Polycystic Ovarian Syndrome

An estimated 5 to 7 million women in the United States alone suffer with the effects of Polycystic Ovary Syndrome. PCOS is the most common hormonal disorder among women of reproductive age and is a leading cause of infertility. Even worse, the disorder often goes undiagnosed because of its many baffling and seemingly unrelated symptoms. Read more about PCOS and advances in reproductive endocrinology and treatment for PCOS on The Hormone Foundation's web section and related fact sheets.

Polycystic Ovary Syndrome (PCOS) is a common problem in the United States, and is one of the most prevalent endocrine system disease, affecting as many as 7 to 10 out of 100 (or 7 to 10 percent) of women of childbearing age (15 to 45 years). In all, an estimated 5 to 7 million women suffer with the effects of this condition in the United States alone. PCOS is the most common hormonal disorder among women of reproductive age and is a leading cause of infertility. Unfortunately, this disorder often goes undiagnosed because of its many baffling and seemingly unrelated symptoms.

The condition is defined by the presence of hormonal problems, excess hair growth, irregular menstrual cycles and polycystic ovaries, although not all patients have all these features. The term "polycystic" means "many cysts" and PCOS gets its name because of the clusters of small, pearly-size cysts in the ovaries. These cysts are fluid-filled bubbles (called follicles) that contain eggs that have not yet been released during ovulation because of the hormonal imbalance.

While the ovaries and adrenal glands of all women release small amounts of "male hormones," called androgens, women with PCOS produce levels of these types of hormones in slightly higher amounts. Androgens play a role in helping women grow and develop strong bones and muscle strength, and in sexual function. However, higher levels of this hormone lead to hormone imbalance that can interfere with ovulation and normal egg development. Instead of maturing and being released as usual, each month the cysts containing the eggs build up in the ovaries. This results in irregular or infrequent ovulation and, in most women, irregular and infrequent menstruation or vaginal bleeding.

The build-up of egg-containing cysts within the ovary then leads to the "polycystic" appearance of the ovaries, and to their frequent enlargement in size. However, it is important to note that there is a distinction between the large cysts (generally bigger than 1 inch) sometimes seen in women and which may need more careful medical attention, and the small cysts seen in women with polycystic ovary syndrome. We should also note that it is normal for all women who are of childbearing age to have few small cysts in the ovaries, since these hold the eggs that will ovulate in the next few cycles.

PCOS affects several body systems, putting women at increased risk for problems such as diabetes, heart disease, and certain kinds of cancer. The first signs of the disorder often present themselves at puberty with irregular or absent menstrual cycles. Other obvious signs include acne, abnormal facial and bodily hair growth, and thinning of hair on the scalp. While thin women can have polycystic ovary syndrome, weight gain is more likely. Some women with PCOS also suffer from depression, most likely because of their symptoms. Because women with PCOS ovulate (release an egg monthly) infrequently, they often have difficulty getting pregnant when desired and are often diagnosed when they cannot conceive.

While polycystic ovary syndrome was identified almost 80 years ago by Drs. Stein and Leventhal, and is sometimes called the Stein-Leventhal Syndrome, the cause remains unknown. Research suggests that many women with this condition may have decreased sensitivity to insulin, called "insulin resistance." Insulin, a hormone produced by the pancreas, is necessary to carry sugar from the bloodstream into the cells, where it is converted into energy. When cells are resistant to insulin, it means that the effect of the insulin on sugar, and other functions, is deficient. More insulin than normal is required to be produced by the pancreas to ensure that the body cells absorb enough sugar. This leads to high insulin levels in the blood stream which, among other effects, make the ovaries overproduce male hormones, leading to a hormone imbalance that triggers or worsens some of the symptoms of PCOS. The high insulin levels may also cause areas of the skin (for example on the neck) to darken or develop skin tags. Eventually, the pancreas may not be able to maintain the high insulin levels necessary to keep sugar levels normal and the patient develops diabetes.

Finally, PCOS seems to run in families, and it is likely that it is a genetic disorder. Sisters of Polycystic ovary syndrome patients have about a 50% chance of also having PCOS.

If you suspect you have PCOS you will want to see your doctor. A doctor will take your medical history, perform a physical exam, and check your hormone and glucose levels. She or he may also schedule an ultrasound to look at your ovaries. Other disorders such as those that affect the adrenal or thyroid glands may mimic PCOS. For this reason, a careful evaluation of your individual case history and laboratory tests
are essential for an accurate diagnosis. A specialist familiar with this syndrome, such as an endocrinologist who focuses on reproductive endocrinology, is best qualified for diagnosis and treatment of PCOS. While there is still no cure for PCOS, the good news is that there are many effective ways to treat polycystic ovary syndrome. Together with changes in diet and exercise, these treatments are empowering women with PCOS to lead healthier and more satisfying lives. Even the problem of infertility can often be corrected and conception can occur.