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Fertility Program

PATIENT'S FACT SHEET: **GONADOTROPINS**

Gonadotropins are pituitary gland hormones which stimulate ovulation. They are administered by self-injection, and may be recommended to treat your fertility problem for a number of reasons:

1. ovulatory problems not responsive to other drugs
2. luteal phase defect not responsive to clomiphene
3. advanced maternal age/decreased ovarian reserve
4. unexplained infertility, where all the test results are normal

Taking gonadotropins requires knowledge and commitment on the part of the couple being treated. The treatment can be costly, and there are some side effects. But this is often the most effective treatment for the situations listed above. This document will help you to remember and review the information obtained at the consultation with the physician treating your fertility problem.

The expected success rate for this treatment will vary with the situation, but ranges from 20% to 30% per cycle pregnancy rate. The cost of a gonadotropin cycle can be in the range of $3000/cycle, and includes drugs, labs, ultrasound, and physician management. Our office will do an insurance assessment to find out if your treatment will be covered. Be certain to advise us if your insurance changes.

GONADOTROPINS AND MENSTRUAL CYCLE

In a normal menstrual cycle, the drop in hormones at the end of one cycle triggers the pituitary gland to send out follicle stimulating hormone (FSH). This stimulates egg development in the ovaries, initiating the next menstrual cycle.

These ripening follicles in turn secrete estrogen, increasing day by day in the first half of a cycle. When one dominant follicle gets large enough, it will suppress the other follicles at the local level. At the same time, the high level of estrogen tells the pituitary to switch off FSH production and instead triggers a surge of leuteinizing hormone (LH), which makes the follicle release the egg: ovulation!

After ovulation, the lining of the follicle lives on as the corpus luteum, secreting estrogen and progesterone to continue to support the egg and the uterine lining for 12-13 days. A pregnancy will signal the corpus luteum to keep on producing estrogen and progesterone for 13 more weeks, supporting the early pregnancy until the placenta takes over hormone production. If there is no pregnancy, the corpus luteum dies, the estrogen (E2) and progesterone (P4) levels drop, and the next period begins.

Fertility treatment involves the administration of both FSH to stimulate egg ripening, and human chorionic gonadotropin (HCG) – our stand-in for LH – to trigger ovulation. The goal of the gonadotropin cycle will vary. Just a single follicle may be needed to treat anovulation successfully, while in cases of advanced maternal age or unexplained infertility, the goal is to obtain 3-4 ripe follicles, increasing the chances of conception.

SIDE EFFECTS

Side effects of gonadotropins are minimal, and are usually limited to local reactions at the injection site. The information booklet which we will provide you gives more details.

There has been a suggestion from some research that use of fertility drugs correlates with an increased risk of ovarian cancer. The best current knowledge on this issue however is that *not having a pregnancy* can increase ovarian cancer risk because of long years of uninterrupted cycles; this appears to be the risk factor, rather than the injection of hormones. Most experts do not feel that use of fertility drugs increases ovarian cancer risk. And, if the treatment results in a pregnancy, that will tend to lower the woman's risk of ovarian cancer.

WHAT COMPLICATIONS CAN OCCUR DURING A GONADOTROPIN CYCLE?

If too many follicles ripen and are released, multiple pregnancies can occur. Even in carefully monitored cycles, it is NOT possible to totally avoid the risk of multiples in a gonadotropin cycle conception. About 25% of gonadotropin conceptions will result in multiples, usually twins. (A chart in the provided booklet lists the likelihood of other multiples.)

There is a reduction procedure available which can be used to reduce high-order multiples down to 1 or 2 babies. Some couples can accept the possible necessity of having a reduction procedure, others cannot accept it ethically. It is important for you and your partner to decide where your comfort level could be with this possibility and to communicate your feelings on this topic to your physician.

Ovarian hyperstimulation syndrome (OHSS) is an uncommon, but serious complication of a gonadotropin cycle. When it does occur, it is often associated with a large number of egg follicles, generating an unusually high estrogen level. In this condition the ovaries enlarge markedly and fluid accumulates in the abdomen, and sometimes other parts of the body. Hospitalization is sometimes needed. OHSS is serious, but not life threatening if recognized and carefully treated. Its occurrence is lessened by very careful cycle monitoring, and occasionally by stopping a cycle if the E2 levels are too high.

Pregnancies conceived with gonadotropins have no increased risk of miscarriage or fetal anomalies or problems, although fertility patients do have a slightly increased risk of a tubal (ectopic) pregnancy. We will monitor your early pregnancy carefully to make sure it is progressing normally, and plan an early ultrasound at 5-6 weeks of pregnancy (3-4 weeks from conception) to assure that the pregnancy is in the uterus, to check for viability of the fetus, and to check for multiples.

WHAT'S INVOLVED IN A GONADOTROPIN TREATMENT CYCLE?

Gonadotropin use begins with injecting medications that contain FSH, to promote ripening of egg-producing follicles. Generally the woman or her partner will inject the drugs at home in the evenings. The cycle must be carefully monitored for follicle production and estrogen levels. Baseline ultrasound and E2 blood levels are done on day 2 or 3 of the menstrual cycle, counting day 1 as the first day of full flow. We do the ultrasound and blood draws early in the morning (7:30AM onwards) to try to minimize the impact of treatment on the rest of your life.

The meds usually start in the evening of Day 3. Thus you'll need to call us right away when you get your period! We will do periodic ultrasound, and check E2 levels every few days, monitoring follicle development and possible dosage adjustments. By early midcycle, there may be daily morning trips for follicular ultrasound and blood E2 levels.

THE GONADOTROPIN TREATMENT CYCLE, cont.

Once ripe follicles are ready, an injection of HCG is given, triggering ovulation 36-40 hours later. Usually, intrauterine insemination (IUI) is done as part of a gonadotropin treatment cycle, to bypass cervical mucus and improve conception chances. (See our IUI sheet for details.) Progesterone (P4) suppositories are used to support the luteal phase, starting the day after the IUI. (See Progesterone sheet).

A pregnancy test is planned for 2 weeks after the IUI. Please be aware that the lack of menses in itself is not a sure sign of a successful pregnancy. Because you will be using progesterone supplements, your period may not be triggered as normally.

WHAT TO EXPECT DURING TREATMENT

Your visit with the fertility nurse will detail cycle management, drug mixing and injection techniques, and what you can expect in a cycle. Many women will feel some bloating and discomfort in the pelvis in the last week of the cycle, due to the ovarian stimulation. Also, you must be available by phone each afternoon during the follicular stimulation phase, so we can call you with your results, and discuss next steps. A cell phone number can be helpful. We ask that you call us at 577-FERT if you have not heard from us, or if you have questions. This is an important double-check. The phone is staffed until 4 pm on weekdays and 2 PM on weekends.

If the treatment cycle is unsuccessful, we will evaluate the response of the previous cycle to plan therapy for the next cycle attempted. Remember that a 30% success rate per cycle means that 70% of cycles will be unsuccessful. Although it is frustrating to have an unsuccessful cycle, don't give up!

You should be aware that sometimes a "rest cycle" is necessary after an unsuccessful cycle. If the ovary has been significantly stimulated, left-over follicles may be present at the time of your next baseline ultrasound. To treat this, we usually recommend a month on oral contraceptives to put the ovaries back into a "resting" state so we can begin stimulation again.

Infertility and its treatment can be very frustrating and stressful. We urge you to have a visit as a couple with a therapist who is part of our program, or a therapist of your choice. We also recommend RESOLVE as a helpful community support group for fertility patients.

A strong commitment is necessary to be available for appointments and phone calls through out the cycle. Likewise we commit to your treatment by having one of the doctors on our fertility team available every day for cycle management and problem or question phone calls. We run our fertility treatment cycles 7 days a week, 365 days a year.

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