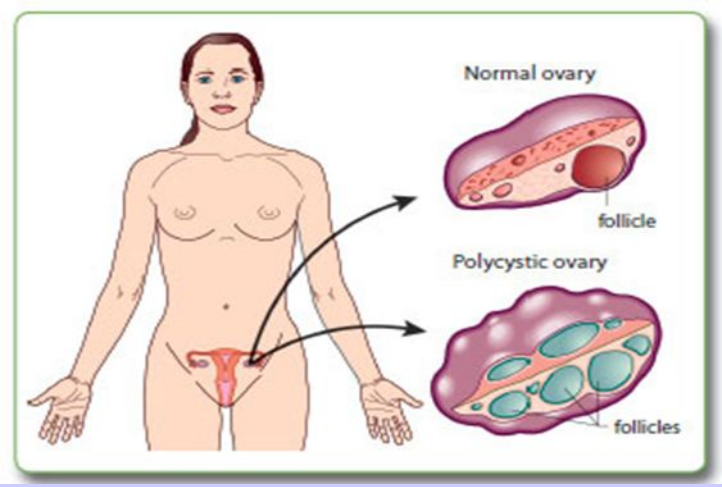
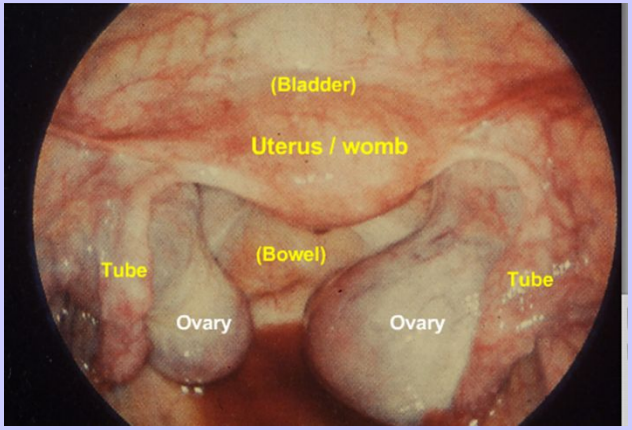
PCOS
(Polycystic Ovarian Syndrome)

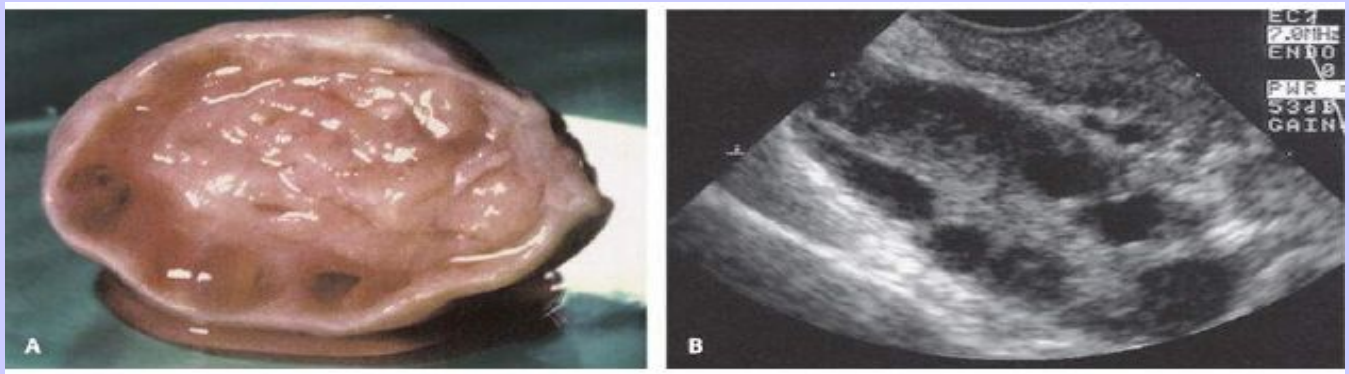
Dr.Alia Kareem





Definition

- is a syndrome of ovarian dysfunction along with the cardinal features of hyperandrogenism and polycystic ovary morphology.



Gross appearance of a polycystic ovary (**A**) and transvaginal ultrasound scan image (**B**).

Incidence

- **The prevalence of polycystic ovaries seen on ultrasound is around 25% of all women but is not always associated with the full syndrome**

- **It affects around 5–10% of women of reproductive age.**

Aeitiology

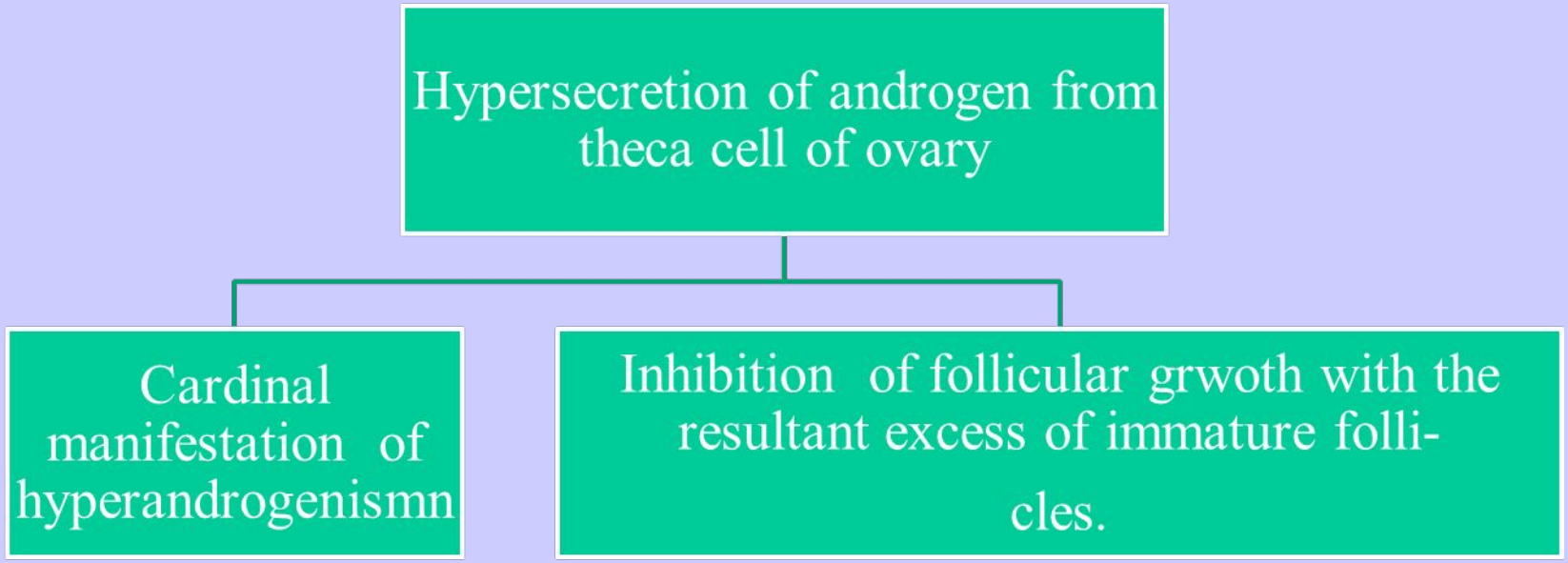
- The aetiology of PCOS is not completely clear
- althoughthe frequent familial trend points to a genetic cause.
- It is a combination of genetic abnormality and environmental factors

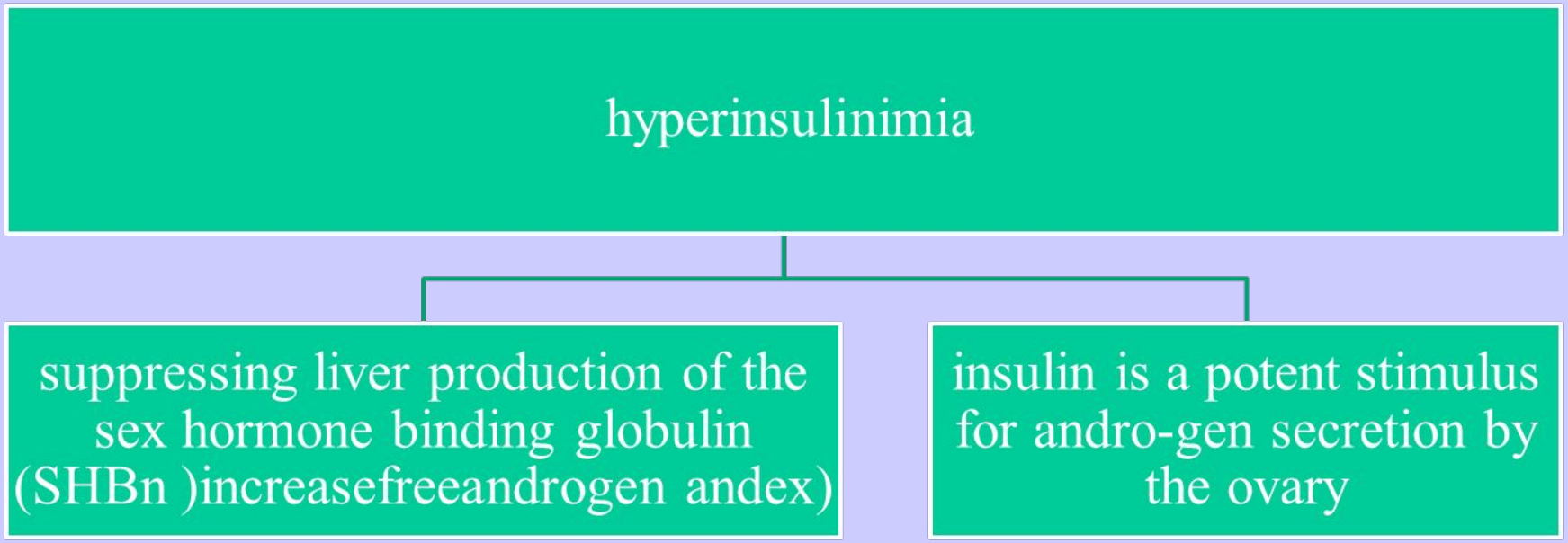
Pathophysiology of PCOS

- Hyper secretion of androgen
- Hyper secretion of LH
- hyperinsulinemia

Hypersecrtion of LHby the pituitary – a result both of disordered ovarian-pituitary feedback and exaggerated pulses of GnRH from the hypothalamus.

– stimulates testosterone secretion by the ovary


Hypersecretion of androgen from theca cell of ovary
Cardinal manifestation of hyperandrogenismn
Inhibition of follicular grwoth with the resultant excess of immature folli-
cles.


hyperinsulinimia
suppressing liver production of the sex hormone binding globulin (SHBn)increasefreeandrogen andex)
insulin is a potent stimulus for andro-gen secretion by the ovary

Clinical presentation

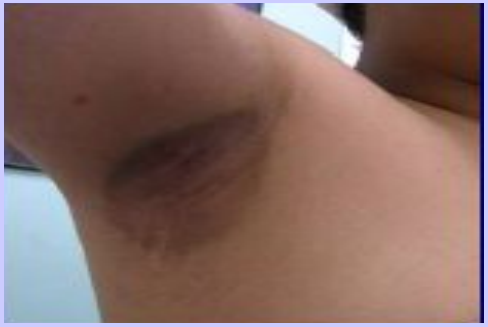
- **Oligomenorrhoea/amenorrhoea in up to 75% of patients, predominantly related to chronic anovulation.**
- **Hirsutism.**
- **Subfertility in up to 75% of women.**

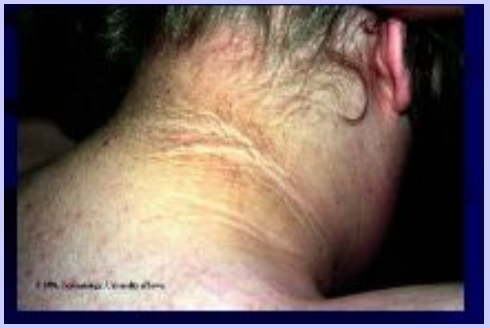
Clinical presentation

- **Obesity in at least 40% of patients.**
- **Acanthosis nigricans (areas of increased velvety skin pigmentation occur in the axillae and other**
- **May be asymptomatic(polycytic ovaries)**

Insulin Resistance

- **Acanthosis Nigricans.**





Diagnosis

Rotterdam Consensus workshop:

(ESHRE &ASRM) at 2004

- **No single diagnostic criterion is sufficient.**

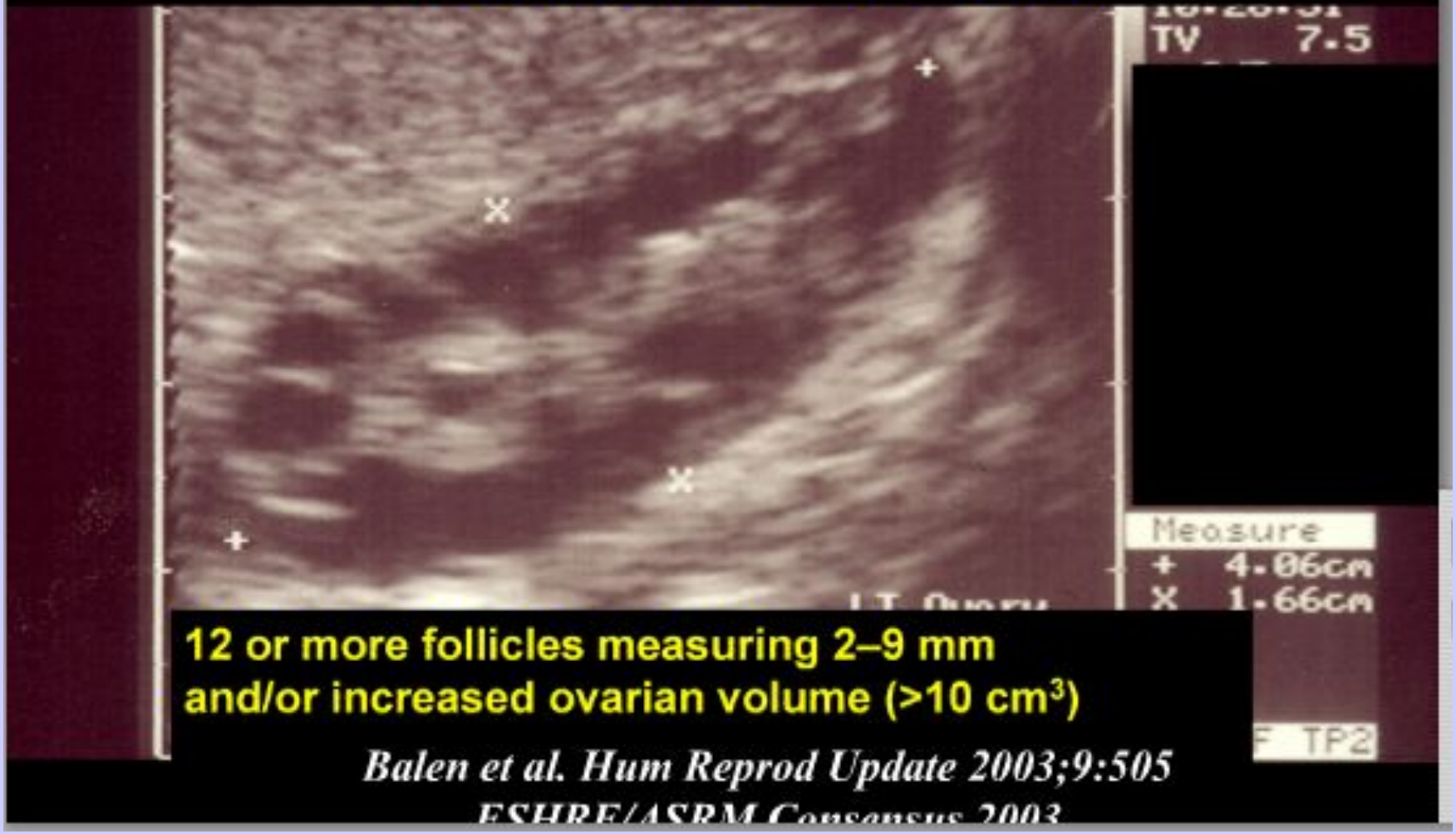
- **The diagnosis of PCOS can be made on the basis of two out of the three of the following:**

Rotterdam criteria

- Polycystic ovaries.
- Oligo or Anovulation.(other causes should be excluded)
- Hyperandrogenism.

(Clinical and/or biochemical signs)Other causes of hyperandrogenism should be excluded.

Ultrasound assessment of the polycystic ovary: international consensus



12 or more follicles measuring 2–9 mm and/or increased ovarian volume (>10 cm^3)

Balen et al. Hum Reprod Update 2003;9:505

ESHRE/ASRM Consensus 2003

Diagnosis of PCOS:

- **Diagnosis can only be made when other aetiologies have been excluded :**

- **Thyroid dysfunction.**
- **Congenital adrenal hyperplasia (CAH).**
- **Hyperprolactinaemia.**
- **Androgen-secreting tumours.**
- **Cushing syndrome.**

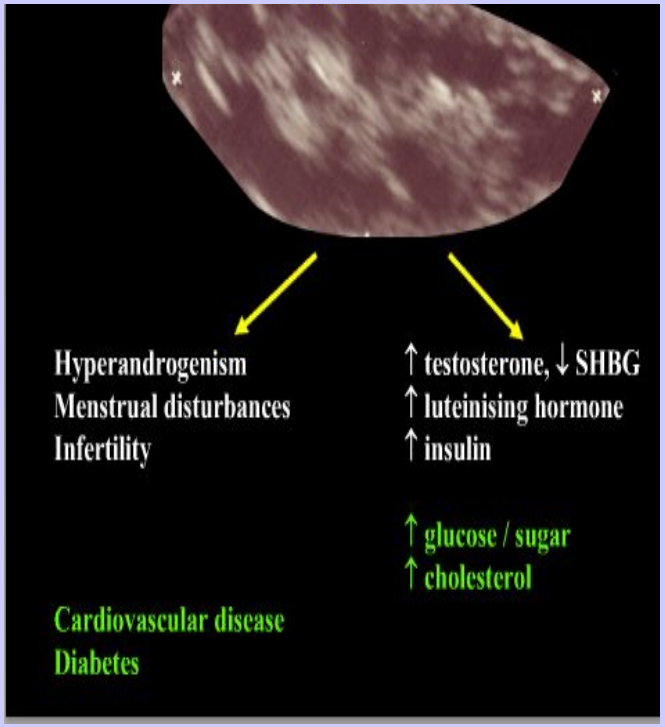
A raised LH/FSH ratio is no longer a diagnostic criteria for

PCOS owing to its inconsistency

PCOS long term consequences

Metabolic consequences of PCOS:

- **Type 2 diabetes.**
- **Cholesterol abnormalities.**
- **Cardiovascular disease.**
- **Obstructive sleep apnoea.**
- **Increased bone mass.**



PCOS long term consequences

Cancer and PCOS:

- **Endometrial hyperplasia /malignancy.**
- **No additional risk for ovarian or breast malignancy.**

Pregnancy and PCOS:

- **Higher risk of Gestational diabetes and other complications of pregnancy(miscairage, PET).**

Treatment

- **Depend on What does the patient complain?**

Fertility?

Hirsutism?

Obesity?

Irregular periods?

All off the above!!?

Treatment

- **General Measures for all compliants :Wieght reduction and life style modification:**

All Women diagnosed with PCOS should be advised regarding weight loss through:

- **diet and exercise.**
- **Orlistat.**
- **Bariatric surgery.**

Lifestyle advice:

dietary modification and exercise is appropriate in these patients as they are at an increased risk of developing diabetes and cardiovascular disease later in life.

Aerobic exercise has been shown to improve insulin resistance.

Irregular periods(oligo or amenorrhea)

- Combined oral contraceptive pill (COCP) .
- Cyclical oral progesterone: .

Treatment of hirsutism/androgenic symptoms

- ***medical :***

- eflornithine cream (VaniquaTM) applied topically.
- anti ndrogenic drug:cyproterone acetate (an antiandrogen contained in the DianetteTM contraceptive pill

- ***Mechanical:***
  - Shaving
  - Waxing
  - Electrolysis
  - Laser ablation

Treatment of Infertility

- **1st line of treatment**
  - Weight loss 5-10% of body weight (>50% return of ovulatory cycles).
  - Metformine :to reducee hyper insulinimia

  - First line drugs triggers ovulation in 80%.- Clomiphene Citrate / Tamoxifen/ letrezole.

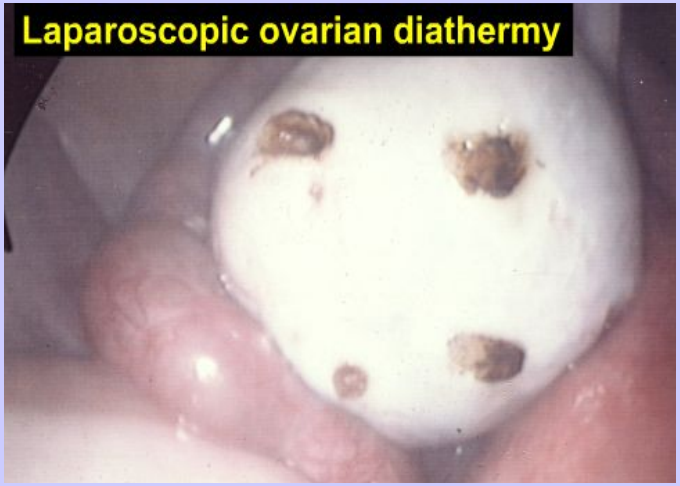
- 2nd line of therapy (for anti estrogenic resistance women):

- Gonadotropin Therapy.

- Ovarian drilling (reserved for selected anovulatory women with a normal BMI.)

Surgery prognosis

- multiple punctures ardone on each ovary by electrocautery through unipolar hook .



Questions

Thank you