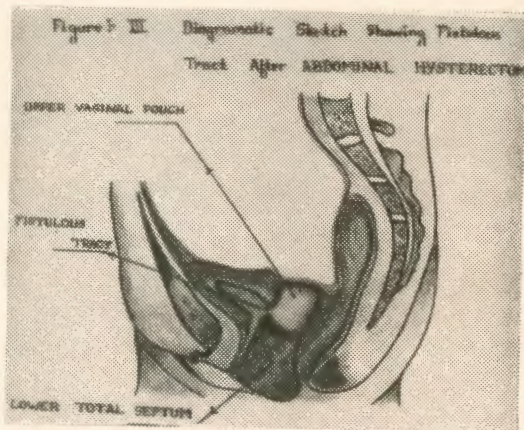


Fig. 3
Diagrammatic sketch showing fistulous tract
after abdominal hysterectomy.

TABLE I
Comparison of Tubal Patency with H.S.G. and Laparoscopy

H.S.G.	Laparoscopy					Patent tubes with adhesions
	Normal	Blocked Tubes without adhesions		Blocked Tubes with adhesions		
		One	Both	One	Both	
Normal—84	69	—	—	1	—	14
Unilateral Tubal Block—11	4	3	—	4	—	—
Bilateral Tubal Block—21	3	—	11	1	6	—
Patent tubes with adhesions—4	2	—	—	—	—	2

blockage. In 6 of them we discovered small tubercles suggesting genital T.B. H.S.G. and laparoscopy revealed same findings in 95 cases (79.1%) as far as tubal patency is concerned. False negative findings demonstrated by H.S.G. consisted of 10 cases (8.33%) which subsequent laparoscopy did not confirm (Table II).

TABLE II
Missed Findings at H.S.G.

	No.
Genital T.B.	6
T.O. Mass	3
Subserous Fibroid	3
S.L. Syndrome	3
Small Ovarian Cyst	4
Endometriosis	2
Arcuate Uterus	1
Periovarian Adhesions	6

In 30.00% of patients various pathological lesions would have been missed had one relied only on H.S.G. as seen in Table II. In 3 cases small T.O. masses

TABLE III
Missed Findings at Laparoscopy

Submucous fibroid	1
Intrauterine synachiae	1
Septate uterus	1

were observed which were missed even clinically. Laparoscopy was very useful in diagnosing endometriosis in 2 of our cases thus suggesting the importance of laparoscopy in cases of sterility.

As compared with Table II, Table III shows the missed findings at laparoscopy which could be diagnosed only by H.S.G. H.S.G. revealed 1 case each of submucous fibroid, intrauterine synachiae and septate uterus, thus suggesting that though H.S.G. is an old method it is not obsolete.

Discussion

Fertility depends on presence of normal fallopian tubes in respect to patency, persistence and free fimbrial motion. Partial or complete occlusion of fallopian tubes is one of the major etiological factors in sterility. In addition, various other pathologies like peritubal and periovarian adhesions etc. may also be responsible for causing sterility and they are usually missed on R.T. & H.S.G.

In the present series, laparoscopy revealed peritubal and periovarian adhesions in 14 cases which were totally missed on H.S.G. Similarly, 7 of our 32 cases had incorrect radiological diagnosis of tubal blockage. Golditch (1971) encountered same problems in 2 of his 24 patients, while Coltart (1970) had this dis-

crepancy in 50% of his cases. In Sheth and Krishna's (1979) series, 17 of the 48 patients had one or both tubes, patent though found to be blocked on H.S.G. By laparoscopy one can select the cases for laparotomy and thus avoid unnecessary laparotomies.

Laparoscopy is a very useful tool in finding out various other intrapelvic pathologies which are responsible for sterility. In the present series we had 6 cases of genital tuberculosis which were missed on H.S.G. Genital T.B. is known to be an important cause of infertility in India. Such observations are of great value to us so that proper therapy could be instituted. Thus laparoscopy is essential in order to assess each case accurately and to select or reject the case for various plastic procedures. Laparoscopy is also helpful in prognostic evaluation as well as preoperative choice of surgical technique.

Keirse and Vandervellen (1973) used H.S.G. in patients with normal findings clinically, because they believed that H.S.G. is less imposing, gives valuable information about the uterus and tubes (as seen in 3 of our cases) and may be of therapeutic value. Moghissi and Sim (1975) concluded that endoscopy and H.S.G. are supplementary procedures.

Conclusions

Thus judging from above findings one can say that today laparoscopy is most useful diagnostic tool in cases of sterility. It is the most effective technique for closing the gap between clinical evaluation and major surgical exploration. However, the assistance of H.S.G., when doubtful on laparoscopic examination is invaluable. No doubt combination of these two procedures provides more details for diagnosis of Gynaecological pathology in cases of sterility.

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