A comparative assessment of Sonosalpingography (SSG) and Diagnostic laparoscopy for determination of tubal patency in cases of primary and secondary subfertility

KEY WORDS: subfertility, tubal patency, saline infusion, sonosalpingography, diagnostic laparoscopy, chromopertubation, tubal factors of subfertility.

ABSTRACT:

TITLE OF THE STUDY:

A comparative assessment of Sonosalpingography (SSG) and Diagnostic laparoscopy for determination of tubal patency in cases of primary and secondary subfertility in women attending Gynaec OP in KMCH.

Introduction:

- Tuboperitoneal factors are responsible for about 30-40% of female subfertility. The incidence of tubal disease in subfertility varies from country to country. In India it has been estimated to be about 40%. The prevalence of pelvic inflammatory disease, genital tract tuberculosis, and chronic infection is quite common in our country and hence the incidence of tubal factor in subfertile women is high.

TYPE OF STUDY: Cross sectional study

OBJECTIVE:

Primary objective:

To compare the accuracy of two methods of assessment of tubal patency in cases of primary and secondary subfertility.

Secondary objective:
To find out whether Sonosalpingography, which is a less invasive method, can be used for assessment of tubal factor in cases of primary and secondary subfertility initially instead of Diagnostic laparoscopy with chromopertubation which is associated with significant morbidity and even some mortality.

**MATERIALS AND METHODS:**

**INCLUSION CRITERIA:**

All patients with primary/secondary subfertility attending gynaec OPD in the age group of 20 to 40 years, not with below mentioned exclusion criteria.

**EXCLUSION CRITERIA:**

- All established cases of hydrosalpinx as the tubal flow may give a false impression of tubal patency in SSG.
- Pregnancy and PID
- All medical contraindications for Diagnostic laparoscopy

**Method:**

The study is conducted in the Dept. of Obstetrics and Gynaecology, Govt. KMCH among women with primary/secondary subfertility attending Gynaec OP. After getting informed consent for the study, patients were evaluated by

- History taking
- General examination
- Pelvic examination.

- SSG is done on 7th or 8th day of the menstrual cycle, in the USG room of Gynaec OPD premises.
An informed consent is taken. A transvaginal ultrasound is performed prior to SIS to look for any endometrial polyp and presence of fluid in the pouch of douglas (POD). The vulva and vagina were cleaned with antiseptic solution. Sims speculum is introduced and the anterior lip of cervix is held with vulsellum. A sterile 5F paediatric foleys catheter is inserted into the uterine cavity. The catheter is prefilled with saline prior to insertion to minimise artefact. The catheter is repositioned so as to snugly fit into the cervical canal to prevent the back flow of saline. The speculum is removed and continuous intravenous drip of normal saline is connected to the catheter. Once adequate distension of uterine cavity is achieved, the cavity is evaluated for presence of any abnormality. Presence of fluid in POD after SIS which is previously absent on ultrasonography is taken as a sign of tubal patency. At the end of the procedure retrograde leakage, pain and time taken for the procedure are also noted.

Diagnostic laparoscopy with chromopertubation was performed under general anesthesia on the following day to evaluate pelvic pathology and tubal patency. This was performed by methylene blue dye injection through a cannula. If the methylene blue dye could pass through the distal end of fimbria at least one side, it represented tubal patency (positive test). Whereas the dye could not pass through the distal end of both fimbriae, it represented tubal occlusion (negative test).

The data are subsequently analyzed to compare the results of the two procedures and to find out the accuracy of Sonosalpingography in comparison with the Diagnostic laparoscopy.

**BENEFITS OF THE STUDY:**

Evaluates the efficacy of SSG as an alternative to Diagnostic laparoscopy in assessment of tubal patency in patients with primary/secondary subfertility.

SSG offers a much less invasive method of diagnosing tubal pathology while maintaining a high sensitivity and specificity similar to that of laparoscopic chromopertubation.
Moreover SSG can be done for patients who have bronchial asthma or cardiac problems and are temporarily unfit for Surgery.