NHS

Different Faces of PCOS (Polycystic Ovarian Syndrome)

Shahnaz Akbar

(MBBS,MSc,FRCOG,MRCPI,PgCert-MedEd)

Consultant

Obstetrician, Gynaecologist & Reproductive Medicine & Surgery

PR-HFEA

PCOS

- **Aims.**
- **Learning outcomes.**
- **Contents.**
- **Learning activities.**
- **Handouts.**
- **Evaluation.**

NHS

Polycystic Ovarian Syndrome: A condition of our time

- Common disorder, complicated by chronic anovulatory infertility,hyperandrogenism.

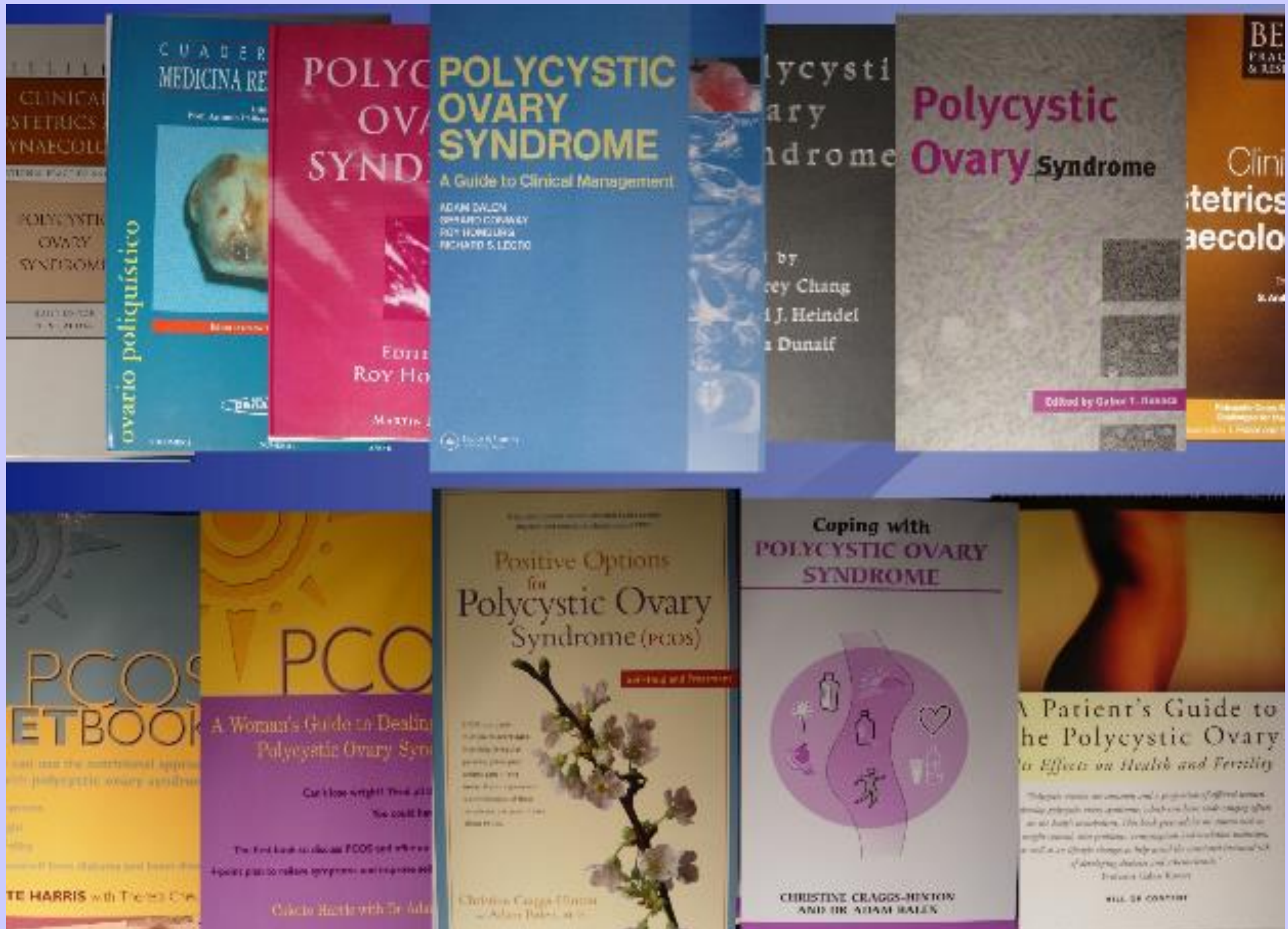
- Insulin resistance.
- Obese , IGTT , DM-2 , Sleep Apnoea.
- Cause remains unknown.
- Prevalence 4-9%.
- Genetic factors may affect expression.
- Environmental factors are important.

NHS

PCOS

- **Not diagnosed & counselled properly.**
- **Low self esteem and high scores for depression.**
- **RCOG Guidelines / Forums on PCOS.**
- **Most countries now have support groups. In Britain, Verity, the PCOS self help group provide useful information and support to these women.**

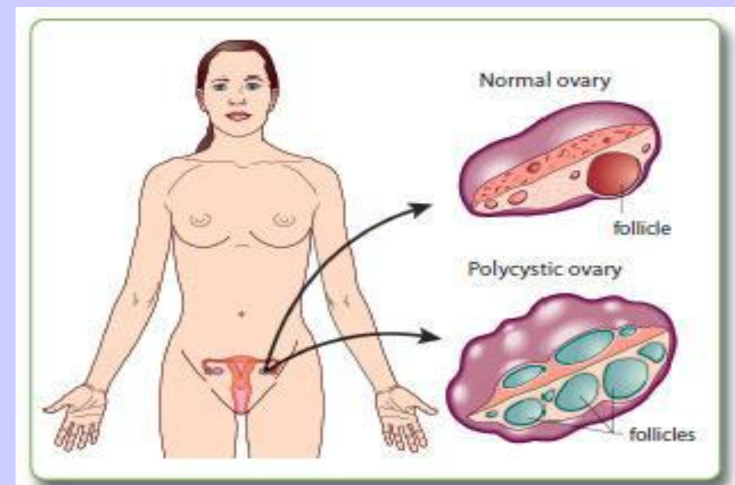
NHS



NHS

Definition:

- A consensus definition using precise diagnostic criteria should be used when diagnosing PCOS to facilitate effective patient care and robust clinical research.



NHS

Rotterdam Consensus workshop: (ESHRE &ASRM)

- **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:**

NHS

Definition

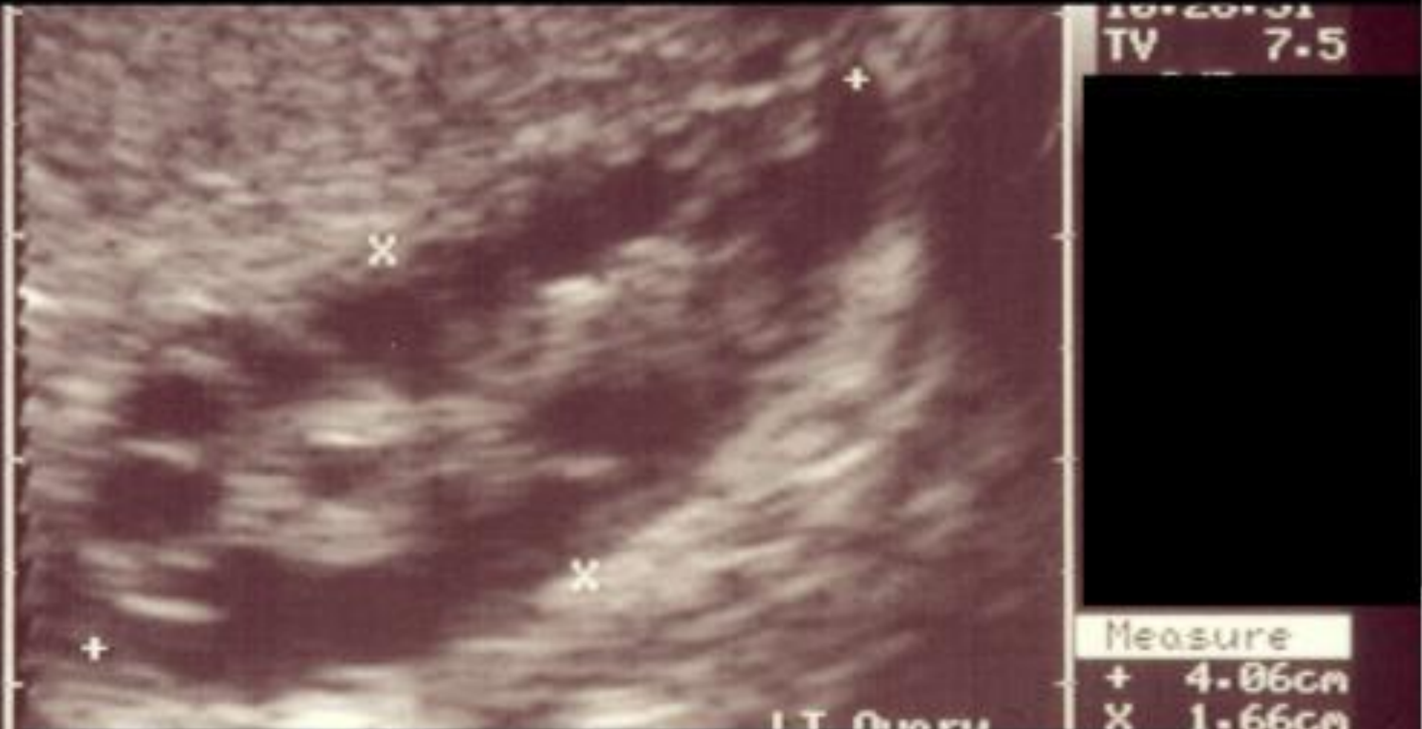
- Polycystic ovaries.
- Oligo or Anovulation.
- Hyperandrogenism.

(Clinical and/or biochemical signs)

- Other causes of hyperandrogenism should be excluded.
- A raised LH/FSH ratio is no longer a diagnostic criteria for PCOS owing to its inconsistency.

NHS

Ultrasound assessment of the polycystic ovary: international consensus

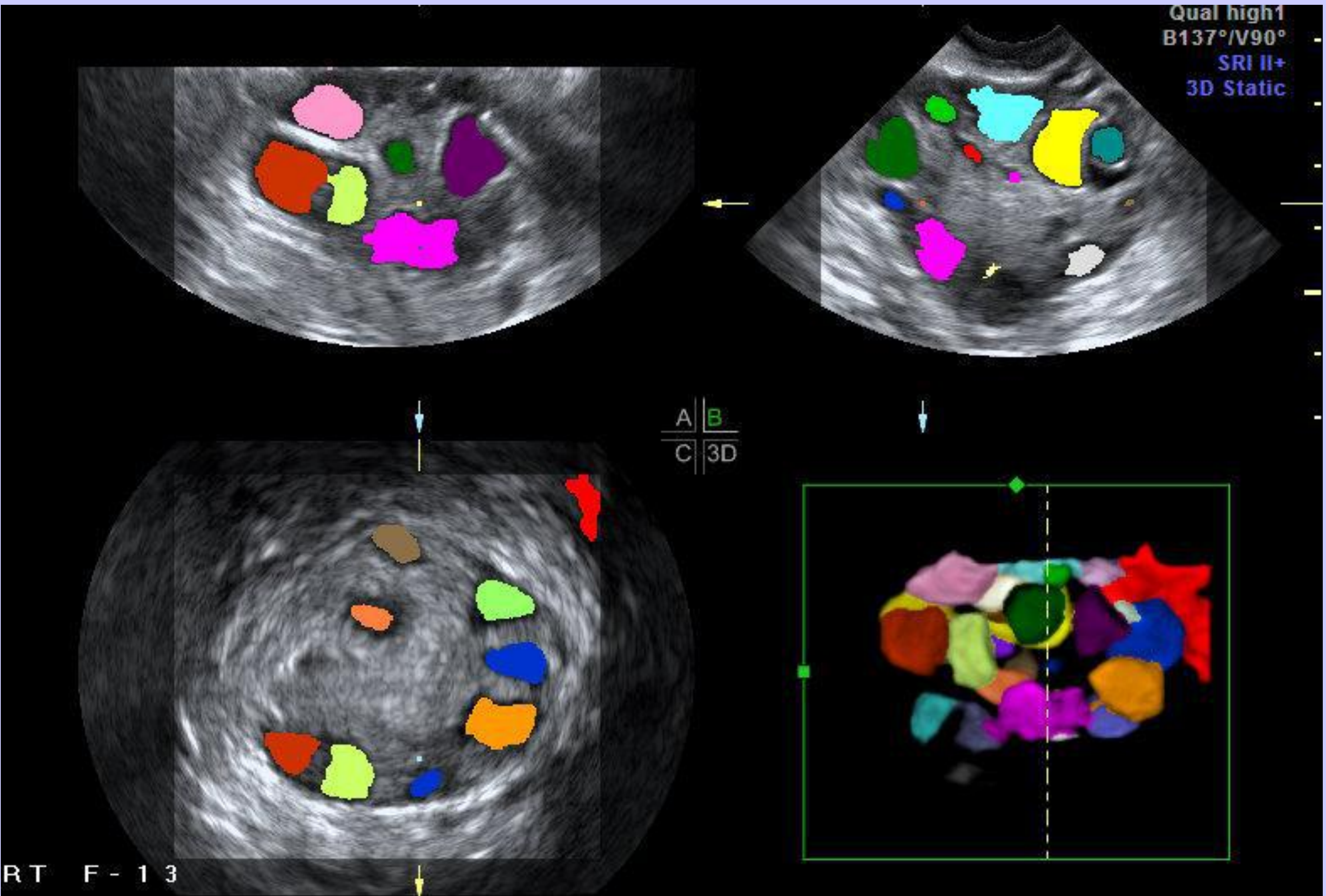


12 or more follicles measuring 2–9 mm and/or increased ovarian volume (>10 cm^3)

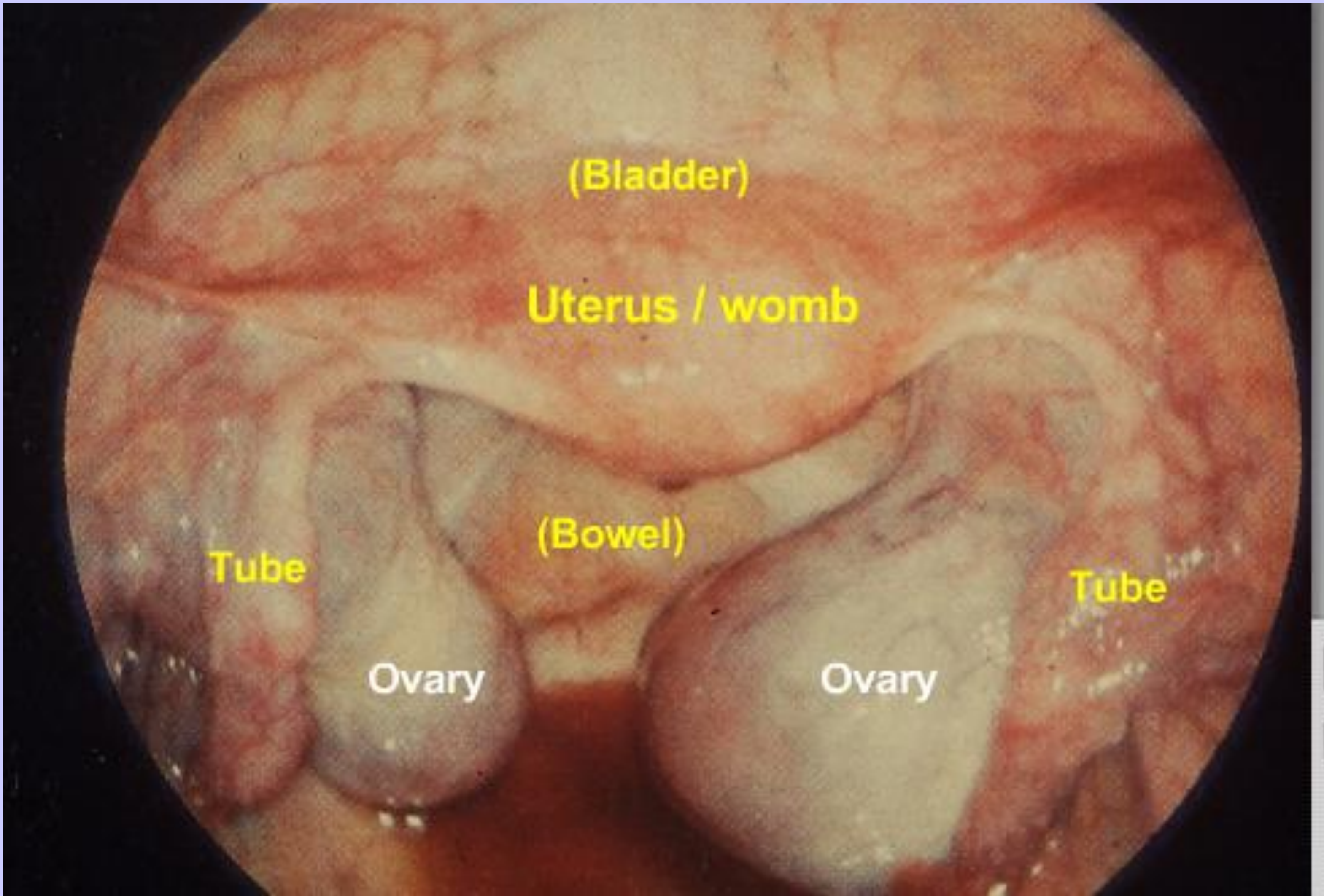
Balen et al. Hum Reprod Update 2003;9:505

ESHRE/ASRM Consensus 2003

NHS



NHS



Presentation:

Presents with variable symptoms,with a pathophysiology that appears to be multifactorial and polygenic.

They may present to:

***Dermatologists.**

***Gynaecologists.**

***Fertility Specialist.**

***Endocrinologists.**

***Trichologists.**

***Obesity clinics.**

NHS

- It is essential for health care professionals to understand how this condition cuts across many medical specialties and therefore requires a holistic approach to management.
- An assessment made of all of their problems rather than each in isolation.
- Polycystic Ovary Syndrome is frequently diagnosed by the gynaecologists (affects up to 15-20 percent of women).

NHS

- **Major health problem affecting women of all ages.**

•

- **The prevalence appears to be rising because of the current epidemic of obesity.**

- **Accounts for 90-95% of women who attend infertility clinics with anovulation.**

- **Unwanted facial and bodily hair, acne, obesity and infertility have profound effects on the quality of life for these women.**

NHS

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.

NHS

PCOS Statistics
(RCOG)

Irregular periods (oligomenorrhoea)	> 90% PCOS
No periods (amenorrhoea)	~ 30–50% PCOS
Anovulatory infertility	> 90% PCOS
Acne in women	> 95% PCOS
Hirsutism	> 95% PCOS
Female Caucasian population	20–33% PCO 15–25% PCOS
UK Asian population	50% PCOS

NHS

Prevalence of PCO in symptomatic women

Condition Proportion with PCO:

- **Oligomenorrhoea 87 %.**
- **Amenorrhoea 26 %**
- **Hirsutism 92 %.**

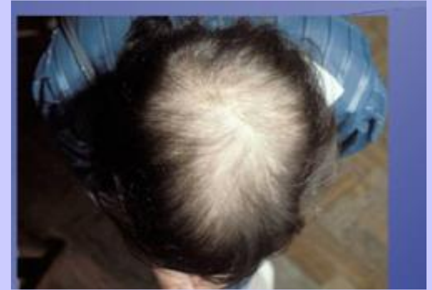
NHS

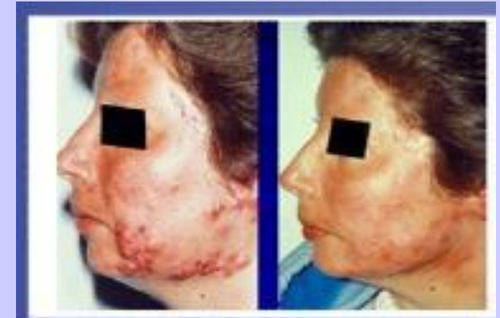
Clinical manifestations

- **Most common disorder of the Endocrine system in women, 5-10%.**
- **Frequently begins around time of puberty.**
- **Strong genetic component, frequently a family history of type -2 Diabetes.**

NHS

Hyperandrogenism





- Acne.
- Male pattern baldness.
- Increased muscle mass.
- Deepened voice.
- Enlargement of the clitoris.
- Thick dark terminal hairs:

  (chest, chin, upper lip, abdomen, thigh)

NHS

Menstrual dysfunction

- Periods often irregular from the start.
- Periods may be delayed from the start.
- Fewer than nine menstrual periods in a year.
- No menstrual periods for three or more consecutive months.
- Cycles are usually anovulatory, resulting in infertility.

NHS

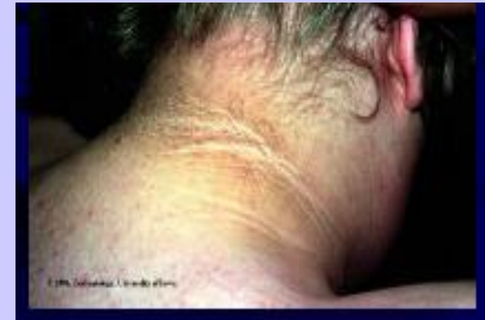
Infertility

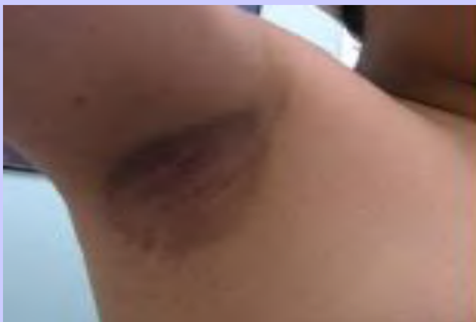
- Ovulate less frequently, may take longer to conceive.
- Possibly increased frequency of miscarriage.
- Less responsive to therapy to induce ovulation and conception.

NHS

Insulin Resistance

- Acanthosis Nigricans.
- Skin Tags.
- Abdominal Obesity.





NHS

Summary of Insulin Effects on the Ovary

- **Directly stimulates hormone production in the ovary.**

- **Acts synergistically with LH and FSH to stimulate hormone production.**

- **Upregulate LH receptors.**

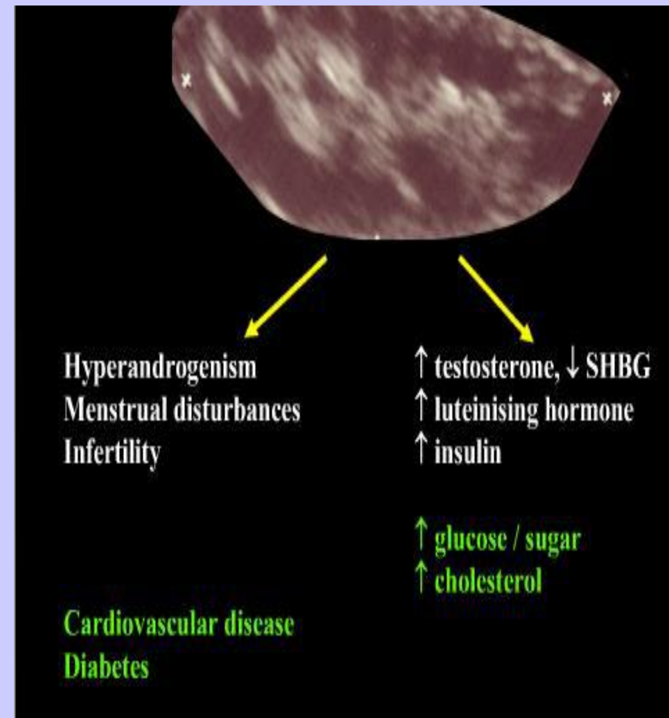
- **Promotes ovarian growth and cyst formation synergistically with LH.**

NHS

PCOS long term consequences

Metabolic consequences of PCOS:

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



NHS

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.**

NHS

Treatment

- **PCOS treatment: What does the patient want?**
- **Fertility?**
- **Hirsutism?**
- **Acne?**
- **Obesity?**
- **Irregular periods?**
- **All off the above!!?**

NHS

Treatment

- **Women diagnosed with PCOS should be advised regarding weight loss through diet and exercise.**

- **Orlistat.**

- **Bariatric surgery.**

NHS

Drug therapy

- **Insulin-sensitising agents have not been licensed in the UK for use in women who are not diabetic.**

- **Metformin / InoFolic.**

- **Currently no evidence of a long-term benefit for the use of insulin-sensitising agents.**

- **Use of weight-reduction drugs may be helpful in reducing insulin resistance through weight loss.**

NHS

Drug therapy
Myo-Inositol

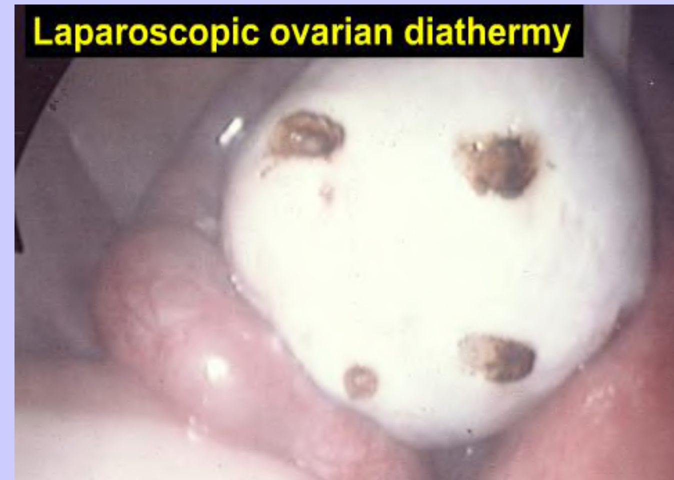
- **Decreases circulating insulin & serum total testosterone.**

- **Reduces acne & weight.**

- **Reduces hirsutism and hyperandrogenism and ameliorates the abnormal metabolic profile of women with hirsutism.**

Surgery prognosis

- **Ovarian electrocautery should be reserved for selected anovulatory women with a normal BMI.**



NHS

Treatment Hirsutism:

Licensed treatments:

- **Oral contraceptive,Dianette , Yasmin.**
- **Topical facial Eflornithine (Vaniqa).**
- **Cosmetic measures-**
- **Weight loss.**

- **Non-Licensed treatments:**
- **Metformin???.**
- **Spironolactone and other agents.**
- **Long acting GnRH analogues.**

NHS

Image-related issues

- **Women should be advised that there is insufficient evidence in favour of either Metformin or the oral contraceptive pill in treating hirsutism or acne.**

NHS

Treatment of Menstrual Irregularities

- Weight Loss.
- Oral Contraceptives.
- Progesterones (Provera 5-10mg for ten days every 4-8 weeks).
- Mirena IUS.

NHS

Treatment of Infertility

- Weight loss 5-10% of body weight (>50% return of ovulatory cycles).
- First line drugs triggers ovulation in 80%.- Clomiphene Citrate / Tamoxifen.
- Gonadotropin Therapy.
- Metformin /InoFolic.
- Ovarian drilling (reserved for selected anovulatory women with a normal BMI.)

NHS

Recent Evidence:

- Recent large randomised controlled trials have not observed beneficial effects of Metformin either as first-line therapy or combined with Clomifene Citrate for the treatment of the anovulatory woman with PCOS.

- There are no good data from randomised controlled trials on the use of Metformin in the management of other manifestations of PCOS.

NHS

Metformin & PCOS.

- **Early small studies were promising.**

  BUT

- **Two large trials have failed to show any benefit from Metformin.**

  (Mall et all. BMJ 2006, Legro et all NEJM 2007)

NHS

The ESHRE & ASRM Consensus:

* There is no clear role for insulin sensitising drugs in the management of PCOS, and should be restricted to those patients with IGT or DM-2 rather than those with just insulin resistance.

* Therefore, on current evidence Metformin is not a first line treatment of choice in the management of PCOS.

- Reference:

  Rotterdam ESHRE/ASRM-Sponsored PCOS Consensus Workshop Group

NHS

Questions

Thank you