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Editorial

INTRAUTERINE INSEMINATION

Although therapeutic introduction of semen in the vagina or cervix as a treatment for infertility is practiced since long, intrnuterine injection of sperms is just three decades old. Yet, it is already an established mode of assisting reproduction in selected infertile couples. Basically, it consists of precise, painless, atraumatic and useptic deposition of pretreated sperms near the uterine fundus at the time of anticipated ovulation.

The cervical canal plays a unique role in human reproduction. Besides offering a friendly abode to the sperms deposited in the hostile vaginal milieu it filters out subfertile sperms, stores sperms for a slow and sustained release into the uterine cavity and aids in capacitation of sperms. Since intrauterine insemination (IUI) bypasses the cervix, the functions of the cervix have to be carried out by suitably treating the sperms in the laboratory. This laboratory pretreatment of sperms consists of sperm washing, filtration through human serum albumin, utilising sperm migration or sperm rise technique and employing preincubation for in-vitro capacitation. Thus, debris and agglutinated, dead and subfertile sperms are removed, seminal plasma contained prostaglandins and antisperm antibodies is eliminated, viscocity is altered favourably and percentage of forward progressing sperms is markedly increased. In other words the fertilising potential of the sperms is remarkable enhanced. Untreated sperms should never be used for IUI for fear of cramping due to postaglandins and of infection.

The pretreated sperms are injected aseptically in the upper part of the uterine fundus on the day of expected ovulation as judged by serially using any two of the following methods - BBT, cervical mucous

tudies, vaginal cytology, RIA of estradiol nd LH and sonography. To prevent rauma to cervical epithelium and enometrium soft nonmetal catheters are sed for sperm injection. Pediatric feeding atheter No.7, teflot IV catheter No.16 or .8, 18 gauge needle inserted in a find vinyl ubing moulded with a guide wire, special levice designed by Meelar and Tomcat atheter used in IVF are used by different vorkers. Special care and skill are needed n handling acutely flexed uterus and stensed cervix. Some workers advise removal f cervical mucus, especially if it is hostile nd or contains antibodies, prior to insertion of the catheter. But most of the workrs do not consider it necessary. About 0.5 nl of the sperm is usually deposited in the terus.

Since IUI bypasses the cervix, infertility due to cervical factors like absent ervical mucus following conisation or mputation of the cervix, poor PCT and ervical stenosis is if its obvious indication. And so is male infertility resulting or oligospermia, poor sperm motility, high eminal viscocity, retrograde ejaculation tc. Other indications are immunological nfertility and unexplained infertility. The are woman who is allergic to seminal lasma needs IUI. Use of donor sperm ecessitates screening for AIDS at the ime of semen collection and again after 3 nonths and freezing of the sperms during he interval. Use of frozen sperm - donor perm or-husband's sperm frozen before asectomy - needs sperm wash and hence UI.

IUI has hardly any significant comlications. If properly carried out with erfect asepsis, infection should not be a roblem. Prophylactic use of antibodies, given to the patient or added to the sperm, is not necessary. Uterine cramps may result if large volume of semen is deposited or unwashed sperm is used. Normally, only a few thousand sperms reach the peritoneal cavity while in IUI much larger number rreaches the peritoneum. It was feared that this would cause increase in sperm agglutination titres. But this is not proved to happen.

Pregnancy rates following IUI depend on the indication. Best results of 20% to 60% pregnancies are seen in cases of cervical infertility while 22 to 33% and 30% pregnancies are reported in immunologic infertility and unexplained infertility respectively. Oddly enough results are rather poor in male infertility with reported pregnancy rates ranging from 10 to 25%. While considering the pregnancy rates one must remember that treatment independent pregnancies can and do occur except in cases of azoospermia. Attempts are being made to improve the pregnancy rates by resorting to two inseminations in a cycle and inducing multiple ovulations. The mean duration of treatment with IUI needed to achieve pregnancy is 3.3 cycles while few patients conceive after 5 cycles. Lastly an abortion rate of 25% (compared to 15% in normal population) is reported in pregnancies following IUI. This higher abortion rate may be related to other factors like corpus luteum deficiency contributing to the couples infertility and is also seen in AIH.

IUI, though expensive, is ideal treatment for certain cases of infertility and is reasonably effective if carried out meticulously. It is a valuable and indispensible tool in the management of infertility.

— Mahendra N. Parikh