



A COMPREHENSIVE REVIEW ON POLYCYSTIC OVARY SYNDROME

¹ IBRAHIM ALI ADAM, ² MS. TANYA SHARMA, ³ NASIR NAZIR NAJAR

¹ Student at Mewar University Gangrar chittorgarh Rajasthan

² HEAD, Faculty of Pharmaceutical sciences at Mewar University Gangrar chittorgarh Rajasthan

³ Student At Mewar University Gangrar Chittorgarh Rajasthan

ABSTRACT :

PCOS is a common endocrine condition that affects women who are of reproductive age. A number of characteristics, such as irregular or non-existent menstruation, high testosterone levels, and numerous ovarian cysts, are indicative of this condition. Numerous health problems, including infertility, insulin resistance, type 2 diabetes, cardiovascular disease, and endometrial cancer, are linked to PCOS. Although the precise origin of PCOS is unknown, a mix of environmental and genetic factors are thought to be involved. Ultrasound imaging, hormone level tests, and clinical evaluation are usually used in conjunction for the diagnosis. Management options, which may involve lifestyle changes, medication, and, in certain situations, surgical procedures, are aimed at controlling symptoms and lowering long-term health risks.

Introduction

Women of reproductive age are afflicted with PCOS, a hormonal condition. High amounts of androgens (male hormones), irregular menstruation periods, and ovarian cysts are its defining characteristics. About 5–10% of women of reproductive age have PCOS, making it one of the most prevalent endocrine illnesses affecting women. It can significantly affect a woman's general well-being, fertility, and emotional and physical health, all of which can have an impact on her quality of life.

Keywords insulin resistance, , polycystic ovarian syndrome, molecular causes, treatment, and drug repurposing

Symptoms

Although they can vary, Polycystic Ovary Syndrome (PCOS) symptoms frequently include: - Absence or irregular menstruation Excessive facial, chest, back, or belly hair growth (hirsutism); severe bleeding; acne; or greasy skin Gaining weight or having trouble losing it - Hair loss or thinning The presence of black spots or skin tags; headaches; and trouble conceiving.

Causes

Although the precise etiology of Polycystic Ovary Syndrome (PCOS) is unknown, it most likely stems from a confluence of factors: Genetics: There may be a hereditary component to PCOS because it frequently runs in families. Insulin resistance: A large number of women with PCOS have insulin resistance, which is characterized by improper insulin use by their cells. Higher insulin levels may result from this, which could boost the production of androgen. Hormone imbalances: PCOS is linked to abnormalities in other hormones as well as high levels of androgens, or male hormones, such as testosterone. – Inflammation: PCOS may be associated with persistent low-grade inflammation. Environmental factors: Research is still being conducted, although exposure to specific substances or lifestyle choices may be involved. The fact that these elements frequently interact makes PCOS a complicated illness.

Diagnosis

Making a diagnosis There is no specific test for PCOS diagnosis because it is one of the disorders that cannot be identified by standard diagnostic procedures like blood tests, cultures, and biopsies. Differential diagnosis is the process of reducing the options and ruling out pertinent conditions based on symptoms. Based on the related studies, hyperprolactinemia, thyroid disorders, Cushing's syndrome, and adrenal hyperplasia should be ruled out in order to establish a differential diagnosis for PCOS [10,11]. While taking into account past medical history, weight fluctuations, and insulin resistance symptoms may be useful, the most commonly suggested tests are a pelvic examination, a transvaginal ultrasound, and hormone level measurement [12].

Prevention

Since the precise causes of Polycystic Ovary Syndrome (PCOS) are yet unknown, there is no surefire method to prevent it. To control symptoms and lower the chance of problems, you can do the following: Keep your weight within a healthy range: Insulin resistance and hormone levels can be improved with even modest weight loss. Consume a well-rounded diet: Emphasize whole foods, such as whole grains, lean meats, fruits, and vegetables. Restrict your intake of processed meals, sugary beverages, and too many carbohydrates. Engage in regular exercise: To enhance insulin sensitivity and general health, try to combine cardiovascular and strength training. Handle stress: Hormonal abnormalities can be exacerbated by high amounts of stress. Engage in relaxation exercises such as yoga or meditation. Frequent check-ups: To keep an eye on your health and handle any concerns, schedule routine check-ups with your physician.

Treatment

The goals of PCOS treatment are symptom management and lowering the chance of long-term health issues. Treatment choices frequently consist of: Changes in lifestyle: Diet: Consuming a diet rich in whole grains, fruits, and vegetables. Limiting sugar-filled beverages and processed foods. Exercise: Consistent physical activity can enhance general health and insulin sensitivity. Weight management: If you are overweight or obese, losing weight can greatly alleviate your symptoms. – Drugs: Birth control pills: To lessen acne and excessive hair growth, as well as to control menstrual periods. Anti-androgen drugs, like spironolactone, work by blocking the effects of androgens and preventing acne and excessive hair development. Metformin: To aid in ovulation and improve insulin resistance. Fertility treatments: If you're trying to conceive, gonadotropins or clomiphene can help stimulate ovulation.

Conclusion

In summary, there is no known treatment for Polycystic Ovary Syndrome (PCOS), a complicated hormonal condition, however there are efficient management techniques. These tactics include dietary and activity changes, hormone-regulating and symptom-management drugs, and fertility procedures for people who want to become pregnant. Improving quality of life and lowering long-term health risks related to PCOS require early diagnosis, individualized treatment programs, and routine medical monitoring.

REFERENCES :

1. Rees DA, et al. A narrative review of the long-term health consequences of polycystic ovarian syndrome in young women. 97:187–98 in Clin (Oxf) 2022.
2. Diagnosis and a dearth of knowledge linked to polycystic ovarian syndrome-afflicted women's discontent. 102:604–12 in J Clin Metab, 2017
3. The 2023 worldwide evidence-based guideline's recommendations for the diagnosis and treatment of polycystic ovarian syndrome. 108:2447–69; J Clin Metab, 2023.
4. Therapies for polycystic ovarian syndrome (PCOS) that focus on neuroendocrine dysfunction. 97:156–64 in Clin () 2022.
5. In women with polycystic ovarian syndrome, is caused by adipose androgen production mediated by Akr1C3. 102:3327–39 in J Clin Metab, 2017
6. Definition, origin, diagnosis, and therapy of polycystic ovary syndrome. In 2018, Nat Rev , 14:270–84.
7. Polycystic Ovarian Syndrome's geographic prevalence by race/ethnicity and location. Public Health Int J Environ Res 2018; 15.
8. How central androgen receptor activation controls the hypothalamic-pituitary-ovarian axis. Neuroendocrinology, 106:389–400, 2018
9. Food consumption and sex hormones control the expression of Kiss-1 mRNA in adipose tissue. Mol Cell 281:64–72 (2008).
10. Patients with decreased ejection fraction and heart failure. 2019; N Engl J Med 381: 1995–2008.