

- 20% women affected.
- Insulin resistance causing hormonal dysfunction.
- i.e. Abnormal folliculogenesis, ↓ hepatic production SHBG.

Polycystic ovarian syndrome

Disclaimer:
Read the disclaimer at medimaps.co.uk/disclaimer
References:
1. cks.nice.org.uk
2. GP Update
3. NB Medical
4. PCWHF webinar Sept 2016
5. PCWHF webinar Nov 2021
6. Dr Latte consultant PULSE summer 2022.

Symptoms

- Oligo/amenorrhoea.
- Acne.
- Hirsutism.
- Acanthosis nigricans.
- Subfertility.

Investigations

To diagnose need 2/3:
- Oligo/amenorrhoea i.e. Infrequent or no ovulation.
- Hirsutism, acne, male pattern alopecia, or elevated levels of total or free androgen index.
- Polycystic ovaries on USS.

- Cycle > 35/7 or <10 periods a year.

- ≥12 follicles in at least one ovary, measuring 2-9 mm diameter
OR
- increased ovarian volume (greater than 10 mL).

- Dr Latte does not do USS in teenagers as always show cysts.
- She just relies on the two other diagnostic features.

- LH & FSH.
- Prolactin.
- TSH.
- Total testosterone.
- Sex hormone-binding globulin (SHBG).

- ↑ in premature ovarian failure.
- ↓ in hypogonadotropic hypogonadism.

- The LH:FSH ratio is sometimes > 3.
- e.g. LH 21 : FSH 6

- This is normal to moderately elevated in women with PCOS.
- If significantly raised consider late-onset congenital adrenal hyperplasia, Cushing's syndrome, or an androgen-secreting tumour.
- Refer.

- Reference ranges vary, but a testosterone level that is > 5 nanomol/L is considered significantly elevated, when the reference range of normal 0.5-3.5.

- May be mildly elevated in women with PCOS.

- Is normal to low in women with PCOS.
- It provides a surrogate measurement of the degree of hyperinsulinaemia.

- Calculate free androgen index (FAI).
- FAI is a measure of biologically active testosterone.
- If > 5 suggests PCOS.
- FAI = $\frac{\text{Total testosterone (in nanomol/L)} \times 100}{\text{SHBG (in nanomol/L)}}$

Management

CV risk assessment

annually
- BMI.
- BP.
- Lipids.
- HbA1c.

- If young and moderate BMI and having few periods, then do not necessarily have to do annually i.e. use clinical judgement.

Lifestyle

- Weight loss.
- Exercise.

- 5-10% wt loss leads to 30% loss of visceral fat.
- Improves fertility.
- Regulates periods.
- Improves acne, hirsutism etc.
- ↓ risk of DM.

Oligo/Amenorrhoea

- Chronic anovulation results in unopposed oestrogen and lack of progesterone to shed the endometrium, and hence a risk of thickening (endometrial hyperplasia) and hence risk of endometrial Ca.
- The endometrium should be assessed.

important to assess at the correct time

- Induce a withdrawal bleed.
- THEN
- Perform TV USS to assess endometrium.

Medroxyprogesterone 10mg OD for 12/7

- Fails to shed
- Endometrial thickening > 7 mm
- Unusual appearance

- Refer for endometrial sampling to exclude cancer.

- Normal appearance.

- COC (especially drospirenone), can take extended regimes
OR
- Cyclical progestogen (induces a bleed every 3/12).
OR
- Mirena
OR
- Nexplanon

- Contraception.
- ↓ endometrial shedding.
- ↑ SHBG and ↓ Testosterone.

Medroxyprogesterone 10-20mg OD for 10-14/7, every 3/12.

- POP are thought not to provide enough progesterone to protect the endometrium.

Most androgenic progesterone
↓
Least androgenic progesterone
Norethisterone (Loestrin)
Levonorgestrel (Microgynon, Rigevidon, Levest, Ocranette)
Gestodone (Femodene, Millinette, Femonette)
Deogestrol (Mercilon, Marvalon, Gedural)
Drospirenone (Yasmin, Lucette, Eloine)
Cyproterone (Dianette)

Oestrogen s/e:
- Nausea.
- Headache.
- Thrush.
- Excess bleeding.
- Fluid retention.
- Breast tenderness.

Progesterone s/e:
- Acne.
- Vaginal dryness.
- ↑ wt.
- Low mood.

- ↓ oestrogen dose.
- Change to a more dominant progestogen.
- POP.

- ↑ oestrogen dose, helps to ↓ androgen s/e.
- Choose lower androgenic progestogen.

Hirsutism

- Shaving.
- Waxing.
- Depilatory creams.
- Laser.
- Dianette.
- Eflornithine (Vaniqa) cream.

- May take 6-9/12 to see improvement.

- Use if COC ineffective or contra-indicated

Acne

- COC (including dianette, max 2 yrs use).
- Anti-androgens.
- Topical/systemic acne preparations.

Fertility

- Refer to 2o care.
- They may Rx clomiphene.
- Initially 50mg.
- Then they perform follicle tracking USS day 8, 12 and 16.
- If multiple eggs, do not have UPSI in that cycle, as risk of multiple pregnancies.
- If only one egg, then safe to continue using clomiphene for the next 6 cycles.