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INTRAUTERINE INSEMINATION (IUI) PREGNANCY RATE AFTER HYSTEROSALPINGOGRAPHY (HSG)

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ABSTRACT

Objective: To see the pregnancy rate through IUI after doing HSG. **Methods**: 40 women with unexplained infertility stimulated for ovulation induction then 20 of them was undergo IUI (GP A) and the other 20 we do for them HSG the cycle before IUI cycle (GP B) then we evaluate pregnancy rate for the two groups. **Results**: Pregnancy rate for Gp A was 15% and for Gp B was 25% which is obviously higher in that gp. **Conclusion**: Pregnancy rate by the aid of IUI can be improved by doing HSG the cycle before IUI.

INTRODUCTION

Intrauterine insemination (IUI) is often also referred to as artificial insemination, and had created millions of healthy babies for previously infertility couples. When undergoing an IUI procedure, the male's sperm is injected into the female's uterus directly by the physician.

This procedure is popular because it is cost-effective, and less invasive than some other treatments. Ovulation induction by a medication, such as clomiphene citrate or Gonadotropins, before IUI.[1]

IUI as we said is a relatively noninvasive and less-expensive fertility treatment compared to more invasive and costly treatments such as in vitro fertilization (IVF), therefore in some cases, couples may begin with IUI before progressing to IVF if needed. IUI may be the only treatment needed to achieve pregnancy.

IUI can be performed using a male partner's sperm. IUI is most commonly used in these situations:

-Unexplained infertility
-Mild endometriosis
-Issues with the cervix or cervical mucus
-Low sperm count
-Decreased sperm motility
-Issues with ejaculation or erection

IUI isn't effective in the following scenarios:
-Women with moderate to severe endometriosis.
-Women who have had both fallopian tubes removed or have both fallopian tubes blocked.
-Women with severe fallopian tube disease.
-Women who have had multiple pelvic infections.
-Husband with severe oligospermia or azospermia.

In situations where IUI isn't recommended, another treatment such as IVF may be helpful.[2]

Chances of success with IUI depends on lots of different things, including:

- The cause of infertility.
- The woman's age.
- The man's sperm count and sperm quality (using fresh sperm leads to higher conception rates than using frozen sperm).
- Whether or not fertility medicines are used to stimulate ovulation (this can increase your chances of success.[3]

Evaluation of tubal disease is an integral part of the infertility workup in many centers offering fertility treatment around the world. Although laparoscopic evaluation of fallopian tubes using methylene blue is considered the gold standard, tubal patency is most often evaluated with HSG.[4]

HSG is a minimally invasive and low-cost outpatient procedure with a reported sensitivity and specificity for detecting tubal pathology of 65% and 83%, respectively.[5]

The relatively low sensitivity of HSG with respect to its specificity is due to its inability to differentiate between transient and pathological tubal obstructions. Another drawback of HSG is that even if tubal patency is demonstrated, information about the function of the tube cannot be obtained.

In patients with hysterosalpingographic findings of a bilateral tubal obstruction, the patient is either offered a laparoscopic evaluation for tubal patency and pelvic pathology and subsequent reconstructive surgery or is referred directly for in vitro fertilisation (IVF) treatment.

For those with unilateral tubal patency laparoscopic surgery, direct referral of the patient for IVF or ovulation induction (OI) and intrauterine insemination (IUI) has been suggested as an acceptable approach.[6]

HSG is a special type of x-ray examination of the fallopian tubes and uterus. The entire test takes about 45 minutes.

During the procedure, a thin catheter is inserted through the cervix into the uterus, and a special radio-opaque contrast material dye is injected. The dye allows the shape of the uterus and fallopian tubes to be seen. The progress of the dye is followed through fluoroscopic x-ray to see how it moves through the reproductive system.

If there is no blockage, the dye should flow freely through the uterus and fallopian tubes. If the dye is stopped at any point, it may indicate that a tubal blockage is present.[7]

METHODS

This retrospective study which was done at Baghdad Specialized Fertility Center from the period of January to December 2017, this study analyzed data of 40 infertile couples with unexplained infertility for a period of 2 years and above, which were undergo IUI.

Infertile couple were evaluated by taking history, general examination and investigation including hormonal assay and seminal fluid analysis and radiological studies to find the cause of infertility.

They are subdivided to 2 gps
Gp A 20 females entered IUI cycle.
Gp B 20 females entered IUI cycles and they did HSG in the previous cycle to IUI.

Ovuation induction done by clomiphene citrate alone or clomiphene citrate and gonadotropins.

Follicular growth and endometrial maturation was monitored by transvaginal ultrasound then ovulation was triggered by human chorionic gonadotropin (HCG) dose between 6500 and 10000 IU.

IUI was done 36 hours following HCG.

Semen samples for IUI were collected by masturbation into a sterile wide mouth container after 3 days of sexual abstinence.

After liquefaction, semen samples were evaluated using phase contrast microscope. Assessment of semen parameters included sperm concentration per milliliter, percentage of sperm motility and sperm morphology. The spermatozoa were prepared by the conventional swim-up technique.

Procedure

The speculum (Cusco's) is gently inserted in the vagina to expose the cervix. The cervix was gently wiped with sterile gauze and normal saline. The insemination cannula or the IUI catheter was attached to the 1 ml syringe containing the processed sample and the cannula was then gently introduced through the cervical canal.

The sperm fraction was then gently expelled and the cannula was gently withdrawn. The patient remained in supine position for 30 min after the insemination, luteal support was done by vaginal progesterone gel (crinone) once daily for 14 days.

Pregnancy test was performed if next mensus was delayed for more than 3 days or by the 14 after doing the procedure. Clinical pregnancy was confirmed by the presence of an intrauterine gestational sac by transvaginal ultrasonography.

RESULTS

A total of 40 patients of unexplained infertility were assigned to two different groups:

Group A (n =20) IUI done with no HSG during the previous cycle.

Group B (n= 20). IUI done with HSG done during the previous cycle and it was normal.

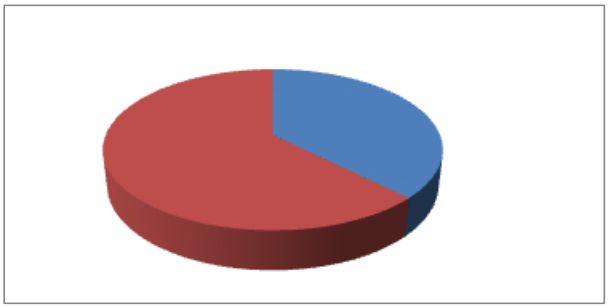
Table 1: Study groups.

Gp A	20
Gp B	20

The clinical pregnancy rates are summarized in Table 2.

Table 2: Pregnancy rate for the 2 Gps.

Gp	No of patients	No of pregnant	percentage
Gp A	20	3	15%
Gp B	20	5	25%



Pregnancy rate was 15% for the 1st gp and 25% for the 2nd gp, so by observation of this result we found that HSG is of benefit and can elevate pregnancy rate if done before IUI.

DISCUSSION

Unexplained infertility was considered ideal since in the absence of female and male pathology, the impact of doing HSG can be studied in a better view.

In unexplained infertility, ovarian stimulation and IUI appears to be effective.[8]

In a retrospective analysis, the average IUI pregnancy rate per cycle for unexplained infertility was 18%.[9]

Our present study is also comparable with this.

Other study found that there *was* an increase in pregnancy rates with oil-soluble contrast when compared to no intervention at all.[10]

Other study showed that HSG tests are meant to be diagnostic tools to help doctors understand the problem in a woman. However, the injected ink can clear any blockages within the uterus to make an easier path for the sperm to reach the ovum. Therefore, tubal flushing is definitely worth a shot for couples who are trying to get pregnant.[11]

Pregnancy rates following IUI are varied based on your reasons for needing fertility treatment. Success rates for IUI tend to decrease in women over the age of 40, and in women who have not gotten pregnant after three cycles of IUI.[2]

In our study pregnancy rate after IUI has been evaluated according to doing or not HSG in the previous cycle there was different between the two groups .No other previous study evaluate pregnancy rate with the effect of HSG in the cycle before .

CONCLUSION

Pregnancy rate by the aid of IUI can be improved by doing HSG the cycle before IUI.

Recommendation to do similar study with large no of couples to study Other parameters involved to infertility.

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