

REVIEW ON PCOS RELATED WOMEN'S PROBLEMS, EFFECTS AND TREATMENT OPTIONS

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ABSTRACT

Polycystic ovary syndrome (PCOS) is the most common endocrinopathy that affects women. PCOS is also a leading cause of infertility. Women with PCOS may present with obesity, amenorrhea, oligomenorrhea, infertility, or androgenic features. Some 20% of women will have polycystic ovaries on an ultrasound scan and around 7% of women have the additional clinical or biochemical features of PCOS. As a complex multisystem disorder its background can be confusing to understand. The key feature, however, is an increased production of androgen by the ovaries. Those with PCOS are also at increased risk for both diabetes and diabetic complications and

cardiovascular disease, with a risk of a myocardial infarction 7 times the normal. We know that if patients with PCOS are screened for these diseases, many long-term complications can be prevented.

KEYWORDS: PCOS, Diabetes, Infertility, Obesity, Oligomenorrhea, Amenorrhea.

INTRODUCTION

Polycystic ovary syndrome (say "pah-lee-SIS-tik OH-vuh-ree SIN-droh-m") is a problem in which a woman's hormones are out of balance. It can cause problems with your periods and make it difficult to get pregnant. PCOS also may cause unwanted changes in the way you look. If it isn't treated, over time it can lead to serious health problems, such as diabetes and heart disease. POLYCYSTIC OVARY SYNDROME (PCOS) is a genetically complex endocrine disorder of women of uncertain etiology and is a common cause of anovulatory infertility, menstrual dysfunction and hirsutism.^[3,4] PCOS appears to be associated with an increased risk of metabolic aberrations, including insulin resistance and hyperinsulinism, type 2 diabetes mellitus, dyslipidemia, cardiovascular disease and endometrial carcinoma.^[5-8]

Most women with PCOS grow many small cysts on their ovaries. That is why it is called polycystic ovary syndrome. The cysts are not harmful but lead to hormone imbalances. Early diagnosis and treatment can help control the symptoms and prevent long-term problems. Hormones are chemical messengers that trigger many different processes, including growth and energy production. Often, the job of one hormone is to signal the release of another hormone. For reasons that are not well understood, in PCOS the hormones get out of balance. One hormone change triggers another, which changes another. For example:

- The sex hormones get out of balance. Normally, the ovaries make a tiny amount of male sex hormones (androgens). In PCOS, they start making slightly more androgens. This may cause you to stop ovulating, get acne, and grow extra facial and body hair.
- The body may have a problem using insulin, called insulin resistance. When the body doesn't use insulin well, blood sugar levels go up. Over time, this increases your chance of getting diabetes.

Reasons

The cause of PCOS is not fully understood, but genetics may be a factor. PCOS seems to run in families, so your chance of having it is higher if other women in your family have it or have irregular periods or diabetes. PCOS can be passed down from either your mother's or father's side.

Symptoms

Symptoms tend to be mild at first. You may have only a few symptoms or a lot of them. The most common symptoms are:

- Acne.
- Weight gain and trouble losing weight.
- Extra hair on the face and body. Often women get thicker and darker facial hair and more hair on the chest, belly, and back.
- Thinning hair on the scalp.
- Irregular periods. Often women with PCOS have fewer than nine periods a year. Some women have no periods. Others have very heavy bleeding.
- Fertility problems. Many women who have PCOS have trouble getting pregnant (infertility).
- Depression.

Problems & Treatment

Being overweight

Overview of PCOS Polycystic Ovary Syndrome (PCOS), the most common endocrine disorder in women^[9], generates numerous health problems across the lifespan. PCOS affects up to 8% to 20% of women of reproductive age in around world and Almost 50% of the women with polycystic ovary syndrome (PCOS) are obese. Obesity in PCOS affects reproduction via various mechanisms. Hyperandrogenism, increased luteinizing hormone (LH) and insulin resistance play a pivotal role. A few substances delivered by the fat tissue including leptin, adiponectin, resistin and visfatin may assume a part in the pathophysiology of PCOS. Infertility in PCOS is related to anovulation. For induction of ovulation, clomiphene citrate and human gonadotrophins are first- and second-line treatments, respectively. Other treatment modalities incorporate the utilization of insulin sensitizers, for example, metformin and in addition aromatase inhibitors and laparoscopic ovarian drilling, while in vitro fertilization is the final resort. Obesity can adversely affect infertility treatment in PCOS. Diet and lifestyle changes are recommended for the obese women before they attempt conception^[9] Understanding the genetics of obesity, which has a longer and richer history may therefore light up the hereditary qualities of PCOS, where significant ventures are currently in progress. Over Weight might be the condition which impact hereditarily. Most obesity identify to date (with the exception of the *Agouti* mutation) are inherited in an autosomal recessive manner. Therefore, it is unlikely that such mutations, even when identified in a human population, could explain only a fraction of the cases that make up the high prevalence of both of these disorders.^[10] The aetiology of PCOS is unclear: and both genetic inheritance and lifestyle factors may be implicated. PCOS increases the risk of hyperandrogenism, menstrual disorders, hirsutism, infertility, miscarriage, obesity, insulin resistance, anxiety, depression, cardiovascular complications, endometrial cancer and type 2 diabetes (T2DM).^[11] Women with PCOS experience poor quality of life and depression.^[12]

This can be a major problem for patients with polycystic ovarian syndrome. They find it particularly hard to lose weight and this is partly because of their resistance to insulin, the hormone that controls blood sugar levels. Strict dieting and loss of weight often means a return of periods and fertility.

Period problems when fertility is not an issue**Oligomenorrhea and Amenorrhea**

Irregular or absent periods can be treated by using the oral contraceptive pill. However, the condition is much more common in women who are overweight and in this group the pill is contra-indicated (ie. not recommended). These patients produce high amounts of the female hormone oestrogen which makes the lining of the womb grow.

PCOS may lead to very heavy, prolonged bleeding and, if left untreated, very rarely can lead to cancer of the lining of the womb. For this reason it is advised that this particular group of women have a withdrawal bleed every three months following a two week course of progesterone tablets. Spironolactone is a weak diuretic with anti-androgen properties that may be used in women with either hirsutism and/or acne in whom the COCP is contra-indicated.

Miscarriage

Unfortunately, the chances of having a miscarriage are slightly increased if you have PCOS.

Laparoscopic ovarian surgery

Keyhole surgery is used to make small holes in the ovaries via a laparoscope. This procedure has the effect of leading to the return of ovulation for about a year.

Fertility**In vitro fertilization**

In vitro fertilization represents the third-line treatment for infertility in women with PCOS.^[13] However, if the initial assessment demonstrates a bilateral tubal occlusion and/or concentration of recovered motile sperm less than or equal to 5 million, this treatment becomes the first option along with lifestyle changes. The risk of OHSS is the main complication of the highly complexity treatment in women with PCOS. Thus, to minimize this side effect, ovarian stimulation should be initiated with low doses of gonadotropins (100 to 150 IU of FSHr) and the pituitary should be suppressed with a gonadotropin-releasing hormone (GnRH) antagonist because this method is associated with a reduced risk of OHSS compared with an agonist (29 randomized control trials (RCTs); OR 0.43; 95% CI: 0.33 to 0.57.^[14] If the patient presents with clinical and ultrasound signs of OHSS, final oocyte maturation should be performed with a GnRH agonist and embryos should be frozen and transferred in a subsequent cycle.^[15,16] Infertile women with PCOS may present with better

general oocyte and embryo quality rates; however, the clinical pregnancy and live birth rates are similar to those observed in normo-ovulatory women without PCOS.^[17]

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