BASIC INFORMATION

DESCRIPTION

Deciding what to do, if anything, when a fertility evaluation is complete may not be easy. Assuming these problems are treatable (and not all of them are), there is a bewildering array of choices, especially for women, and no guarantee that any of them will work. So it is that specialists in this field speak of "maximizing fertility potential" rather than "curing infertility."

FERTILITY DRUGS

- When blood and urine tests of an infertility workup suggest some sort of hormone imbalance in one or both partners, corrective therapy with so-called fertility drugs is frequently prescribed. The most popular of these drugs are Clomid and Serophene (both are clomiphene citrate in tablet form) which act on the hypothalamus, and Pergonal (human menopausal gonadotropin), which acts on the pituitary gland. A newer drug to treat infertility is Humegon which is the equivalent of generic Pergonal.
- Because these powerful drugs have a wide range of side effects, patients should always discuss the pros and cons of their use with the physician in advance. Clomid and Serophene, for example, can prolong the menstrual cycle and make a woman mistakenly think she has conceived. Moreover, there is a risk of multiple births with some fertility drugs. Even if the couple would welcome several babies, multiple births can complicate pregnancy and delivery and endanger infant survival.

SURGERY IN THE MALE

- Many men have a varicocele, a collection of swollen veins in the scrotum that often looks and feels like a bag of worms but may be less obvious. Some men with a varicocele easily sire children and so are clearly fertile. For those who seemingly are not and whose sperm are sluggish, surgical repair of the varicocele may better their chances of fatherhood. However, there is some debate about when the operation is appropriate. It may not be recommended unless other reasons for infertility are not found.
- Another male infertility problem often treated by surgery is damage to the vas deferens, through which sperm must pass for ejaculation. A common cause of such damage is vasectomy (male sterilization). Though it should be considered irreversible, some men later wish to have it reversed. This is sometimes possible through microsurgery. Other candidates for such surgery are men whose vas deferens have been blocked by scar tissue caused by earlier unrelated surgery, a sexually transmitted disease or other infection.
- Microsurgery is not a cure-all. Men with extensive damage to these structures, and many with limited damage, may not be able to father a child, despite the operation's apparent success.

SURGERY IN THE FEMALE

- A sterilization procedure for women, tubal ligation, involves tying, cutting or burning the fallopian tubes and thereby scarring them. Damage to the tubes by earlier unrelated surgery or infection–again, sometimes sexually transmitted–can also cause female infertility. In both cases, corrective surgery is sometimes, but not always, a possibility. Nor do seemingly successful surgical repairs of damaged fallopian tubes necessarily mean that any eggs fertilized in them will be able to make their way to the uterus. Sometimes, an ectopic (literally, out-of-place) pregnancy occurs, in which the fertilized egg gets trapped in the tube where it cannot survive when it grows. Any woman can have an ectopic pregnancy, but those whose tubes have been damaged are at greatest risk, even after corrective surgery. Although surgical repair of the damage lowers the risk of having an ectopic pregnancy, it remains higher than for women with tubes that have never been damaged.
- Endometriosis, a common disorder in women, also can cause or contribute to infertility when small pieces of the uterine lining escape and take up residence on the surfaces of organs in the abdominal cavity. Inflammation and consequent chronic irritation from the misplaced tissue can result in significant internal scarring of the ovaries, fallopian tubes, inner or outer walls of the uterus, or other nearby structures, so that the woman cannot conceive. Both surgery and drug treatments (sometimes combined) are used to treat endometriosis. Success rates in treating this disorder are in the 50 to 60 percent range, and depend on several factors, including the patient's age and disease severity.

ARTIFICIAL INSEMINATION

- Some infertility treatments attempt to get a pregnancy started without intercourse. Artificial insemination, the oldest of these treatments, has been used for more than a century. A hollow, flexible instrument–called a catheter–is used to place the donor's washed semen into the woman's uterus or vaginal canal.
- All inseminations are performed around the time the woman should be ovulating, either naturally or after priming with a fertility drug. The semen may be from the woman's husband ("artificial insemination-husband," or AIH) or from an anonymous donor ("artificial insemination-donor," or AID).
- A recent advance for AIHs is for men who–because of spinal cord injury, cancer surgery, or other reasons–can't ejaculate normally. Electrical stimulation can be used to help them overcome this problem and the ejaculate is collected and inseminated in their wives.

INFERTILITY TREATMENTS

(Sheet 2 of 2)

• Fresh semen was once used for all inseminations and still is, as a rule, for AIHs, but because of concern about AIDS and other sexually transmitted infections, it is now recommended that anonymous donor semen be frozen for at least 180 days before use. The delay allows the donor to be retested for possible occult (undiagnosed) infection at the time of the donation.

• Some women become pregnant with one insemination. More often, repeat inseminations over the course of four to five menstrual cycles are required. And there are women who after a year or more of periodic insemination still do not conceive. Depending on the nature of the couple's infertility, studies show success rates between 50 and 65 percent.

IN VITRO FERTILIZATION

• Much newer than artificial insemination is in vitro fertilization (IVF), an option when various other treatments have failed or are inappropriate. It can be used, for example, in women who have a uterus and at least one ovary, but whose fallopian tubes are damaged, missing or diseased.

• The woman is prepared for this procedure with fertility drugs that ready several of her eggs for fertilization and the lining of her uterus to support a pregnancy. The eggs are then taken from her by one of several methods and placed in a laboratory dish where they are incubated with her partner's sperm for about 18 hours.

• Assuming that some eggs are fertilized and continue to develop normally for two days or so, one or more (usually several, for insurance) are transferred by instrument into the woman's uterus. If at least one implants there within about 2 weeks, the woman is pregnant. Implantation can often be determined at that time by a blood test. However, this chemical assessment is sometimes misleading. Therefore, a conclusive diagnosis cannot be made until a week or more has passed when–if the pregnancy is real, rather than just chemical–a sac will have formed around the embryo that can be detected by ultrasound. As with other infertility treatments, couples undergoing IVF should recognize that positive outcomes are never guaranteed.

GAMATE INTRAFALLOPIAN TRANSFER (GIFT) OR ZYGOTE INTRAFALLOPIAN TRANSFER (ZIFT)

• GIFT is similar to IVF except that sperm and eggs (gamates) are collected and immediately inserted into one or both fallopian tubes, where conception occurs.

• With ZIFT, instead of placing the sperm and egg immediately into the fallopian tubes, they will be placed into an incubator for 24 hours. Then the fertilized eggs are put into the fallopian tubes. Zygote is the term for the cell produced by fertilization.

• These procedures require that the woman have at least one healthy fallopian tube.

• Success rate for either GIFT or ZIFT is around 25%.

INTRACYTOPLASMIC SPERM INJECTION (ICSI)

Can be used in male infertility problems. A single sperm is taken from the male and injected into a single egg from the female; the resulting zygote is then transferred into the uterus. The success rate is about 24%.

TUBAL OVUM TRANSFER

The woman's eggs are retrieved and put into the fallopian tube close to where it opens into the uterus. The couple then has intercourse or the woman is artificially inseminated. Since this method allows the eggs to be placed beyond the parts of the tube that may be damaged or blocked, it can often be used when GIFT or ZIFT cannot.

EMBRYO LAVAGE

A fertile female donor provides the eggs. At the proper time in her menstrual cycle, she is artificially inseminated. If the donor conceives, the early embryo is washed out of her reproductive tract and transferred to the uterus or a fallopian tube of the woman who is to bear the child. The recipient, meanwhile, has been hormonally treated with fertility drugs to make her uterus receptive to the embryo. This technique allows women who have no eggs of their own to become pregnant–provided they have a uterus.

SURROGATE MOTHERHOOD

• This is an option for women who do not respond to ovulation induction therapies or who have no ovaries or lack a uterus. It also may be an option for those for whom pregnancy might be life threatening or have good reason to worry that they might transmit a serious genetic disorder to the child.

• A healthy, fertile woman agrees to be artificially inseminated and also agrees to let the infertile couple adopt the baby. If the female member of the infertile couple can safely provide eggs of her own, these can be fertilized by the IVF process and then transferred to the surrogate woman who carries the fetus to term. In that case, the surrogate mother takes fertility drugs to prepare her uterus. Surrogate motherhood is controversial and has resulted in court cases about custody and parentage, which is rare with other forms of fertility treatment.

NOTIFY OUR OFFICE IF

You or a family member is interested in additional information about infertility treatments.

Note: This information is adapted in part from the FDA Consumer (the magazine of the Food and Drug Administration).