SEMINAR IN GYNECOLOGY
POLYCYSTIC OVARIAN SYNDROME

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6th STAGE
OVERVIEW & EPIDEMIOLOGY

Polycystic ovary syndrome (PCOS): is one of the most common female endocrine disorders.

PCOS is a complex, heterogeneous disorder of uncertain etiology but there is strong evidence that it can to a large degree be classified as a genetic disease.

PCOS produces symptoms in approximately 5% to 10% of women of reproductive age (12–45 years old).

The prevalence of PCOS depends on the choice of diagnostic criteria. About 18% of women had PCOS, and that 70% of them were previously undiagnosed.
ETIOLOGY

Women with polycystic ovarian syndrome (PCOS) have abnormalities in the metabolism of androgens and estrogen and in the control of androgen production.

- High serum concentrations of androgenic hormones, such as testosterone, androstenedione, and dehydroepiandrosterone sulfate (DHEA-S), may be encountered in these patients.

PCOS is also associated with peripheral insulin resistance and hyperinsulinemia, and obesity amplifies the degree of both abnormalities.

- Hyperinsulinemia is also responsible for dyslipidemia and for elevated levels of plasminogen activator inhibitor-1 (PAI-1) in patients with PCOS. Elevated PAI-1 levels are a risk factor for intravascular thrombosis.
SYMPTOMS

- Acne.
- Weight gain and trouble losing weight.
- Extra hair on the face and body.
- Often women get thicker and darker facial hair and more hair on the chest, belly, and back.
- Thinning hair on the scalp
  - Amenorrhea or oligomenorrhea
- Infertility
Diagnostic Criteria

the following criteria for the diagnosis of PCOS:

- Oligo-ovulation or anovulation manifested by oligomenorrhea or amenorrhea
- Hyperandrogenism (clinical evidence of androgen excess) or hyperandrogenemia (biochemical evidence of androgen excess)
Polycystic ovaries are enlarged bilaterally and have a smooth, thickened capsule that is avascular. On cut sections, subcapsular follicles in various stages of atresia are seen in the peripheral part of the ovary.

The most striking ovarian feature of PCOS is hyperplasia of the theca stromal cells surrounding arrested follicles.

On microscopic examination, luteinized theca cells are seen.
DIAGNOSIS OF PCOS

Diagnosis is normally made on clinical ground supported by the following:

1- laboratory test:
   - Elevated testosterone level.
   - Decrease SHBG.
   - Elevated LH level.
   - Elevated LH:FSH ratio.
   - Increase fasting insulin level.
DIAGNOSIS OF PCOS

2. Ultrasound:
Possible complication

- Increased risk of endometrial cancer
- Obesity-related (BMI over 30 and waist circumference greater than 35) conditions, such as high blood pressure, heart problems, and diabetes
- Possible increased risk of breast cancer
- Infertility
Management

Medical treatment of PCOS is tailored to the patient's Goals.

These may be considered under four categories:

- Lowering of insulin levels
- Restoration of fertility
- Treatment of hersutism or acne
- Restoration of regular menstruation, and prevention of endometrium
- Hyperplasia and endometrial cancer
Medications

1- Reducing insulin resistance by improving insulin sensitivity through medications such as metformin, and the newer thiazolidinedione (glitazones), have been an obvious approach and initial studies seemed to show effectiveness.

2- Clomiphene citrate (clomid) by induction of ovulation and enhancing outcome.

3- Treatment of amenorrhea either cyclical progesterone or oral contraceptive pill.

4- Treatment of hirsutism either locally or by drugs.
Surgical intervention

*Wedge resection

*Laparoscopic ovarian diathermy (ovarian drilling)

*Laser… unipolar & bipolar
Prognosis

Approximately 40% of patients with PCOS have insulin resistance that is independent of body weight. These women are at increased risk for type 2 diabetes mellitus and consequent cardiovascular complications compared with healthy women.

Patients with PCOS are also at an increased risk for endometrial hyperplasia and carcinoma.

The chronic anovulation in PCOS leads to constant endometrial stimulation with estrogen and without progesterone and increases the risk of endometrial hyperplasia and carcinoma.
THANK YOU