

Obstetrics & Gynecology TEAM



PCO + Hirsutism

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◆ very important ◆ mentioned by doctor ◆ team notes ◆ not important

Polycystic Ovary Syndrome

❖ Definition:

- ACOG and NIH (1990): **Hyperandrogenism (with or without) and chronic anovulation** excluding other causes.
- Stein and Leventhal (1935): Association of **amenorrhea with polycystic ovaries** and variably: hirsutism and/or obesity

❖ Epidemiology:

- Prevalence: 4-6% females. (From observation, it's high in our country due to our lifestyle that causes obesity)
- Probably same world wide
- No difference between blacks and whites
- **75% of women w/ irregularity or infertility**

❖ Pathophysiology: Not clear

- "Vicious cycle" PCO > anovulation > hormones disturbance > insulin resistance > obesity. ± hyperandrogenism
- **Abnormal gonadotropin secretion**
- **Excess LH and low, tonic FSH**
- **Hypersecretion of androgens**
- **Disrupts follicle maturation.** This is the main defect! Ovaries produce follicles but at mid-antral stage of development, they get arrested. That's why we see small cysts in the ovaries.
- Substrate for peripheral aromatization
- Negative feedback on pituitary
- Decreased FSH secretion
- Insulin resistance, Elevated insulin levels

❖ PCO:

- Usually in obese woman
FSH: LH ratio, in the proliferative (follicular) phase of the cycle will be reversed. That's why we test FSH/LH in this phase (2nd-3rd day of period) because FSH and LH normally go to baseline and if there is any abnormality, it will appear. **IMP!!**
- **↑ Oestrogen**
- **Hirsutism ±**
- **Raised level of circulating insulin due to insulin resistance**
- **Raised blood sugar**

❖ Diagnosis:

1. History: **Irregular cycle, Oligonorrhoea (scanty period), Infertility**, galactorrhoea, recurrent abortions (seen in the recurrent fetal loss clinic).
2. Ex.: Usually obese but it can happen in thin patients ± Hirsutism, acanthosis, acne.
3. Investigations:
 - Hormones - ↑ LH, FSH may be normal, ↑ Oestrogen (because the small follicles still produce it), Free testosterone may be ↑ or normal
 - Ultrasound - multiple small cysts at the **periphery of the ovary** looks like necklace. **Nucleus appearance**
 - Laparoscopy – thick, enlarged non-active ovaries

❖ Treatment:

- **Weight reduction.** Always the 1st line!! Especially if they are young.
- Induction of ovulation either through injections or Clomid (clomiphene).
- Metformin to decrease insulin resistance, however some pts will not benefit from it if they didn't follow a diet.
- Laparoscopic ovarian diathermy. Invasive, not done now, reserved as a last option.
- IVF
- Ovarian wedge resection, contraindicated to be performed now because it is associated with severe adhesions and can jeopardize the infertility forever since a part of the ovary is resected.

❖ Associated disorders:

- Diabetes
- Hyperlipidemia (LDL, Triglycerides)
- Obesity
- Hypertension
- CAD?
- Incr in Risk Factors, but not mortality
- Endometrial CA due to the unopposed estrogen secretion
- Ovarian CA?
- +/- Breast CA
- **NO increase in Osteoporosis**
- Eating disorders
- Psychiatric disease

That's why in the clinic, there's a package and we test for everything.

In the OSCE, a picture of an ultrasound that shows the nucleus appearance of the ovaries in PCO came last year. Students were asked to identify it and mention some of the associated risks and only few were able to answer so focus!

Hirsutism

❖ Definition: Abnormal hair growth in abnormal areas.

❖ Causes:

- Pathological - PCO, adrenal cortex tumors, Cushion syndrome, medications.
- Constitutional – certain races.

❖ Site: **Face, chest, anterior abdominal wall.** Excessive hair in arms and legs doesn't count as hirsutism.

❖ Investigations:

- Free testosterone level, ATCH (for adrenal tumors), FSH, LH (for PCO), DHEA.
- Radiology – US for the ovaries and adrenals,..etc

❖ Treatment:

- Difficult α needs reassurance
- Hair removal by different methods
- **Diane**, contains Cyproterone acetate – anti-androgen. **YOU MUST GIVE CONTRACEPTIVE PILLS WITH IT** because it can cause teratogenicity.
- Treatment will take long time