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PCOS: How Much One Should Know?

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Editorial
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The Only True Wisdom in Knowing is You Know Nothing...!!

Socrates aptly said this because knowing anything is truly exploration and exploration in medicine opens the endless queries and concerns of disease. Polycystic ovarian syndrome (PCOS) or Polycystic ovarian disease (PCOD) is the best example of an endless ocean of mysteries of any disease profile. Innumerous research, endless publications, thousands of enthusiastic clinicians and still craving the best treatment, tell the real story of the commonly found agonizing disease of females. Medicine will always be indebted to its ardent scientific buffs so we too owe Stein and Leventhal who recognized the typical features in seven women way back in 1935 and captured that as a syndrome in female patients who were having hirsutism, obesity, amenorrhea, and bilateral enlarged polycystic ovaries [1]. Since then many diagnostic criteria come up with a combination of symptoms, laboratory investigation, and ultrasonography pictures. As per recent advancements, PCOS is often claimed as an insulin resistance disease. These patients also have higher levels of androgens which inhibit ovulation causing irregular periods, acne, thinning scalp hair, and excess hair growth on the face and body, often darkening of skin with creases and folds (Acanthosis nigricans). It is becoming an epidemic in young females due to current lifestyles and evolving disease patterns [2]. It runs in families. Diagnosis is confirmed according to Rotterdam criteria if she has two out of three manifestations- (1) clinical or biochemical hyperandrogenism-elevated free testosterone or Ferriman Gallwey score of ≥8 (2) disturbed ovulatory function with oligomenorrhea (cycle of >35 days interval or < 9 cycles/year or amenorrhea (cycle length> 12 weeks) after negative screening pregnancy test (3) polycystic ovary [3-5].

According to FIGO menstrual cycle of >38 days intervals is considered than 35 days. Depending on the complexities associated with PCOS, FIGO categorizes PCOS as a separate entity apart from the Hypothalamus, Pituitary, and Ovarian system of classification by using the acronym- HyPO-P, where the 'P' stands alone because it does not exist in a single anatomical location [6].

Patients with established insulin resistance are diagnosed by using the HOMA-IR (Homeostatic Model Assessment for Insulin Resistance) index which can be supported by clinical evidence of BMI> 23 or impaired GTT or cutaneous manifestations like acanthosis nigricans [7]. As such, PCOS is a diagnosis of exclusion, if there is a history of irregular cycles> 2 years, persistently raised testosterone, moderate to severe acne, and or hirsutism. These patients have to be differentiated from Cushing's syndrome, late onset of congenital adrenal hyperplasia, androgen-secreting tumors, thyroid diseases, hyperprolactinemia, and pregnancies. These patients are at risk of metabolic syndrome, dyslipidemia, sleep apnea, depression, anxiety, gestational diabetes, obesity, diabetes mellitus, hypertension, cardiovascular diseases, and endometrial cancers. These patients are also at increased risk of the requirement of surgical procedures like laparoscopic ovarian drilling, IVF, and ART.

On physical examination, height weight BMI, and waist-hip circumference measurement are of utmost importance. Waist circumference is measured between the lower rib margin and the iliac crest in the mid-axillary line at the end of normal expiration. Hip circumference is measured at the level of highest prominence of the buttock parallel to the floor. Menstrual history parameters are taken care of according to FIGO- (1) cycle to cycle variation over 12 months ± 2-20 days (2) frequency 24-38 days (3) flow 5-80mL (4) duration 4½

-8 days [8]. Lab assessment includes fasting glucose level, fasting serum insulin, 75gm OGTT, HOMA-IR, Lipid profile, Thyroid profile, SHBG, Serum Testosterone, Day 2-3 LH, FSH, E2, Day-21 Progesterone, pelvic ultrasound.

Management includes lifestyle measures are the key to success. Diet, exercise, weight-loss program, Vitamin-D supplementation, insulin sensitizers along with avoidance of alcohol and smoking. Insulin sensitizers (1) D-chiro-inositol 27.6mg plus Folic Acid 100mcg plus Myo-inositol 1100mg (2) Metformin started as 500mg once daily then increased after 1-2 weeks up to a maximum of 2-2.5 gm/day are usually advocated if there is impaired OGTT, high fasting insulin and dyslipidemia [9].

These can be also used in patients having hirsutism. Metformin is often associated with the low vitamin B12 levels. For irregular cycles, progesterone withdrawal (Dydrogesterone/Medroxyprogesterone acetate) could be given 3-4 times a year. If combined OCPs are given, they could be continued for 6-12 months. FOGSI says that for patients with metabolic syndrome with BMI>30, there is a need for endocrinologic referral, multidisciplinary care, and low-dose COCs (Combined oral contraceptives). The choice of COCs has to be individualized but low-dose ethinyl estradiol (20-30mcg) with desogesterol or drospirenone is preferred [9]. For weight reduction, an energy deficit of 30% or 500-750 Kcal/day is advocated. Exercise helps a lot in managing the weight in an optimum way by walking of an average 10000 steps/day with 30 minutes of 3000 steps.

PCOS is often associated with psychological issues in females because of infertility, masculine-type hair patterns, irregular menstrual disorders, alopecia, etc. Patients usually develop anxiety and depression as these symptoms are somewhat social stigma to them too. So, the clinician must try to focus the treatment on the psychological care of the patients along with the metabolic and physical ailments.

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