



FERTILITY FACT SHEET

San Ramon / Orinda / San Jose

SIDE EFFECTS OF GONADOTROPINS

Gonal-F®, Follistim®, Repronex®, Bravelle® and Menopur® are a class of drugs known as Gonadotropins used to induce ovulation. These medications contain the hormone follicle stimulating hormone (FSH) and some also contain luteinizing hormone (LH). They are prescribed for women who do not ovulate on their own or for women who need multiple eggs for insemination or assisted reproductive technology (ART) cycles such as IVF. Often times these cycles are referred to as injectable/IUI cycles, Ovulation Induction (OI) cycles, or Controlled Ovarian Hyperstimulation cycles (COH).

Patients that have failed to conceive with oral medication (or who have diminished ovarian reserve) may consider moving onto an injectable/IUI cycle where a greater number of eggs will be matured and insemination will be timed with ovulation. Pregnancy rates from this type of treatment vary based on age, FSH level, and underlying cause of infertility. In general, women less than 40 years with a normal FSH level tend to have success rates from 12-25 percent per month. Tubal issues, severe male factor, and endometriosis tend to be associated with lower success rates. For women that are > 40 years of age and/or have an elevated FSH will success rates between 2-10% per cycle. Miscarriage rates are relatively unchanged from those conceiving without treatment.

Description:

These newer medications can be given as a subcutaneous injection (using a smaller needle and can make it easier for the patient to give her own injections). Gonal-F® and Follistim® are both available as a pre-mixed solution administered using a pen-like delivery system. Repronex® Bravelle® and Menopur® are available in 75 unit vials that need to be mixed before using.

Use:

A typical regimen usually involves 7-12 days of injections during which the physician monitors progress of the patient's cycle with blood tests (indicating blood estrogen levels) and with vaginal ultrasounds.

When these tests indicate that follicular development is appropriate, an injection of human chorionic gonadotropin (hCG) is given. This trigger shot is needed to complete the final maturation of the eggs and to stimulate their release. Ovulation will occur approximately 36 hours after the injection and insemination is timed appropriately. Patients are usually placed on progesterone vaginal capsules starting the night after insemination and through the pregnancy test (and hopefully through the initial pregnancy ultrasounds.)

If a cycle is unsuccessful, many patients will take a month off of medications. If a patient wishes to go straight into another injectable/IUI cycle at the time of the negative pregnancy test, they will need a "baseline" ultrasound to ensure that their ovaries have no leftover cysts from the previous cycle.

Risks:

Gonadotropins cause a temporary enlargement and swelling of the ovaries. Symptoms can include lower abdominal pain, pressure, weight gain, and swelling. These symptoms usually disappear after menstruation if the patient avoids vigorous physical activities and sexual intercourse. If the patient conceives, symptoms may persist, and sometimes worsen in the first 2-4 weeks of pregnancy prior to subsiding.

Ovarian Hyperstimulation (OHSS)

OHSS occurs in approximately 1 to 5 percent of gonadotropin cycles. The chance is increased in women with polycystic ovarian syndrome and when the cycle results in pregnancy. In the most severe form of OHSS women can suffer from blood clots, kidney damage, ovarian twisting (torsion), and large fluid collections in their chest or abdomen. In these cases hospitalization may be required for monitoring. Removing fluid with a needle can quickly help relieve symptoms. Fortunately, the condition is self-limited and resolves in a week or so. The best prevention is to cancel an overly vigorous stimulation cycle. Other prevention techniques include “coasting” until the estrogen levels drops, increasing salt intake (i.e. Gatorade), use of Cabergoline, and using a Lupron trigger shot in place of hCG.

Multiple Gestation

Up to 20 percent of pregnancies resulting from gonadotropins are multiple gestations. This is in stark contrast to the rate of 1 to 2 percent in the general population. While most of these pregnancies are twins, a significant percentage are triplets or higher. High order multiple gestation pregnancy is associated with increased risk of pregnancy loss, premature delivery, infant abnormalities, permanent disabilities, pregnancy induced hypertension, hemorrhage, and other significant maternal complications.

Ectopic (Tubal) Pregnancies

Ectopic pregnancies occur 1-2% of the time in the general population and are slightly increased in gonadotropin cycles to 1-3%. Early pregnancy tests and ultrasound help to determine where pregnancies are located before they become too dangerous. When detected, ectopic pregnancies can generally be treated with medicine or surgery. Combined ectopic and intrauterine pregnancies (heterotrophic pregnancies) can occur with fertility medications and need to be treated with surgery.

Birth Defects

The rate of birth defects after gonadotropin cycles is no higher than in the general population, approximately 4%. Furthermore, children born from gonadotropin cycles are developmentally no different than their peers.

Adnexal Torsion (Ovarian Twisting)

Less than 1% of the time the large, stimulated ovary can twist and cut off its own blood supply. Surgery is required to untwist or, possibly, remove the ovary. Large stimulated ovaries that may move in fluid after ovulation are a risk factor. For this reason, no vigorous exercise that “bounces” the pelvis should be done from day 7 of stimulation until a pregnancy sonogram shows the ovaries have returned to normal size.

Gonadotropins and Ovarian Cancer

The risk of ovarian cancer seems in part related to the number of times a woman ovulates. Infertility increases this risk while birth control pill use decreases it. Controversial data exists that associate ovulation stimulation drugs like gonadotropins to the risk of future ovarian cancer. These drugs have been utilized in clinical medicine for several decades now. Many recent studies disprove any increased risk. Pregnancy and breast feeding reduce cancer risk, especially in women younger than age 35. The best information currently available indicates that the use of gonadotropins do not significantly, if at all, increase a woman’s risk of developing ovarian or other cancers.