

INCIDENCE OF THERAPEUTIC OPENING OF FALLOPIAN TUBES DURING HYSTEROSALPINGOGRAPHY

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A study of 20 married primarily infertile female patients, aged 22-30 years, without any other constitutional disease and with husbands having normal sperm counts, to determine the incidence of therapeutic opening of the fallopian tubes during hysterosalpingography. Hysterosalpingography was performed using water soluble contrast medium with an improved method of upto 3 consecutive injections during a single examination. In these patient's fallopian tubes opened up on repeated injections of 10-20 ml of contrast medium. 20 patients were followed-up to monitor the incidence of conception. 25% conceived within the first three months of the procedure. 10% conceived in six months' time. 35% of these started other medications, hence were excluded from the study. In 30% opening of the fallopian failed to yield any benefit. Study brings to light the therapeutic advantages of hysterosalpingography in addition to its known diagnostic value.

KEY WORDS: Hysterosalpingography, Primary infertility, Radiology of female genital tract.

INTRODUCTION

Hysterosalpingography^{1,5} is a contrast study of the female genital tract, including cervix, uterus and fallopian tubes. A water soluble or oil-based contrast medium is injected through a cervical cannula and radiographs are taken at variable intervals⁷. Whereas many other abnormalities of the female genital tract are very well demonstrated by this procedure², the most common indication for this investigation is infertility⁵. This investigation is in fact an advance on the previously used method of insufflation of the uterus and fallopian tubes by CO₂ followed by seeing the escape of this gas into the peritoneal cavity (Rubin 1920). In this study an improved method of using repeated injections has been suggested, unlike the previous methods described in the literature.

MATERIALS & METHODS

Hysterosalpingography is performed during 4th & 10th day of a regular menstrual cycle. This time limit is to avoid inadvertent spoilage of a normal pregnancy.

Hysterosalpingography should not be performed when acute pelvic infection is suspected in order to avoid the dissemination of sepsis⁹.

This study was conducted from October 1989 to September 1990. 20 patients were selected between the ages of 22 to 30 years, all of whom were suffering from primary infertility. Their husbands had a normal sperm count and had no sexual dysfunction. The patients had no other constitutional illnesses except infertility. All of them had normal pelvic sonograms and had been married for 2 to 10 years. Their socio-economic status was from poor to mediocre class. A thorough interview of patients and their spouses was taken to extract the detailed history.

The patients came to the radiology department after having a normal breakfast. They were given a sedative such as Diazepam 10 mg 1M (in apprehensive patients) & 2 tablets of Panadol 500mg one hour before the procedure was performed, to alleviate the pain, usually experienced by the patient at the time of uterine or fallopian filling by the contrast medium. Immediately prior to commencing the procedure, the patient is asked to empty her bladder because due to its close proximity, it interferes with normal imaging of the uterus and fallopian tubes. Patients lay supine on the x-ray table in lithotomy position while the Gynecologist injected the contrast through a cannula with corrugated olive (Leech- Wilkinson cannula). Cervix is stabilized by a holding forceps (Vulsellum forceps). It is imperative that olive of the cannula fits tightly

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into the cervix so that no spillage of contrast occurs outside the cervical canal.

10-20 ml water soluble contrast (Urografin, Conray or Hypaque) was injected. We screened the procedure radiographically while the injection was given. After 1st injection, a similar quantity of aqueous contrast was given again. In this series we have employed upto three repeated injections where tubes were found to be blocked in the earlier screenings⁸, provided no other structural deformities were suspected, such as congenital malformations, infantile uterus etc. In this series we have found that unlike the previous methods described in literature, 2nd or third injection does open up the fallopian tubes with free intra-peritoneal spillage in a significant number of patients. On the conclusion of the procedure it was ascertained that the patient was not in serious discomfort nor had significant bleeding. In this series of 20 patients, not a single case of any serious complication occurred.

Some apprehension about the injection or procedure were expressed only by a couple of them, which too were relieved simply by reassurance. Patients were followed-up through their addresses and a close contact was maintained with them for a period of one year, initially at one-month interval for three months & subsequently at three monthly intervals.

REPRESENTATIVE CASE REPORT

A patient named Bushra w/o Akhtar Ali, aged 25 years, resident of Gujranwala, married for 4 years & issueless. Despite their keen desire she could not conceive. Two months prior to the hysterosalpingography, the couple consulted a local general practitioner for the first time, who did not prescribe any medication but advised a few basic tests including CE, blood & urine and the semen analysis of husband. No remarkable abnormality was found in any of the laboratory investigations. Then they consulted a gynecologist, who after general physical examination and ultrasonography found no evidence of physical disease and advised hysterosalpingography.

Repeat sonogram was performed which did not reveal any abnormality. Hysterosalpingography was performed by our usual method, fallopian tubes were not visualized on the 1st injection of about 15 ml contrast medium, on the 2nd injection of similar quantity

both the tubes were outlined, but spill was seen only on the left side. Another injection was again given, which finally resulted in the opening of the right tube as well. The whole procedure was done under fluoroscopy.

The patient was followed-up for two months, when she got pregnant. Meanwhile she did not take any medication nor she resorted to any other form of remedy after her hysterosalpingography was done.

RESULTS & CONCLUSIONS

Out of this series of 20 patients 5 (25%) became pregnant almost immediately (i.e. within 3 months) after the hysterosalpingography, and delivered full term normal healthy babies. Two (10%) of them conceived six months after the procedure without any other medication or treatment. Seven (35%) resorted to other medications & methods, therefore were excluded from the study. The rest of the patients whose number was six (30%), were still infertile even one year after the procedure.

DISCUSSION

In the radiological literature it has been established that hysterosalpingography has a definitive therapeutic role in restoring fertility³, most probably by opening of the blocked fallopian tubes, due to mechanical stretching⁶. However, the exact mechanism which plays this fascinating role is not yet clearly understood. Even in old times it has been reported that insufflation also played a similar role in restoring the patency of tubes. Some researchers⁴ have emphasized on the use of oily contrast medium to achieve maximum therapeutic value.

It is recommended that hysterosalpingography should be routinely done in cases of primary infertility, where no other apparent physical pathology is present⁵. It not only has an immense diagnostic value but also, in a quite significant number of such patients, carries a definitive therapeutic benefit. We are also considering to study the therapeutic effects of this procedure in cases of secondary infertility.

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HYSTEROSALPINGOGRAPHY

Film after 1st injection, showing contrast filled uterus, neither of the tubes is seen.



Film after 2nd injection showing both the tubes, no spill.



Film taken after third injection Spill is seen from die right tube.



Film after 1st injection, showing contrast filled uterus, neither of the tubes are seen.



Film after 2nd injection showing both the tubes, but free spill on left side.



Film after 1st injection, showing contrast, filled uterus, & left fallopian tube with spill.



Film after 2nd
injection showing
showing both the
tubes, bilateral free spill.

