

INSULIN RESISTANCE & PCOS

WORLD DIABETES DAY- 2021



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INTRODUCTION

Polycystic ovary syndrome (PCOS):

A common endocrine disease that affect females in the age of childbearing "premenopausal". A condition in which the ovaries produce an abnormal number of androgens, male sex hormones that are usually present in women in small amounts. The name polycystic ovary syndrome describes the numerous small cysts (fluid-filled sacs) that form in the ovaries.

Insulin resistance:

Insulin resistance is identified as an impaired biologic response to insulin stimulation of target tissues, primarily the liver, muscle, and adipose tissue. Insulin resistance impairs glucose disposal, resulting in a compensatory increase in beta-cell insulin production and hyperinsulinemia.

CAUSES

It is well known that most PCOS patients have some degrees of insulin resistance regardless of their weight and BMI. This feature can be explained by increased phosphorylation of the serine residue of the insulin receptor substrate-1 molecule, and inhibition of insulin receptor signaling in lean PCOS individuals.

SYMPTOMS

Infertility

Weight changes

Acne

testosterone levels

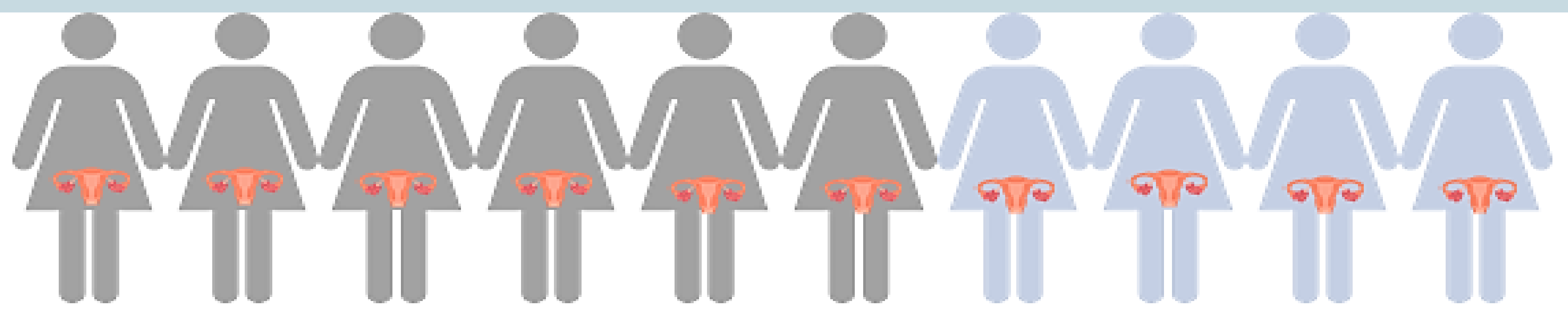
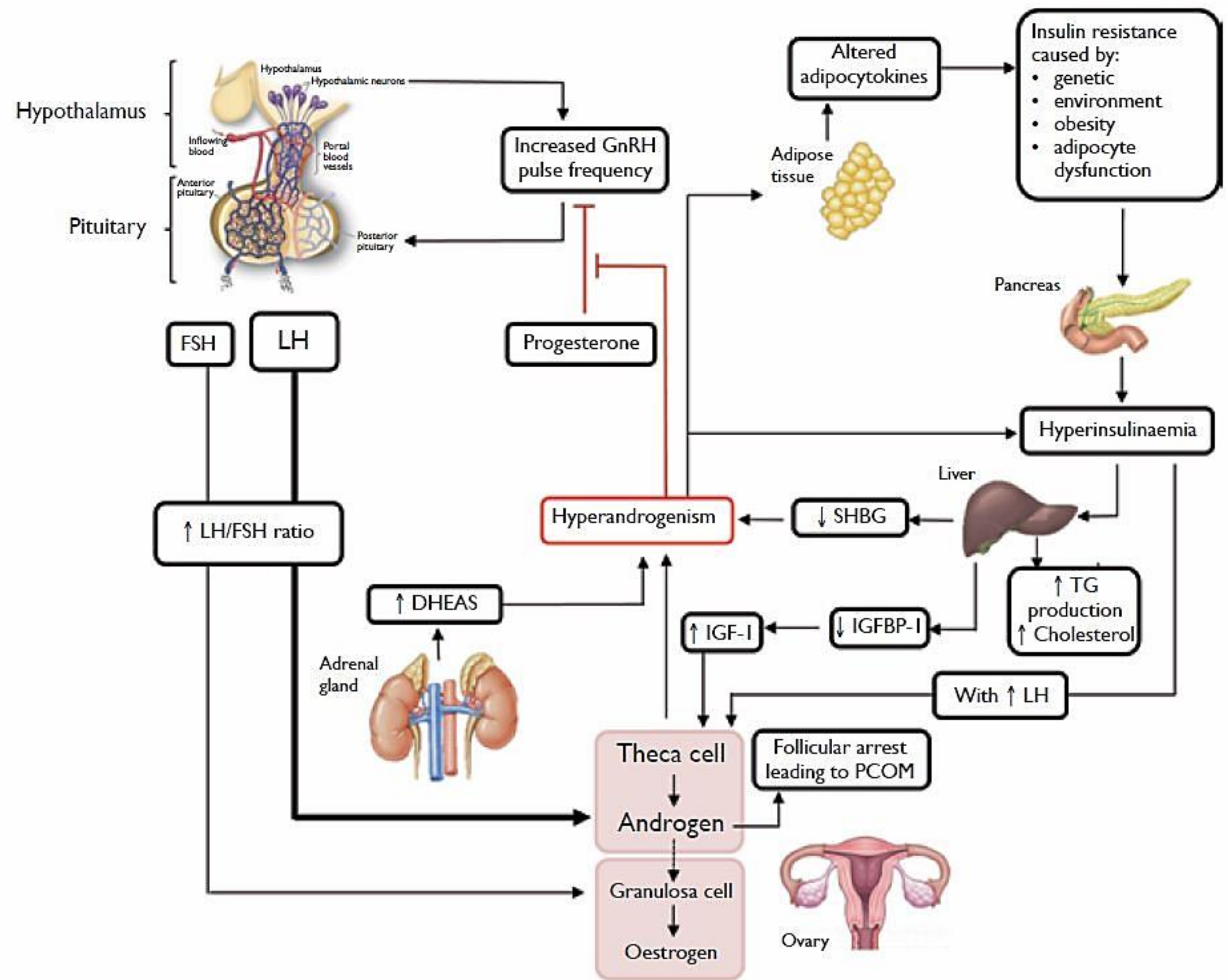
Ovarian cysts

Excessive body hair growth

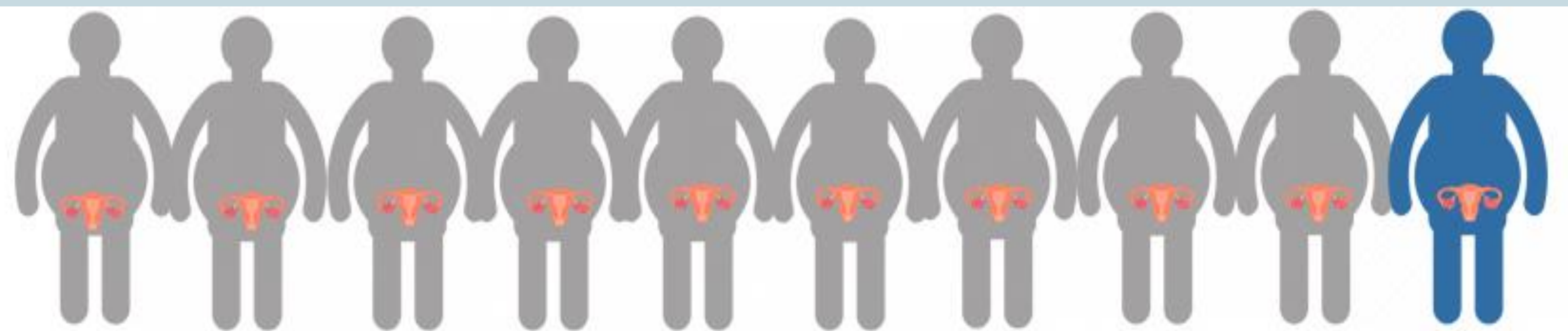
Acanthosis Nigricans

Sugar craving

PATHOPHYSIOLOGY



60 – 80 % insulin resistance with PCOS



95% Obese having insulin resistance with PCOS

RISK FACTORS

- Hereditary.
- Obesity.
- Uncontrolled Carbohydrates intake.
- Lack of physical activity.

TESTS

Tests done to check the insulin resistance

- IGT
- impaired fasting glucose
- hyperinsulinemia– euglycemic glucose clamp technique

TREATMENT

- The most common drug used in clinical practice for treating PCOS with insulin resistance is Metformin (Glucophage) 500 mg BID.
- Mechanism of action of metformin: increase the insulin sensitivity

Advantages:

1. Restoring ovulation
2. Reducing weight
3. Reducing circulating androgen levels
4. Reducing the risk of miscarriage
5. Reducing the risk of gestational diabetes mellitus (GDM)

Disadvantages:

1. Nausea
2. Diarrhea
3. Flatulence
4. Bloating
5. Anorexia
6. Metallic taste
7. Abdominal pain.

LIFE-STYLE MODIFICATION

1. Balanced diet: by controlling carbs intake and decrease intake of refined sugar
2. Exercise: walk 30-60 min daily
3. Drink plenty of water up to 2-3 L daily and eat fruits and vegetables

SCAN ME

