

Polycystic ovary syndrome (PCOS)

PCOS is one of the most common ovulatory disorder and is of multifactorial inheritance, sometimes running in families. It should be considered when at least 2 of the following features are present: - PCO, irregular menstrual cycles, clinical or biochemical hyperandrogenism. The differential diagnosis to be excluded are conditions such as hyper/hypothyroidism, hyperprolactinaemia, severe stress/hypo gonadotrophic causes, and adrenal disorders.

It can be subclassified as Type ABCD, with various combinations of the 3 main features. The androgenisation is the hallmark, and a young woman should NOT be diagnosed with PCOS in its absence. The hyperandrogenism is the leading cause of morbidity. In the absence of hyperandrogenism, it is type D PCOS and classically this is the thin woman without periods and normal gonadotrophins, These women usually have an excellent prognosis for a healthy life and fertility may be their only concern.

The associated conditions that should be considered and screened for, include insulin resistance and diabetes, syndrome X/metabolic syndrome, hypertension, obstructive sleep apnoea, fatty liver, and depression. It is very important to consider the possibility of endometrial hyperplasia particular if there is a history abnormal bleeding, or a lack of periods for a long time.

The key treatments include lifestyle alterations, weight loss, and reduction of carbohydrates, highly refined sugars and poly-saturated fatty foods. Breaking the metabolic chain of events that have been set in motion is amongst the main stays of treatment and has the potential to reverse changes. The endometrium can be protected with cyclical progesterone withdrawal methods.

When considering fertility, Letrozole is first line treatment for ovulation induction, with superior live birth outcomes and reduced possibility of multiple pregnancy than clomiphene citrate. It performs equally with FSH although it is much simpler and cheaper to use. Second line options include clomiphene with metformin and consideration may be given to laparoscopic ovarian drilling which can be combined with a tube testing procedure if necessary.

If ovulation induction has been unsuccessful, or if there are other factors then IVF may be needed. There is often a false reassurance that the PCO woman has lots of eggs and that she'll be fine. Despite the PCO morphology,

women with PCOS (mainly those with classic type A phenotype) will have a propensity to form poor quality embryos. It is not uncommon to see 20-30 eggs retrieved and only 1-2 embryo formed (normally one could expect 5-8 embryos forming in this scenario). This is perhaps due to hyperinsulinemia having a negative effect on follicular development.

These women are also at risk of ovarian hyperstimulation and strategies are put in place to reduce this risk. Owing to the higher numbers of eggs, the endometrium is usually also affected and a freeze all strategy is suggested to improve the implantation rate in a subsequent frozen cycle.

Lastly, but interestingly, it would be uncommon to have PCO coexisting with endometriosis as there is a lack of stimulation to endometriotic deposits when the women are anovulatory.

DR MAHA RAGUNATH
Fertility Specialist