

SONOHYSTEROGRAPHY VERSUS HYSTEOSALPINGOGRAPHY AND DIAGNOSTIC LAPAROSCOPY IN ASSESSMENT OF TUBAL PATENCY IN CASES OF FEMALE INFERTILITY

Thesis

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CONTENTS

	Page
▪ Abstract	vii
▪ List of Figures	viii
▪ List of Tables	ix
▪ List of Abbreviations	x
▪ Introduction	1
▪ Aim of the Work	4
▪ Review of Literature	5
o Anatomy of the Fallopian Tubes	5
o Histology of the Fallopian Tube	8
o Physiology of the Fallopian Tube	10
o Tubal Factor of Infertility	16
o Investigations of Tubal Factor of Infertility	23
o Sonohysterography	23
o Hysterosalpingography (HSG)	33
o Diagnostic Laparoscopy	51
▪ Patients and Methods	71
▪ Results	79
▪ Discussion	95
▪ Summary	107
▪ Conclusion	111
▪ References	112
▪ Arabic Summary	128

LIST OF FIGURES

No.	Title	Page
Fig. 1	Type of infertility in the studied group	79
Fig. 2	Parity of women with secondary infertility	80
Fig. 3	Comparison between the age of women in primary and secondary infertility subgroups	81
Fig. 4	Relation between HSG and Laparoscopy findings	83
Fig. 5	Sensitivity, specificity, PPV, NPV and total accuracy of HSG in diagnosis of tubal block	84
Fig. 6	Relation between SHSG and Laparoscopy findings	85
Fig. 7	Sensitivity, specificity, PPV, NPV and total accuracy of SHSG in diagnosis of tubal block	86
Fig. 8	Comparison between HSG and SHSG regarding sensitivity, specificity, PPV, NPV and total accuracy in diagnosis of tubal block	87
Fig. 9	Normal pelvic cavity with laparoscopy	89
Fig. 10	Laparoscopic chromopertubation test showing +ve test with bilateral tubal patency	90
Fig. 11	Laparoscopic chromopertubation test showing distal block of the right fallopian tube	90
Fig. 12	Normal appearance of the uterine cavity and both tubes in HSG	91
Fig. 13	HSG showing bilateral distal tubal block (hydrosalpinx) with normal uterine cavity	91
Fig. 14	HSG showing bilateral cornua tubal block with normal uterine cavity	92
Fig. 15	SHSG showing normal uterine cavity and bilateral patent proximal parts of the tubes (before balloon deflation)	92
Fig. 16	SHSG showing normal uterine cavity and bilateral patent proximal parts of the tubes (after balloon deflation)	93
Fig. 17	SHSG showing normal uterine cavity with bilateral proximal tubal block (no peritoneal spill)	93
Fig. 18	A case of hydrosalpinx in SHSG appears as circumscribed fluid collection that expanded after saline instillation	94

LIST OF TABLES

No.	Title	Page
Table 1	Age distribution of the studied group (n = 50)	79
Table 2	Duration of infertility in the primary and secondary infertility subgroups	81
Table 3	Collective results of tubal condition according to laparoscopy HSG and SHSG	82
Table 4	Relation between HSG findings and laparoscopy findings (n = 49)	82
Table 5	HSG versus laparoscopy diagnosis of tubal block and their degree of agreement	83
Table 6	Relation between SHSG findings and laparoscopy findings (n=49)	85
Table 7	SHSG versus Laparoscopy diagnosis of tubal block and their degree of agreement	86
Table 8	SHSG versus HSG diagnosis of tubal block and their degree of agreement	87
Table 9	HSG versus laparoscopy diagnosis of site of tubal block in 27 blocked tubes	88
Table 10	SHSG versus laparoscopy diagnosis of site of tubal block in 27 blocked tubes	88

ABBREVIATIONS

ART	: Assisted reproductive technologies
BMI	: Body mass index
cm	: Centimeter
CxR	: Chest radiograph
D.L	: Diagnostic laparoscopy
DES	: Diethylstilbestrol
ECG	: Electrocardiogram
ESR	: Erythrocyte sedimentation rate
ET	: Embryo transfer
GIFT	: Gamete intrafallopian transfer
HSG	: Hysterosalpingography
IUD	: Intrauterine device
Kg	: Kilogram
m ²	: Meter square
mg	: Milligram
mm	: Millimeter
mm Hg	: Millimeter mercury
MRI	: Magnetic resonance imaging
NPV	: Negative predictive value
NSAID	: Non-steroidal anti-inflammatory
OSCM	: Oil soluble contrast medium
PID	: Pelvic inflammatory disease
PPV	: Positive predictive value
S.D	: Standard deviation
SHSG	: Sonohysterography
SIN	: Salpingitis isthmica nodosa
SIS	: Saline infusion sonohysterography
TVS	: Transvaginal sonography
WSCM	: Water soluble contrast medium
ZIFT	: Zygote intrafallopian transfer

ABSTRACT

Saline infusion sonohysterography is an ultrasound monitored procedure used to detect abnormalities of the uterus and fallopian tubes and offers a safe alternative to the conventional hysterosalpingography, but it's not accurate as hysterosalpingography. This study aims at the evaluation of advantages and accuracy of sonohysterography by comparing its results to hysterosalpingography and laparoscopic chromotubation, in the diagnosis of tubal factor of female infertility.

Keywords:

Saline infusion sonohysterography, Hysterosalpingography, Laparoscopic chromotubation, Tubal factor of infertility

INTRODUCTION

INTRODUCTION

Approximately 15% of married couples are infertile, and in 32% of these couples the dysfunction is associated with the female partner. The most common female abnormalities are related to fallopian tube patency (40%) or ovulation (40%) (*Speroff and Fritz, 2005*).

Determining the presence or absence of tubal occlusion has both prognostic and therapeutic importance. The standard diagnostic evaluation of fallopian tube patency has included laparoscopic dye perturbation with or without hysteroscopy, hysterosalpingography, and sonohysterosalpingography (*Speroff and Fritz, 2005*).

Numerous methods have been developed for evaluation of tubal factors. Hysterosalpingography (HSG) and laparoscopic chromoperturbation are widely employed. Every method has its own merit and demerit (*Lall et al., 2007*).

Laparoscopy with the chromoperturbation (dye test) is the procedure of choice for evaluation of the tubal patency. Its necessity as a routine diagnostic procedure for infertility has been questioned (*Hamed et al., 2009*).

Laparoscopic dye perturbation, the current standard, involves injecting aqueous dye into the uterus and depicting spill from the distal fallopian tube into the pelvic cavity. This technique only indicates patency of the entire hysterosalpingal complex and does not provide information concerning the location of the potential abnormality, however, this method is invasive, costly and carries the usual risk that accompany laparoscopic procedures (*Bosteels et al., 2007*).

Laparoscopy is the best technique for diagnosing tubal and peritoneal disease. It allows visualization of all pelvic organs and permits detection of uterine fibroid, peritubal and periovarian adhesions, and pelvic endometriosis. Laparoscopy also allows careful assessment of the external architecture of the tubes and in particular the visualization of the fimbria. But it has the disadvantage of being an invasive procedure

Hysterosalpingography is an alternative to laparoscopic dye pertubation with hysteroscopy and can depict the presence and location of a uterine or fallopian tube abnormality, however, dynamic hysterosalpingography relies on ionizing radiation and may be complicated by, in order of decreasing frequency, pain, bleeding, intravasation of contrast agent, pelvic infection, and/or reaction to contrast agent (*Hunt and Siegl, 1990*).

Hysterosalpingography is an easier, safer, and more economical method for the evaluation of the endometrial and tubal condition. The procedure is associated with pain, however, mostly due to the insertion of instruments through the cervical canal (*Hamed et al., 2009*).

Hysterosalpingography has certain disadvantages. It detects only the endotubal pathology. Sometimes it causes allergic manifestation and reaction to the drug used. Known hydrosalpinx, acute PID or cervicitis, and adnexal mass palpable on bimanual examination all constitute Contraindication to HSG. It also exposes women to radiation. However, HSG has the advantage of detecting the site of blockage, isthmica nodosa, benign polyps, and tubal endometriosis (*Lall et al., 2007*).

When comparing HSG and laparoscopy, we should keep in mind that both procedures provide more information than the condition of the fallopian tubes alone. Whereas HSG provides information on the status of the intrauterine cavity, laparoscopy allows inspection of the intra-abdominal cavity, for instance to see if endometriosis is present. The latter has become especially important, since it was recently shown that laparoscopic treatment of endometriosis improves fertility Prospects by 13%. Thus, in the final decision on the clinical value of HSG and laparoscopy, one should consider issues other than solely tubal pathology. However, such an analysis is beyond the scope of this study. When focusing on tubal pathology, we conclude that laparoscopy should not be considered as perfect in the diagnosis of tubal pathology. For clinical practice, we recommend that laparoscopy can be postponed until at least 10 months after a normal or one-sided abnormal HSG, whereas laparoscopy provides useful information immediately after a two-sided (*Mol et al., 1999*).

Sonohysterography is an ultrasound-monitored procedure similar to a hysterosalpingogram, and is used to detect abnormalities of the uterus and fallopian tubes or tubal blockage. The indications for its use overlap with those for a hysteroqram. Under these circumstances, it no doubt offers a safer alternative to the conventional hysterosalpingogram and has been recently investigated as an effective comparable alternative to hysterosalpingography and laparoscopy (*Berridge and Winte, 2004*).

AIM OF THE WORK

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The aim of the work is to compare the value of sonohysterography, hysterosalpingography and diagnostic laparoscopy in assessment of tubal patency in cases of female infertility.

REVIEW OF LITERATURE