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Infertility Treatments

Introduction:

Infertility affects a strong majority of couples in the United States. By definition, infertility is when a woman under the age of 35 is unable to conceive after a year of trying, or if a woman 35 or older is unable to conceive after trying for six months. Several different reasons can cause infertility in women – blocked fallopian tubes, fibroids, hormone imbalances, low sperm count in men, and many other causes. For assistance in getting pregnant, a woman can see a Reproductive Endocrinologist which is a physician specialist in reproductive systems of both men and women.

The first step in treatment is a prognosis. Being able to identify the reason for infertility will help the specialist determine a source of treatment that will aid a couple to conceive and carry. The first test that is done by most doctors is testing the male sperm count. This is done first because it is an easy diagnosis compared to infertility problems in women. He either he has healthy sperm, active and many, or he has a low sperm count, immotile and few. If he his sperm is considered healthy, the specialist will then begin tests on the woman which can be extensive and expensive. Blood tests is typically the first test ran, and can determine the hormone levels, which is a very common and easy fix for infertility. Other tests include ultrasounds, and microsurgery.

Hormone pills:

 Ovulation induction (hormone pills) ranges in hormones treated. The overall goal of the pills is to allow a woman whose body does not equip the correct environment to conceive, the ability to do so.

 The first medication typically prescribed is Clomiphene (CC). To ovulate, the pituitary gland in a woman must produce the hormones luteinizing hormone (LH) and follicle stimulating hormone (FSH). This synthetic medication stimulates the production of these hormones, and thus stimulates ovulation. Approximately 80% who are unable to ovulate naturally can on this pill, and half of those women will become pregnant. It is taken for five days of each cycle (days 5-9 or 3-7) ranging from 50-200 mg a dose.

 The second medication is called Femara. It, like Clomiphene, blocks the production of estrogen which helps stimulate the production of LH and FSH from the pituitary gland. This will stimulate ovulation. It is previously only used in women with breast cancer, but has almost the same results as with CC. It is not approved by the FDA, and must be discussed with a reproductive specialist about if it is an option for a patient.

 Insulin-Sensitizing Medication, also known as Metformin, is a commonly prescribed medicine for those with diabetes, but is also used for those infertile females who have polycystic ovary syndrome (PCOS). PCOS prevents ovulation and even has difficulty stimulating ovulation when only on CC. It is often paired with CC, to reduce testosterone (which too much of prevents ovulation) while also stimulating the hormones LH and FSH. It is taken at 500-2500 mg daily for a month and throughout the early stages of pregnancy.

 Injectable Gonadotropins is the medication that is not an oral pill that is most commonly used, but it is also more expensive. The treatment cycle is call Controlled Ovarian Hyperstimulation (COH) which includes an HCG “trigger” followed by intercourse or most effectively, artificial insemination. Gonadotropins is a natural hormone that tells the ovaries to produce a mature egg. Typically, a cycle will produce one mature egg that is able to become fertilized, but with these injections, it tells the ovaries to produce more than one mature egg.

With careful monitoring through blood tests and ultrasounds, the reproductive specialist will then give an HCG shot to the patient to stimulate ovulation. In the next 24-36 hours, the patient will either perform intercourse with the partner, or will be artificially inseminated. Most doctors recommend getting artificially inseminated along with having intercourse because it increases the likelihood of conception.

IUI:

 Intrauterine insemination is the process of sperm being washed, processed, concentrated, and then placed inside the uterus of a woman for conception by a specialist. This process is used with women who undergo FSH hormone pills and with women who have a cervical factor causing infertility. If the cervical mucus is too thick or thin, the body’s immune system will send cells to kill the sperm because it will mistake it as harmful bacteria or germs. IUI also is the treatment that helps male infertility. The sperm goes through a process in the laboratory setting where it is concentrated down into the healthy and active sperm that is most capable of successful fertilization.

Surgery:

 Surgery is most commonly used for women whose fallopian tubes are blocked, have fibroids, have endometriosis, or have PCOS. If the fallopian tubes are blocked, the specialist will scrape away the bacteria causing the blockage. The same thing is done for the lining of the uterus (endometrium) with those who suffer from endometriosis. A specialist will go in and remove the fibroids from those who are infertile because of that. These surgeries include hysteroscopy, laparoscopy, and microsurgery.

ART:

 Different forms of Assisted Reproductive Technology (ART) include In Vitro Fertilization (IVF), IVF with ICSI, IVF with egg donation, and traditional and gestational surrogacy. With IVF, the specialist will monitor FSH levels with blood tests and ultrasounds from the hormone pills they are instructed to take. Once mature egg follicles are produced and ready, the specialist will perform an ultrasound guided procedure to retrieve them. The patient will be put under general anesthesia. Once retrieved, the specialist will give the eggs to an embryologist in the lab where they will separate the follicle from the follicular fluid. Then it will be exposed to sperm in a petri dish where fertilization will occur to produce an embryo. It will be incubated for 3-5 days, and then be surgically placed inside the uterus lining of the woman for attachment. IVF with ICSI is like IVF, except instead of letting the sperm naturally fertilize the egg in the petri dish, the sperm is injected directly into the egg. This is typically only used if the male’s sperm count is low. IVF with egg donation is the same process as IVF, but the egg is retrieved from a donor. This is used when the woman is unable to produce a mature follicle. Traditional and gestational surrogacy is when a third-party woman is the carrier of the child. ART is the most expensive form of infertility treatment.

Conclusion:

 As explained at the beginning of this chapter, infertility is very common among couples in the United States. There is still research being conducted to help women and men can conceive, though, because even though there is significant progress in this field of medicine, there are still men and women left unable to conceive a child together. Hormone pills is the most common type of infertility treatment – mostly because hormones are the primary cause of infertility. While still the least invasive and extensive form of treatment, it is still costly. However, it is not as costly as the ART form of treatments. It is important to note that infertility takes a physical and emotional toll on a couple. Emotional distress can cause hormone imbalances in a person which has the potential to counteract the treatments being taken. So, while treatments require time, consistency, and money, it also requires a healthy mental status.

Sources:

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