

Fertility and Dealing with PCOS

Your Healthy News – Fertility Newsletter

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PCOS and Infertility

Polycystic ovarian syndrome (PCOS) is the most common hormonal disorder in women of reproductive age. The name stems from the appearance of multiple small cysts on one or both ovaries. These “cysts” are actually follicles, or small sacs of fluid. Normally, these follicles contain eggs that are released during the menstrual cycle, a process known as ovulation. In PCOS, the follicles do not mature and cannot release eggs to be fertilized. This is called anovulation. Consequently, this can result in irregular menstrual cycles and trouble getting pregnant.

Most women with PCOS have imbalanced androgen and estrogen hormones. Normally-balanced hormones help regulate menstruation, ovulation, and fertility. Women with PCOS usually have low estrogen levels and high androgen levels, causing anovulation and infertility. Low levels of follicle-stimulating hormone (FSH) and excess luteinizing hormone (LH) can also elevate androgen levels and cause anovulation. Insulin resistance and obesity are other common complications in PCOS that can result in anovulation.

Infertility Management

Management of PCOS revolves around treating symptoms and suppressing overproduction of androgen. Lifestyle modifications, pharmacological treatment, and surgery are options to be discussed with your doctor. These can help treat hormonal imbalances, anovulation, and infertility.

Weight loss is recommended for women with PCOS who are overweight. Weight loss improves hormone balance and increases the likelihood for ovulation and pregnancy; as little as 5 – 10% weight loss can normalize ovulation. Strategies involve exercise and diets low in carbohydrates and fat.

Clomiphene is a treatment option that increases FSH levels, leading to ovulation and enhancing chances of pregnancy. Metformin is another option that can be added to clomiphene therapy in PCOS patients with clomiphene resistance. Metformin is commonly used in diabetes management to lower blood sugar levels and increase insulin sensitivity, which can improve hormone balance.

Treatment with gonadotropins (FSH, for example) is another option that releases hormones that stimulate ovarian follicle growth and induce ovulation. While effective, gonadotropin therapy does have several drawbacks. It is expensive, requires rigorous monitoring, and can cause multiple follicles to develop, which can cause multiple pregnancies.

If pharmacologic treatment fails, a procedure called laparoscopic ovarian surgery is an option to be discussed with your doctor. This procedure lowers androgen levels and induces ovulation.

Other Symptoms and Treatment

High androgen levels can cause many unwanted symptoms in PCOS, including hirsutism (excess facial and body hair), acne, and alopecia (hair loss, usually from the scalp).

The key to treating these symptoms is to reduce androgen levels. Oral contraceptives (birth control) are often used to reduce androgen levels. Oral contraceptives are a good option for women who don't wish to conceive and are at low risk for heart complications. Spironolactone, an "anti-androgen" diuretic, is a treatment option often used in combination with oral contraceptives, due to its risk of feminizing a male fetus if pregnancy occurs in a woman using spironolactone treatment alone. Spironolactone can lower blood pressure and increase potassium levels; your doctor can decide what treatment type is best for you.

Overall, PCOS is a common hormonal disorder that many women face. While it is associated with complications, many of these are treatable and reversible.

References:

1. Mayo Clinic. Polycystic ovary syndrome. Available at: <http://www.mayoclinic.com/health/polycystic-ovary-syndrome/DS00423>. Accessed February 25, 2011.
2. Badawy A, Elnashar A. Treatment options for polycystic ovary syndrome. *Int J Women's Health*. 2011; 3:25-35.
3. National Institute of Child Health & Human Development. Polycystic Ovary Syndrome (PCOS). Available at: http://www.nichd.nih.gov/health/topics/Polycystic_Ovary_Syndrome.cfm. Accessed February 25, 2011.