Obstetrics and Gynecology
PCOS and PMS

University Of Fallujah
College Of Medicine

Lecture : 7

Stage : 5th Year

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Department: Obstetrics and Gynecology

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Learning objectives

1. Understanding the pathophysiology of PCOS.
2. Know the proper diagnosis of PCOS and PMS.
3. Explain the main modalities of treatments.

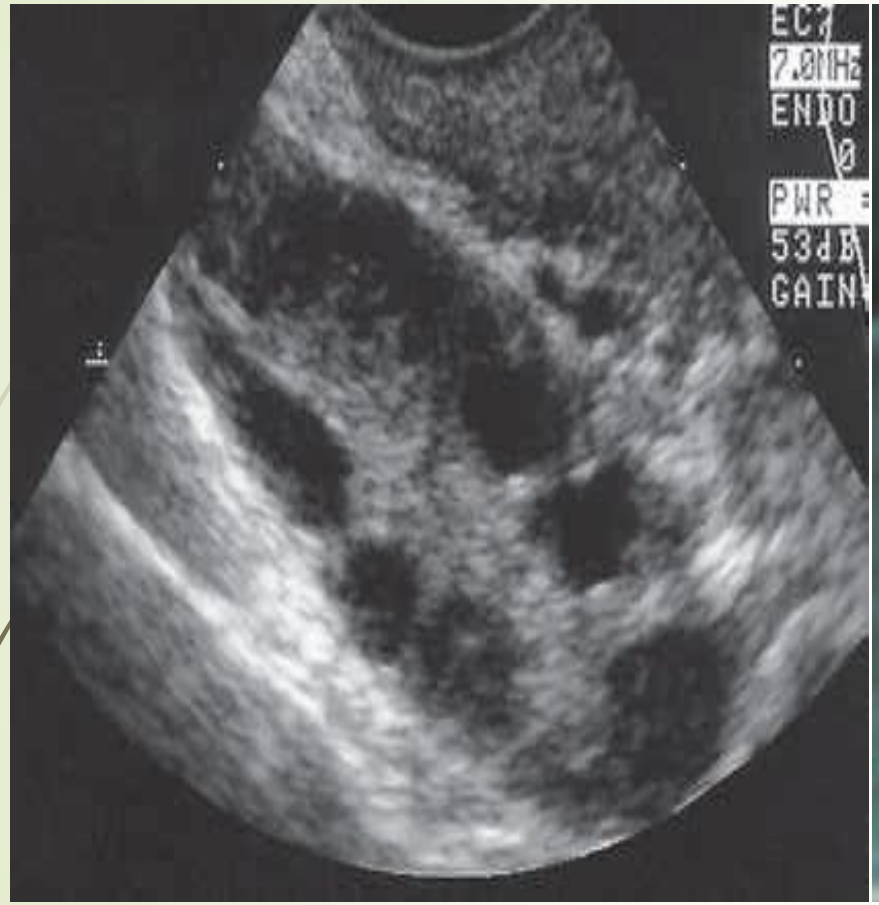
Polycystic ovarian syndrome

- PCOS is a syndrome of ovarian dysfunction along with the cardinal features of hyperandrogenism and polycystic ovary morphology.
- It affects around 5–10 per cent of women of reproductive age.
- PCOS alone seen on ultrasound is much higher at around 25 per cent.
- The aetiology not clear, but there is often a family history. It seems likely that a gene is important in its development.

Clinical features

To diagnosis of PCOS, the Patients must have two out of the three features below (Rotterdam criteria):

- amenorrhoea/oligomenorrhoea: occur in up to 75 per cent of patients, predominantly related to chronic anovulation
- clinical or biochemical hyperandrogenism (hirsutism and acne)
- polycystic ovaries on ultrasound: The ultrasound criteria' for the diagnosis of a polycystic ovary are:
  - (≥ 12 small cysts 2-9 mm in diameter
  - or an increased ovarian volume >10 mL
  - or both
  - Only one ovary with these findings is sufficient to define PCOS.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However, because other etiologies, such as congenital adrenal hyperplasia, androgen-secreting tumors, and hyperprolactinemia, may also lead to oligo-ovulation and/or androgen excess, these must be excluded. Thus, PCOS is at present a diagnosis of exclusion.

Other clinical features include:

- subfertility
- obesity
- recurrent miscarriage
- acanthosis nigricans
- increased risk of type 2 diabetes and cardiovascular
- Elevated serum LH levels and insulin resistance
- Elevated serum androgens are converted in the periphery (In adipose tissue) to estrogens., high estrogen increase risk of endometrial hyperplasia and endometrial cancer
- may be asymptomatic.

Management of PCOS involves the following:

The choice of treatment for each symptom of PCOS depends on a woman's goals and the severity of endocrine dysfunction. Thus, anovulatory women desiring pregnancy will undergo a significantly different treatment than adolescents with menstrual irregularity and acne.

- Weight reduction can result in restoration of normal ovulatory cycles in some women
- Lifestyle advice: diet and exercise
- COCP and Cyclical oral progesterone to regulate menstruation.
- Metformin: This is beneficial in a subset of patients with PCOS, those with hyperinsulinaemia and cardiovascular risk factors. It is less effective than clomiphene for ovulation induction and it does not improve pregnancy outcome. It should be discontinued when pregnancy is detected.
- Clomiphene: This can be used to induce ovulation where subfertility is a factor.

- **Hirsutism:** treatment include

❖ COCs are effective in establishing regular menses and lowering ovarian androgen production. Oral contraceptive therapy suppresses gonadotropins (both LH and FSH) and lowers circulating androgen levels, whereas its estrogen component stimulates SHBG production, which decreases free testosterone levels.

❖ Cyproterone acetate (Dianette™, anti-androgen)

❖ Spironolactone has an antiandrogen effects used in a dosage of 50 to 100 mg orally twice daily

- Eflornithine cream applied topically; This antimetabolite topical cream is applied twice daily to areas of facial hirsutism and is an irreversible inhibitor of ornithine decarboxylase. This enzyme is necessary for hair follicle.
- Finasteride is 5α-reductase inhibitor inhibit the conversion of testosterone to DHT .
- Metformin: improves parameters of insulin resistance, hyperandrogenemia, anovulation and acne in PCOS.
- Mechanical methods of hair removal include shaving, depilatory creams, electrolysis, and laser therapy.

Premenstrual syndrome

- Premenstrual syndrome (PMS) is the occurrence of cyclical somatic, psychological and emotional symptoms that occur in the luteal (premenstrual) phase of the menstrual cycle and resolve by the time menstruation ceases.
- These symptoms include cyclical weight gain, mastalgia, abdominal cramps, fatigue, headache and irritability.
- Premenstrual symptoms occur in almost all women of reproductive age. In 3–60 per cent, symptoms are severe, causing disruption to everyday life.
- The precise aetiology of PMS is unknown, but cyclical ovarian activity and the effects of oestradiol and progesterone on certain neurotransmitters, including serotonin, appear to play a role.

Management

- Life style modification: include stress reduction, alcohol and caffeine limitation; exercise.
- Medical treatment includes:
  - Combined oral contraceptive pill
  - Transdermal oestrogen
  - GnRH analogues
  - Selective serotonin reuptake inhibitors like fluoxetine
- Hysterectomy with bilateral salpingo-oopherectomy:
- Cognitive-behavioural therapy