

Polycystic Ovary Syndrome

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Introduction

- ❖ **Definition:** Polycystic ovary syndrome (PCOS) is one of the most common endocrine disorders and the leading cause of infertility in women of reproductive age
- ❖ PCOS was first identified by Stein and Leventhal in 1935 so that it can also be known as **Stein – Leventhal Syndrome**.

Etiology & Pathophysiology

What we think we know.

There are three main theories explaining PCOS:

❖ Abnormal gonadotropin secretion

❖ Excess LH

❖ Decreased FSH

❖ Hypersecretion of androgens

❖ Resulting in failure of ovulation

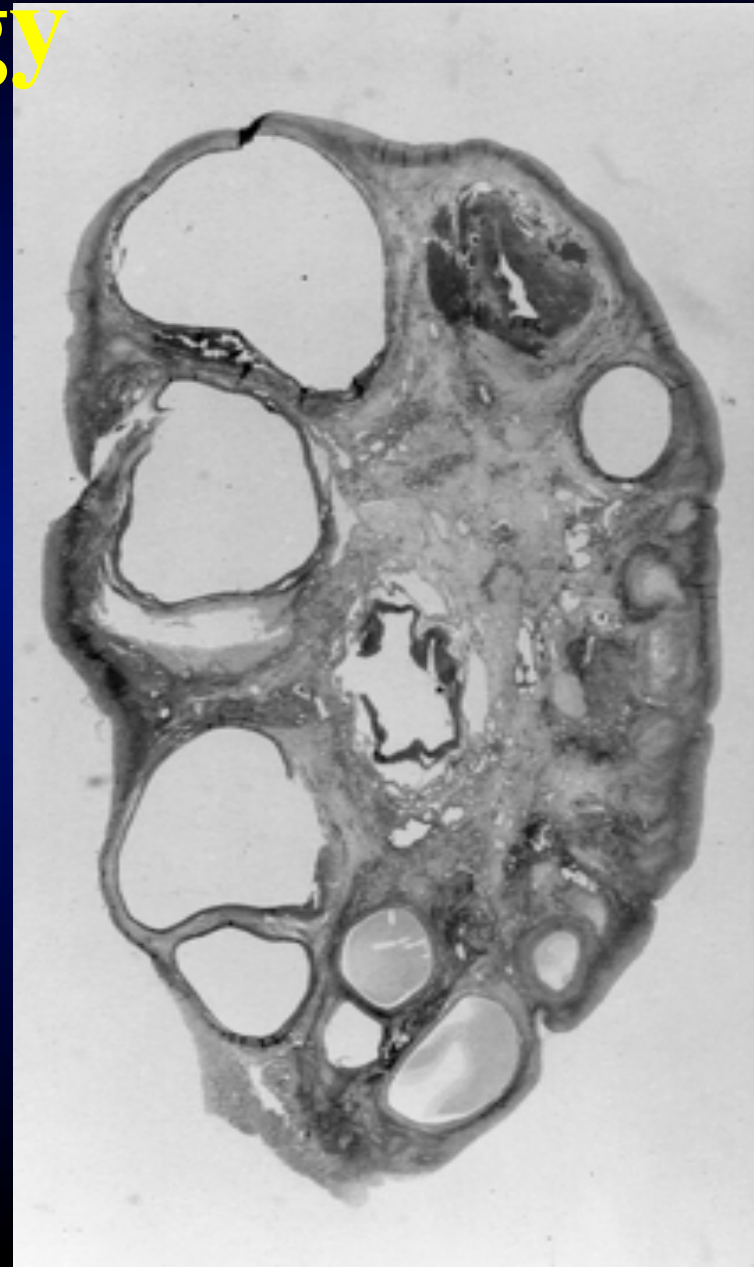
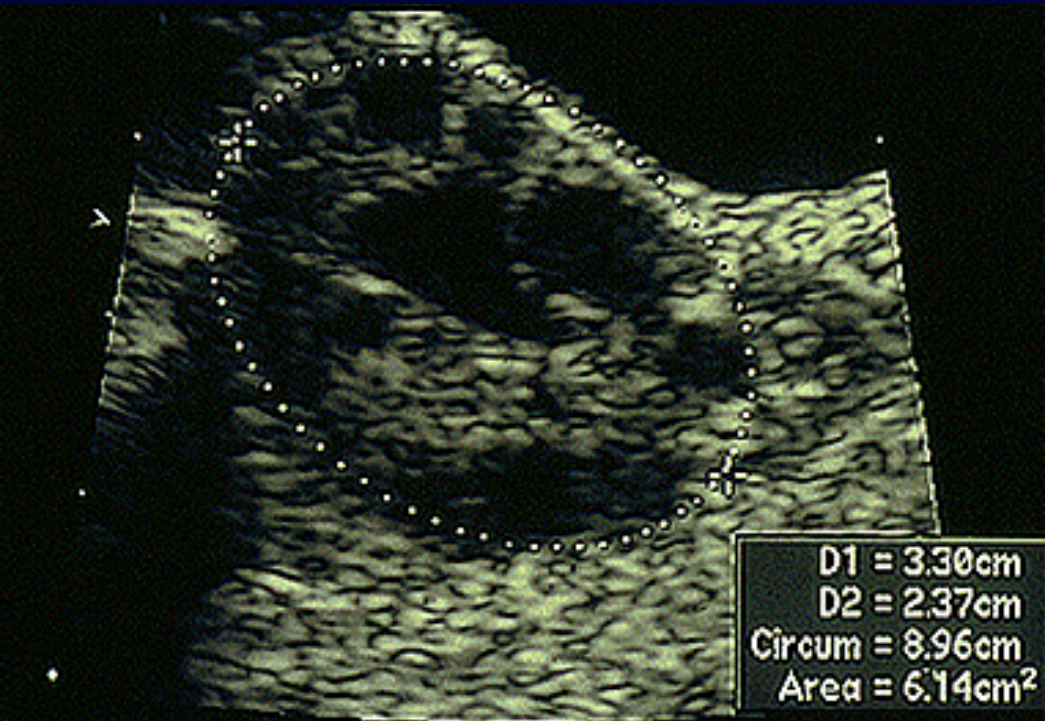
❖ The third theory of Insulin resistance

Elevated insulin levels_{PCOS}

Pathology

- ❖ **Ovaries:** enlarged and/or polycystic ovaries
- ❖ In PCOS, the ovary contains 2 - 3 times the normal number of follicles (usually more than 12) in each ovary

Pathology



PCOS

What Are the Symptoms of PCOS?



❖ Menstrual irregularities:

Women will have “spotty” periods (1 every couple of months). Also, in some women with PCOS they simply cease having a menses at all.

Symptoms

❖ **Hirsutism**: Excessive body hair. In women with PCOS dark, coarse hair will appear on the face, neck, chest, arms, and in between the legs.



Chin Hair

Symptoms

❖ Weight Problems :

Depending on the woman, there could be a decrease of weight or a rapid fluctuation of weight that settles around the stomach that will lead to morbid obesity.



Symptoms



❖ Acne:

Because women with PCOS are producing more male hormone, that produces more sebum (skin oils and old tissue) and causes blocked pores and more acne around the jawline, arms and chest.

Symptoms



❖ Alopecia or Female Pattern Baldness :

This is caused by the increase of male hormone in the women's body. Thinning or loss of hair is usually contained to top of the scalp, but in severe cases loss of hair in front or on the hairline has been documented.

Other Symptoms



❖ **“Dirty Skin” or Acanthosis Nigricans** : This condition causes light brown to black rough patches around the neck and under arms.

How can PCOS be diagnosed?

In Croatia we use Rotterdam criteria, which means two of the following three criteria :

- ❑ excess male hormone (hyperandrogenism)
- ❑ irregular menstrual cycles (oligo-ovulation or anovulation)
- ❑ increased number of the small ovarian cysts

It means the presence of more than 12 small follicles, 2–9 mm in diameter in one ovary or volume one ovary must be over 10 cm³

Long Term Effects: Heart Disease

- ❖ There is new evidence that finds women with PCOS are at a higher risk for metabolic and cardiovascular disease
- ❖ Both diseases are characterized by insulin resistance, high blood pressure, and obesity

Treatment

If pregnancy is not desired

- ☐ to reduce the risk of endometrial cancer recommend birth control pills
- ☐ other medication (cyclical progesterone, insulin-lowering agents, anti-androgens)

Treatment

- ❑ Before any medical treatment, women with PCOS who are overweight are strongly advised to reduce their weight
- ❑ This is crucial for 2 reasons, firstly overweight women do not respond well to induction of ovulation
- ❑ The second reason is that overweight increases the risks of pregnancy complications such as miscarriage, pre-eclampsia and preterm delivery

Treatment Infertility

- ❖ The first line treatment to induce ovulation is clomiphene citrate tablets, which are given for 5 days in the beginning of the cycle
- ❖ The second choice for treatment is laparoscopic ovarian drilling or daily injections with a hormone called FSH to induce ovulation
- ❖ If the patient is still not pregnant after all these treatments, IVF will be the last resort

