

Polycystic ovarian syndrome — prognosis and outcomes

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Polycystic ovarian syndrome (PCOS) is a condition that is present in 5–6% of women of reproductive age. It has potentially profound implications for women with regard to anovulatory infertility and symptoms related to elevated androgen levels. In addition, in later life women are prone to significant health problems related to hyperinsulinaemia, with an excess risk for diabetes and cardiovascular risk factors.

Evidence suggests that the adverse features of PCOS can be ameliorated with lifestyle intervention, such as diet and exercise, while further short-term benefits related to ovulation and cardiac risk factors may be derived from medication with metformin. Evidence for the long-term use of metformin to protect against adverse cardiovascular outcomes and for the use of metformin throughout pregnancy to reduce the risk of miscarriage, gestational diabetes, pre-eclampsia and fetal macrosomia is still lacking.

Key words: PCOS; metabolic syndrome; infertility; diabetes; cardiovascular risk; metformin; androgens.

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Box. Question and Literature Sources

Question components

Population: Women with polycystic ovarian syndrome

Interventions: Various tests and treatments

Outcomes: Symptoms of hyperandrogenism, ovulation, pregnancy rates, weight loss, quality of life, cardiovascular events and other long-term outcomes.

Study designs: Primary studies of prognosis and therapy and their systematic reviews/meta-analyses

Literature sources

Electronic databases: MEDLINE, EMBASE, Cochrane Library, Best Evidence, Etc.

Manual search: Personal files of articles available with authors, reference lists of all known primary and traditional, review articles.

Contact with experts.

DEFINITION OF THE POLYCYSTIC OVARIAN SYNDROME

Polycystic ovarian syndrome (PCOS) is the commonest reproductive disorder affecting women in their reproductive years.¹ Despite this fact, demographic data about the prevalence of PCOS and research into this common disorder have been hampered by the existence of conflicting definitions in previous years. Fortunately, in 2003 at a joint consensus meeting between the American Society of Reproductive Medicine and the European Society of Human Reproduction and Embryology, a unifying definition of the PCOS was proposed, encompassing a description of the morphology of the polycystic ovary, ovulatory disorder and hyperandrogenism (Table 1).^{2,3} The consensus statement emphasised that PCOS is a diagnosis of exclusion and that before a diagnosis of PCOS is established it is imperative to rule out other disorders with a similar clinical presentation. Such conditions include: congenital adrenal hyperplasia, Cushing's syndrome and androgen secreting tumours. Exclusion of 21-hydroxylase deficient non-classic adrenal hyperplasia (NCAH) can be performed using a basal morning 17-hydroxyprogesterone level, with cut-off values ranging between 6 and 9 nmol/ml.⁴ Cushing's syndrome can be excluded by the measurement of a 24 h urinary cortisol level of below 300 nmol/24 h, or inadequate suppression of early morning serum cortisol by dexamethasone administered the previous night.⁵ The practice of excluding thyroid related disorders and the measurement of serum prolactin in women being screened for PCOS was encouraged.

Ultrasound examination of the ovaries should be performed on cycle days 3, 4 or 5, preferably using a vaginal ultrasound probe. Women with either oligomenorrhea or amenorrhea should have the examination performed at random or on days 3, 4 or 5 after a progestin-induced withdrawal bleed. The criteria for defining a polycystic ovary were proposed as the presence of 12 or more follicles measuring 2–9 mm in diameter and/or increased ovarian volume ($>10\text{ cm}^3$), on either vaginal or abdominal ultrasound. The presence of a single polycystic ovary is sufficient to provide the

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