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What Your Dr. May Not Tell You about PCOS

Polycystic Ovary Syndrome (PCOS)

A New Epidemic that Causes Infertility, Excess Hair, Acne and More

By John R. Lee, M.D. and Virginia Hopkins

In the 30 years that I practiced medicine, I rarely saw a woman with polycystic ovary syndrome (PCOS). Today, estimates are that 10 to 20 percent of women have PCOS, and I would guess that among young women the number is even higher, qualifying this as an epidemic.

I have had many e-mails and letters from women in their late teens and twenties with PCOS. Their doctors tend to prescribe two treatments, both of which affect symptoms only, and neither of which is particularly successful. One treatment, is temporary chemical castration, using either birth control pills, androgens (male hormones), androgen blockers, synthetic estrogens, Lupron or similar drugs that block hormone production. The other is prescribing the new oral drugs for Type II diabetes, which reduce insulin resistance. I have a much safer, simpler, more effective and less expensive approach that treats the cause and not just the symptoms of PCOS.

What Is PCOS?

PCOS refers to multiple cysts on the ovaries and a host of other problems that go along with them, including anovulation (lack of ovulation) and menstrual abnormalities, hirsutism (facial hair), male pattern baldness, acne, and often obesity. Such women may also have varying degrees of insulin resistance and an increased incidence of Type II diabetes, unfavorable lipid patterns (usually high triglycerides), and a low bone density. Laboratory tests often show higher than normal circulating androgens, especially testosterone.

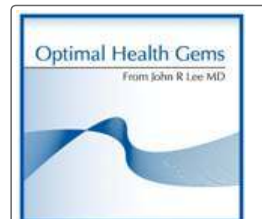
PCOS occurs when a woman doesn't ovulate, which causes a disruption in the normal, cyclical interrelationship among her hormones, brain and ovaries. Normally, the hypothalamus, a regulatory center in the brain, monitors the hormone output of the ovaries and synchronizes the normal menstrual cycle. When monthly bleeding ends, the hypothalamus secretes gonadotropin-releasing hormone (GnRH), which stimulates the pituitary gland in the brain to release follicle stimulating hormone (FSH) and luteinizing hormone (LH). These hormones direct an ovary to start making estrogen (mostly estradiol), and stimulate the maturation of eggs in about 120 follicles.

The first follicle that ovulates, releasing its egg into the fallopian tube for a journey to the uterus, quickly changes into the corpus luteum, which is a factory for making progesterone, and raises progesterone's concentrations to 200 to 300 times higher than that of estradiol. This huge surge of progesterone simultaneously puts the uterine lining in its secretory or ripening phase, and turns off further ovulation by either



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ovary.

If fertilization does not occur, the ovary stops its elevated production of both estrogen and progesterone. The sudden fall in the concentrations of these hormones causes shedding of the blood-rich uterine lining and bleeding (menstruation). Then, in response to low hormone levels, there is a rise in GnRH and the cycle starts all over again.

But what happens to this cycle if, for some reason, ovulation is unsuccessful? For example, if the follicle migrates to the outside of the ovary, but does not “pop” the egg and release it, the follicle becomes a cyst, and the normal progesterone surge does not occur. The lack of progesterone is detected by the hypothalamus, which continues to try to stimulate the ovary by increasing its production of GnRH, which increases the pituitary production of FSH and LH. This stimulates the ovary to make more estrogen and androgens, which stimulates more follicles toward ovulation. If these additional follicles are also unable to produce a matured ovum or make progesterone, the menstrual cycle is dominated by increased estrogen and androgen production without progesterone. This is the fundamental abnormality that creates PCOS.

Why Eggs Won't Pop and Progesterone Isn't Made

But what causes dysfunctional follicles that won't release eggs? I am convinced, from wildlife studies and from what I have observed in my practice, this is due to the exposure of female embryos to xenobiotics, environmental pollutants which chemically act like estrogen on the developing baby's tissues.

When a female embryo develops in the womb, 500 to 800 thousand follicles are created, each enclosing an immature ovum. Studies show that the creation of ovarian follicles during this embryo stage is exquisitely sensitive to the toxicity of xenobiotics. When the mother is exposed to these chemicals, she experiences no apparent damage. But the baby she is carrying is far more susceptible, and these chemicals may damage a female embryo's ovarian follicles and make them dysfunctional; unable to complete ovulation or manufacture sufficient progesterone. This damage is not apparent until after puberty.

Lifestyle Factors that Cause Dysfunctional Follicles

There are other factors that contribute to dysfunctional follicles. These include stress (leading to the production of high cortisol levels by the adrenal glands), lack of exercise, and poor nutrition. Stress alone can cause anovulatory cycles. Birth control pills shut down normal ovary function, and sometimes it never recovers when the pills are stopped. Our diets are full of petrochemical contaminants--also xenobiotics--that derail normal metabolism. We take prescription drugs such as Prozac that impair the functioning of our limbic brain, including the hypothalamus, which may affect the menstrual cycle.

The Diet Connection to PCOS

By far the biggest lifestyle contributor to PCOS is poor diet. Young women with PCOS tend to eat far too much sugar and highly refined carbohydrates. These foods cause an unhealthy rise in insulin levels. According to Jerilyn Prior, M.D., insulin stimulates androgen receptors on the outside of the ovary, causing the typical PCOS symptoms of excess hair (on the face, arms, legs), thin hair (on the head), and acne. Eventually this type of diet will cause obesity, which will cause insulin resistance (the inability of the cells to take in insulin) which will aggravate the PCOS even more. The androgens also play a role in

blocking the release of the egg from the follicle.

Women who have a high number of dysfunctional follicles to begin with, due to xenobiotic exposure in the womb, will have worse problems if their diets are high in sugary foods and low in nutrition. Since this is exactly the type of diet favored by teens and young women, it's easy to understand why there is so much PCOS in that age group. Fifty years ago, the average person ate one pound of sugar a year. Today the average teenager today eats one pound a week! Potato chips, corn chips, pasta and white rice are all highly refined carbohydrates that act on the body much the same as sugars do.

I recommend that women with PCOS read one of the so-called "high protein" diet books such as Protein Power by Michael Eades, MD and Mary Dan Eades, MD, or Enter the Zone by Barry Sears, which both advocate a balanced approach to protein and carbohydrate intake. (I don't recommend the super high protein diets such as one recommended by Dr. Atkins.)

When you look at the whole picture of PCOS, you can understand why the hormone-blocking and insulin-lowering drugs don't work for very long. These approaches don't address the underlying cause of the problem, they only suppress symptoms. Improvement is only temporary and both types of drugs have terribly unpleasant side effects.

By the same token, you can't just use progesterone cream, and you can't just cut out the sugar. You usually need to do both. Exercise and good nutrition are also very important in maintaining hormone balance, and I have covered both in at length in [What Your Doctor May Not Tell You About Premenopause](#).

Obesity and PCOS

In a study of obese and non-obese women with PCOS, various hormones were measured with interesting results. Researchers measured blood levels of six markers, including estradiol, testosterone and androstenedione. The average levels of testosterone and androstenedione in obese PCOS women were significantly higher than those in non-obese PCOS women. This is yet another indicator that obesity can contribute significantly to hormone imbalance. PCOS disappears rapidly in most women when they cut sugar and refined carbohydrates from their diet. (Nobumasa et al, Reprod Med Biol 2002; 1: 49 -54.)

Treatment of PCOS

I recommend supplementation of normal physiologic doses of progesterone to treat PCOS. If progesterone levels rise each month during the luteal phase of the cycle, as they are supposed to do, this maintains the normal synchronal pattern each month, and PCOS rarely, if ever, occurs. Natural progesterone should be the basis of PCOS treatment, along with attention to stress, exercise, and nutrition.

If you have PCOS, you can use 15 to 20 mg of progesterone cream daily for the last two weeks of your cycle. The disappearance of facial hair and acne are usually obvious signs that hormones are becoming balanced, but to see these results, you'll need to give the treatment at least six months, in conjunction with proper diet and exercise. If your symptoms fade, try gradually easing off the progesterone (take half the dose, for example) and see how it goes. If your symptoms return, stay on the full dose for six more months. Ideally, as a young woman you would use the progesterone cream only during the months you need it, and encourage

your body to return to its own normal hormonal rhythms as much as possible. Some women with many damaged follicles may always need to supplement with a little bit of progesterone cream.

Why Haven't Doctors Figured This Out?

There are several reasons why doctors don't recognize the role of progesterone deficiency in PCOS. They may not be aware that the hypothalamus responds not only to the rise and fall of estrogen, but also to the rise and fall of progesterone. Since standard tests usually indicate that a woman with PCOS has plenty of estrogen, and she is still having periods, the doctor assumes she is still ovulating and producing plenty of progesterone.

The odds of a woman having estrogen dominance and progesterone deficiency rise to 50 percent in the female population by age 35, yet doctors rarely measure progesterone concentrations. They may fear giving progesterone because of all the side effects caused by synthetic progestins, and may not be aware that natural progesterone, unlike synthetic progestins, is remarkably free of side effects when given in normal physiologic doses.

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