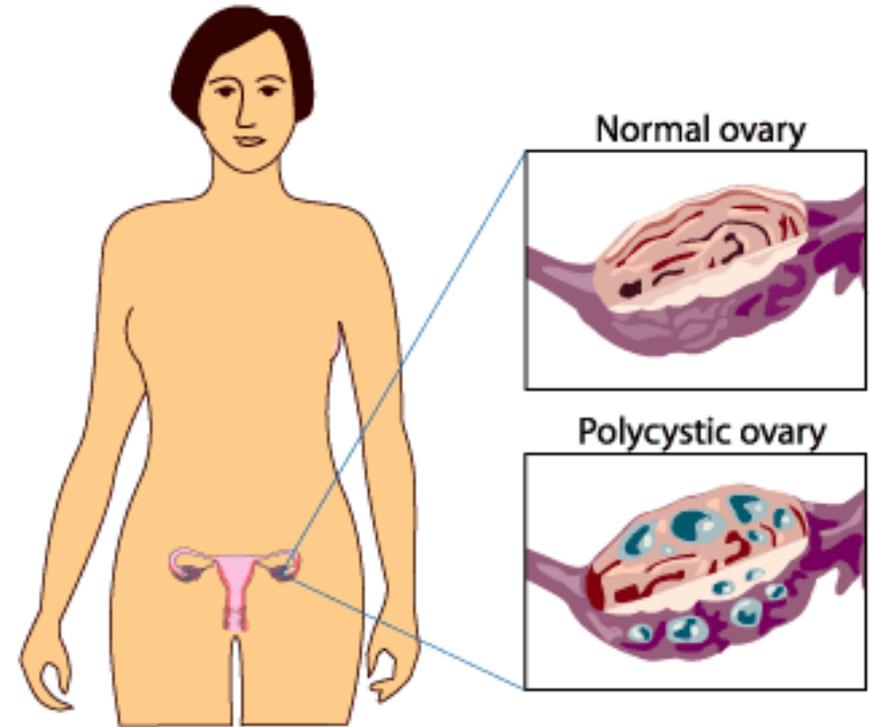


# POLYCYSTIC OVARY SYNDROME

- Amenorrhoea, hirsutism, obesity, bilateral polycystic ovaries.
- Presence of an excessive number of small follicles placed peripherally in the ovaries
- A continuous background of oestrogen production by the small follicles
- Ovarian stromal hyperplasia associated with excessive androgen production.



**Giovanni Maciocia**  
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# WESTERN PERSPECTIVE

## Description

Originally described by Stein and Leventhal, Polycystic ovary syndrome (PCOS) is one of the most common endocrinopathies in women of reproductive age. According to the initial description by Stein and Leventhal in 1935, the diagnosis of PCOS was based on the clinical symptoms (oligo/amenorrhoea, infertility, hirsutism, and obesity) in the presence of histologically verified polycystic ovaries.

Presently, ovarian morphology can easily be identified by ultrasound, which has revealed that PCOS is not only linked to the "classic Stein-Leventhal syndrome", but women with polycystic ovaries exhibit a wide spectrum of clinical presentations.

# WESTERN PERSPECTIVE

PCOS account for

75% of women with anovulatory infertility

30% to 49% of secondary amenorrhea

85% to 90% of women with oligomenorrhea.

The majority of patients with PCOS are hirsute. Obesity is also a frequent finding among women with PCOS. 30 to 60% of PCOS patients are overweight.

PCOS often comes to light during puberty due to period problems, which affect around 75% of those with the disease. Infrequent, irregular or absent periods are all common variations, many finding their periods particularly heavy when they do arrive. The period disturbance is a sign that there is a problem with regular monthly ovulation.

Many teenagers use the contraceptive pill to control their periods as irregularity or heaviness is a common complaint at this time, even in the absence of PCOS. This often leads to a delay in the diagnosis of PCOS, many not presenting until the pill is stopped and finding periods cease or become irregular.

## **ENDOCRINOLOGY**

Endocrinologically PCOS is also heterogenous; classically it is characterized by:

- Hyperandrogenism
- Inappropriate pituitary gonadotropin secretion
- Elevated LH to FSH ratio
- Hyperinsulinism.

## **Pathogenesis**

The pathogenesis of PCOS is difficult to ascertain in view of the many subsets and different phenotypes of the syndrome. However, at least two major pathogenetic mechanisms are involved:

Firstly an inherent defect in the regulation of gonadotropin secretion.

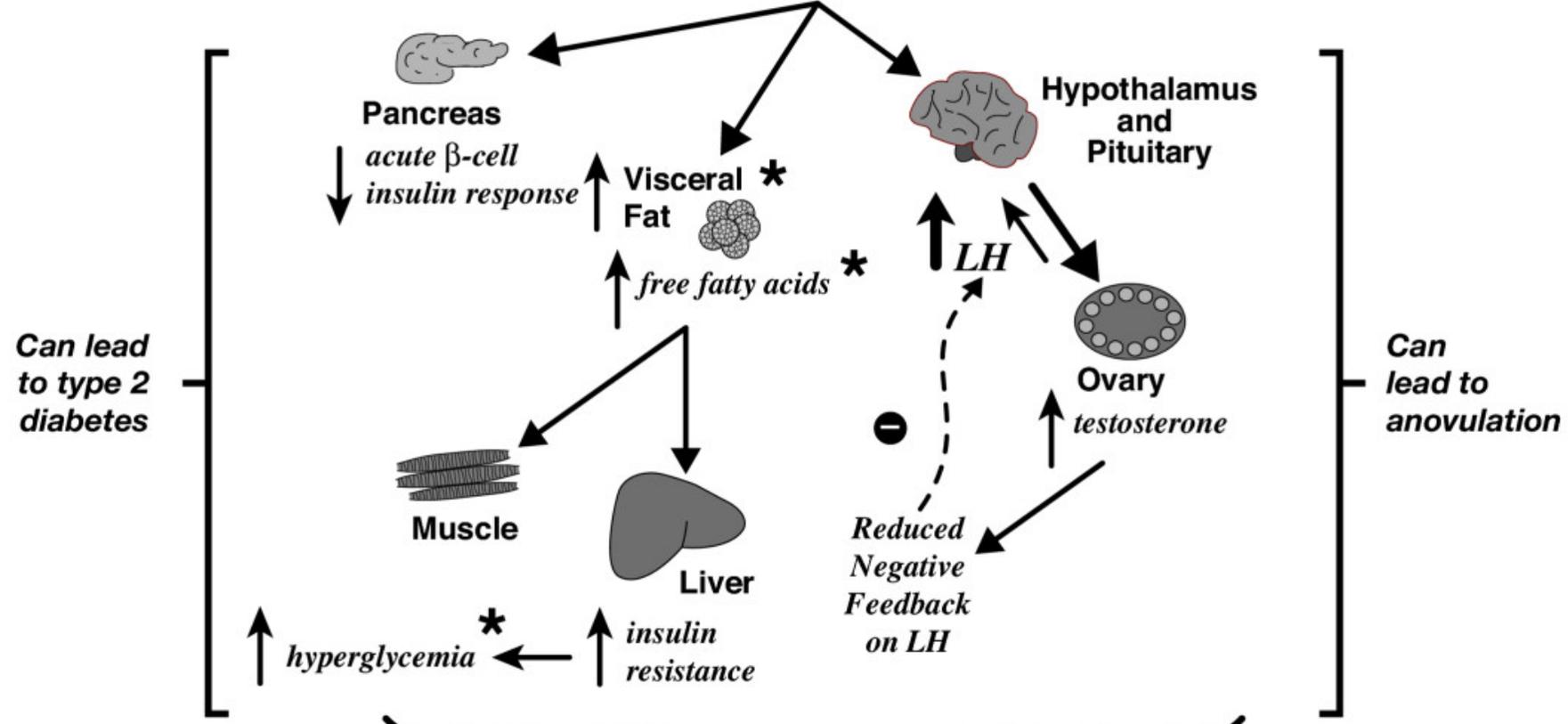
Secondly, an altered regulation of folliculogenesis and/or ovarian steroid genesis. The latter may be related to hyperinsulinemia, or auto/paracrine abnormalities of the ovaries which amplify the effects of LH in inducing ovarian hyperandrogenism, which further result in formation of follicular atresia. Hyperandrogenemia in turn perpetuate the inappropriate gonadotropin secretion, which promote a vicious cycle. The synergistic effect of obesity aggravating these mechanisms is important but obviously not primary.

**Genotype or Environment**

**Prenatal Androgen Excess**

**Metabolic consequence**

**Reproductive consequence**



Can lead to type 2 diabetes

Can lead to anovulation

\* Metabolic syndrome phenotype

**Adult PCOS phenotype**