key points

SELECTED BY

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Polycystic ovary syndrome (PCOS) is a condition characterised by hyperandrogenism, multifollicular ovaries and ovulatory dysfunction. It affects 8-13% of women of reproductive age and is associated with insulin resistance, hyperlipidaemia and obesity. Although it runs in families there is no clear genotype.

The Rotterdam consensus criteria are most widely used internationally to diagnose PCOS. Two out of the following three criteria are required to make a diagnosis of PCOS (when other diagnoses have been excluded):

- Clinical or biochemical signs of hyperandrogenism;
- Irregular menstrual cycles and ovulatory dysfunction suggested by oligomenorrhoea (< 21 or > 35 days) or amenorrhoea (absent menses for > 6 months);
- Polycystic ovaries on ultrasound.

Diagnosing PCOS at the extremes of reproductive life (adolescence and menopause) is complicated by the fact that irregular cycles with ovulatory dysfunction are normal.

A detailed history will highlight the issues affecting the patient, determine the presence of irregular menstrual cycles and help exclude alternative diagnoses. Baseline measurements should include blood pressure and BMI. Clinical signs of hyperandrogenism including hirsutism, acne and androgenic alopecia should be assessed. Hirsutism can be formally assessed using the modified Ferriman-Gallwey tool although use of cosmetic treatments may make it difficult to assess its severity.

A hormone profile should be done during days 1-5 of the menstrual cycle or as a random sample when there is amenorrhoea. The profile should include FSH, LH, oestradiol, prolactin, total testosterone, sex hormone binding globulin, free androgen index and thyroid function tests. The presence of polycystic ovaries on transvaginal ultrasound is defined as ovaries with ≥ 12 follicles measuring 2-9 mm or an ovarian volume ≥ 10 cm^3. Only one ovary needs to meet this criterion.

Insulin resistance is thought to affect 95% of overweight and 75% of lean women with PCOS. As well as increasing the risk of diabetes, it worsens PCOS, reduces fertility and increases the risk of CVD. An oral glucose tolerance test is recommended if women have an additional risk factor such as a BMI ≥ 25 kg/m^2, South Asian ethnicity or a family history of diabetes. Women with PCOS are at increased risk of obstructive sleep apnoea. PCOS is also associated with an increased risk of endometrial hyperplasia and a 2-6 fold increased risk of endometrial cancer. Ovulatory dysfunction leads to delayed conception and infertility, and there is an increased risk of pregnancy complications such as gestational diabetes and preeclampsia.

Women with PCOS should be given advice on healthy eating and regular exercise. All combined oral contraceptive pills reduce ovarian androgen production and improve androgenic symptoms. If hirsutism does not respond to first-line hormonal management women should be referred.