IUI

Intrauterine insemination, the process of injecting washed, motile & concentrated sperms into the uterine cavity, is the first choice of assisted conception techniques in the treatment of infertile women with patent fallopian tubes.

This procedure is indicated in male subfertility, ejaculatory failure, cervical factor, ovulatory dysfunction, unexplained subfertility, HIV discordant couples.In severe OAT / azoospermia & genetic diseases like hemophilia donor semen IUI may be indicated.

The absolute prerequisite for IUI is at least one patent fallopian tube & ovulatory status in the woman. The total motile sperm count in the semen should be ideally more than 10 million / ml & never less than 5 million / ml.

Basic investigations before IUI cycle include a detailed clinical history, physical examination, detailed semen analysis, baseline TVS, HSG or laparoscopy, exclusion of major endocrine disorders & tests for sexually transmitted diseases. Informed consent must be obtained.

IUI can be done in a natural cycle or with controlled ovarian stimulation. The latter is preferred so that ovulatory dysfunction can be tackled, number of oocytes can be increased, timing of IUI controlled & overall pregnancy rates increased. Ovarian stimulation is done using ovulogens like clomiphene citrate (maximum of 750 mg/ cycle) or CC with gonadotrophins. The maximum number of mature follicles or follicle > 16 mm should be three or lesser. If>3,the cycle should be cancelled.

Monitoring of IUI cycle starts from basal scan on Day 2 where ovarian cysts, endometriosis, EM polyps etc. are ruled out & ovulation induction done. Thereafter monitoring is mainly by TVS & if necessary serum E2 levels. Serial TVS starts on D9/ D10 & follicle grows by 1-2 mm/day after it has become 10 mm in size. Simultaneously EM thickness, its quality & preferably blood flow

by Doppler is done. When the follicle reaches 18 – 20 mm & EM is trilaminar with good blood subendometrial blood flow, ovulation trigger is given.

If there has been no premature LH surge (which is done by urinary LH monitoring) when HCG is given, ovulation occurs about 36 – 38 hours after the trigger. If there are more number of follicles or if serum E2 >1000 pg/ml,GnRh analogue is given as ovulation trigger.This helps in prevention of OHSS.

Intrauterine insemination is done preferably 36 – 40 hours after the trigger. Double IUI, done twice, 24 hrs& 48 hrs after the trigger, increases the costs but has no significant increase in pregnancy rate.

The semen preparation techniques conventionally used include swim up technique & density gradient method. Care should be taken not to damage the sperm & release of ROS & the collection to insemination time should be less than 90 minutes for better success rates.

Luteal phase support with vaginal micronized progesterone is useful. This is especially useful in downregulated cycles & when short luteal phase has been documented earlier.

Complications of IUI include OHSS (especially when gonadotrophins are used), multiple order pregnancies (CC 7 -10 %, gonadotrophins 25 %).Repeated IUI can also cause cervical scarring, intrauterine adhesions. Prolonged (>12 cycles) usage of CC has been shown to increase the risk of ovarian cancer. Risk of ectopic pregnancy is increased in IUI especially if there is tubal disease upto 20 %.

IUI success varies from 10 -40 % in cumulative cycles. Best success rates are seen in the first 3 cycles. Optimum endometrial milieu, successful ovulation with precise timing of insemination & sperms with progressive motility & optimum numbers dictate the success rates in IUI.

Dr.T.P.Kanagu