

Polycystic Ovarian Syndrome In Adolescents - Current Therapeutic And Diagnosis Strategies

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I. OBJECTIVE

Using 2018 updated Rotterdam criteria, prevent overdiagnosis of PCOS in teenagers and identify those most at risk of long-term weight gain.

II. BACKGROUND

The most prevalent endocrinopathy in women of reproductive age is a polycystic ovarian syndrome (PCOS), which has an estimated frequency of 8-13% (1). Its etiology comprises insulin resistance and hyperandrogenism, which fuel the metabolic (metabolic syndrome, diabetes, cardiovascular risk factors), reproductive (menstrual dysfunction, infertility), and psychological (anxiety, depression, bad quality of life) consequences. PCOS adds to the overall burden of the disease because of its high incidence, a wide range of clinical symptoms across the lifetime, and high prevalence of obesity, which worsens its clinical features.

It is difficult to diagnose PCOS, or polycystic ovarian syndrome. The 2018 worldwide PCOS guideline recommends updated Rotterdam criteria with both hyperandrogenism and oligo- anovulation for adolescents based on evidence-based expert consensus, although the 2003 Rotterdam criteria are frequently utilized for adults. Menstrual irregularities and multi-follicular ovaries are features of normal pubertal physiology, making PCOS harder to diagnose in teenagers. Furthermore, using adult diagnostic criteria resulted in a high prevalence of PCOS, which could lead to overdiagnosis.

III. METHOD

- For the diagnosis of PCOS in teenagers, the 2018 international PCOS guideline modified the Rotterdam criteria and now suggests using oligo-anovulation and hyperandrogenism while avoiding PCOM (1)
- It acknowledged the difficulty in distinguishing between real ovulatory dysfunction and normal "physiological adolescent anovulation," but emphasized that the majority of adolescent menstrual cycles still fit within specified guidelines. The

following specific criteria are used to increase diagnostic precision and prevent overdiagnosis (2):

Unusual menstrual cycles, as determined by the number of years post-menarche: > 90 days for any one cycle (> 1 year post-menarche), cycles of 21 to 45 days (> 1 to 3 years post-menarche), cycles of 21 to 35 days (> 3 years post-menarche), and primary amenorrhea by age 15 or > 3 years post-thelarche. Irregular menstrual cycles (< 1 year post-menarche) show typical pubertal transition.

- (1) Biochemical hyperandrogenemia characterized as hirsutism, severe acne, and/or hyperandrogenism as determined by assays of high validity.
- (2) Within eight years of menarche, pelvic ultrasonography is not advised for the diagnosis of PCOS.
- (3) Low levels of the anti-Müllerian hormone are not suggested for PCOS diagnosis; and
- (4) Ruling out other conditions that resemble PCOS. With the proper symptomatic treatment and routine reevaluations, a "at risk" designation can be considered for teenagers who exhibit symptoms of PCOS but do not match the diagnostic criteria. Reassessment of the menstrual cycle may begin more than three years following menarche, and ultrasonography evaluation may begin eight years after menarche in cases where only monthly irregularity or hyperandrogenism was previously evident. The maximal ovarian capacity is attained at age 20, according to normative models, hence a gynecological age cut-off of 8 years or younger was adopted (2)It is necessary to screen for sadness and anxiety, and evaluation of eating disorders should be taken into account.

IV. RESULTS:

PCOS was identified in 66 (29.1%) people in research by Tay and Hart (3) using the old criteria versus 37 (16.3%) participants using the updated Rotterdam criteria. In the consensus paper (4), other significant diagnostic factors that were mentioned included: To start treatment, PCOS does not require a confirmed diagnosis. Even without a confirmed diagnosis, treatment may reduce the likelihood of future comorbidity; Delaying the diagnosis of PCOS while providing symptom therapy and regular/frequent symptomology follow-up is advised; Although it

is known that teenagers with PCOS frequently have obesity, hyperinsulinemia, and insulin resistance, these characteristics should not be utilized as diagnostic indicators; Before PCOS can be identified, other causes of hyperandrogenemia and irregular menstrual cycles must be ruled out. The benefits of healthy lifestyle measures to avoid excessive weight gain are supported by the available data and should be advised.

V. CONCLUSION

The diagnostic criteria have been improved to prevent the delayed, under-, or over-diagnosis of PCOS, and the treatment of PCOS during adolescence has been made clear through extensive international participation and rigorous processes. Nonetheless, the synthesis of the available data and the development of the recommendations made clear the necessity for more study on PCOS in adolescents.

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