

# Increasing the Index of Suspicion for the Diagnosis of Polycystic Ovary Syndrome (PCOS) in Adolescents

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## Case Presentation

This case highlights the diagnosis and treatment plan for a 14-year-old female who presented to our residency-run clinic with complaints of acne and amenorrhea for the past six months.

Menarche began at age 13, but she experienced irregular, heavy periods every 2-3 months soon thereafter. The patient's mother stated topical acne treatments had been ineffective and she had recently been gaining weight.

History and physical found the patient's height measured 5 ft 2 in. and weight was 176 lbs., with a BMI of 32.2. Pubertal stage was Tanner Stage 4. Mild to moderate inflammatory acne vulgaris was noted on her face and upper back. No hirsutism or androgenic alopecia was noted.

## Diagnosis of PCOS

H&P

- ☐ Menstrual history
- ☐ BMI
- ☐ Blood Pressure
- ☐ Physical signs of androgen excess

Labs

- ☐ Serum total and free testosterone
- ☐ DHEAS, 17- hydroxyprogesterone
- ☐ TSH, prolactin
- ☐ FSH, LH, estradiol
- ☐ Fasting glucose

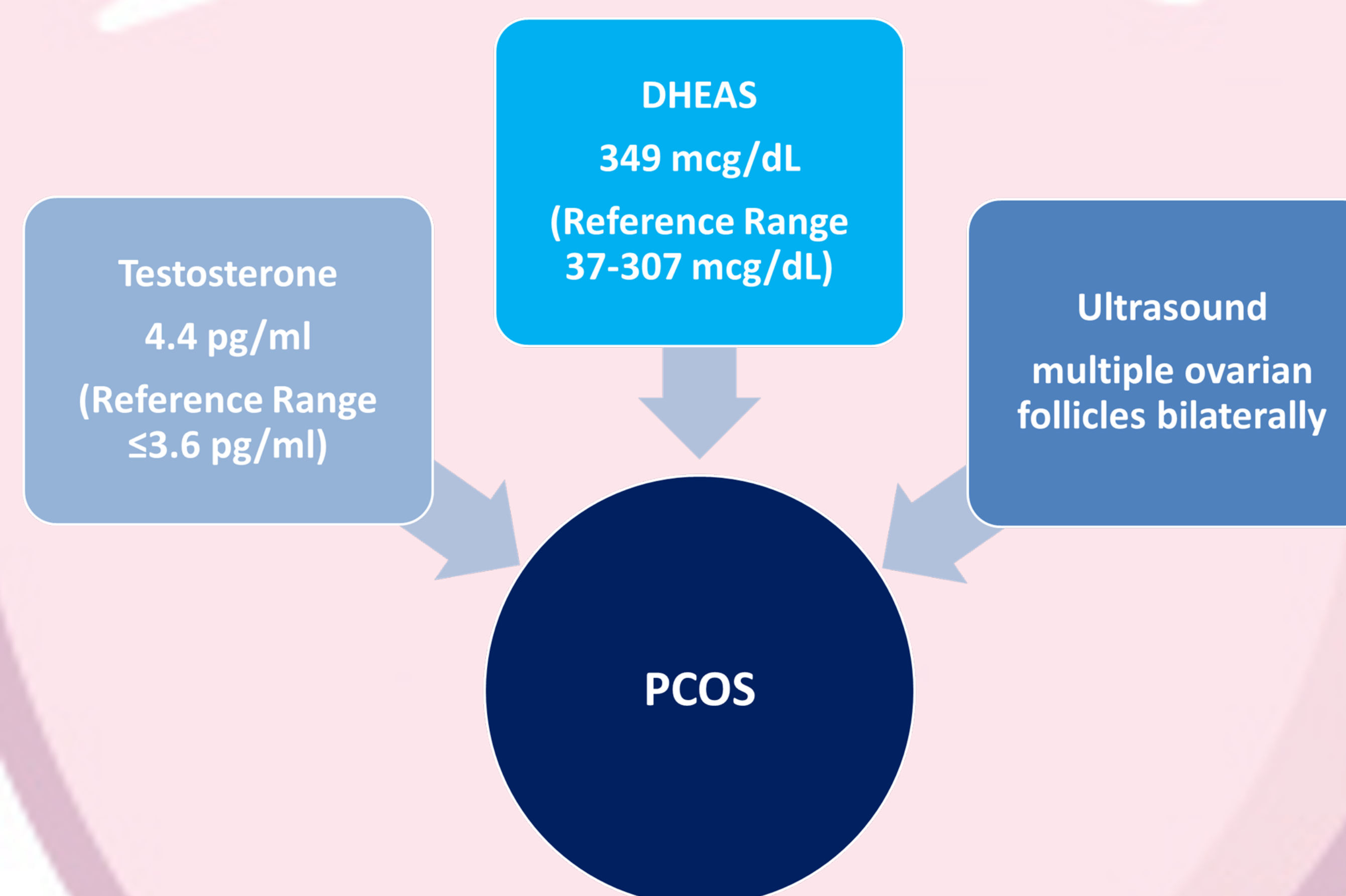
Imaging

- ☐ Transvaginal Ultrasound

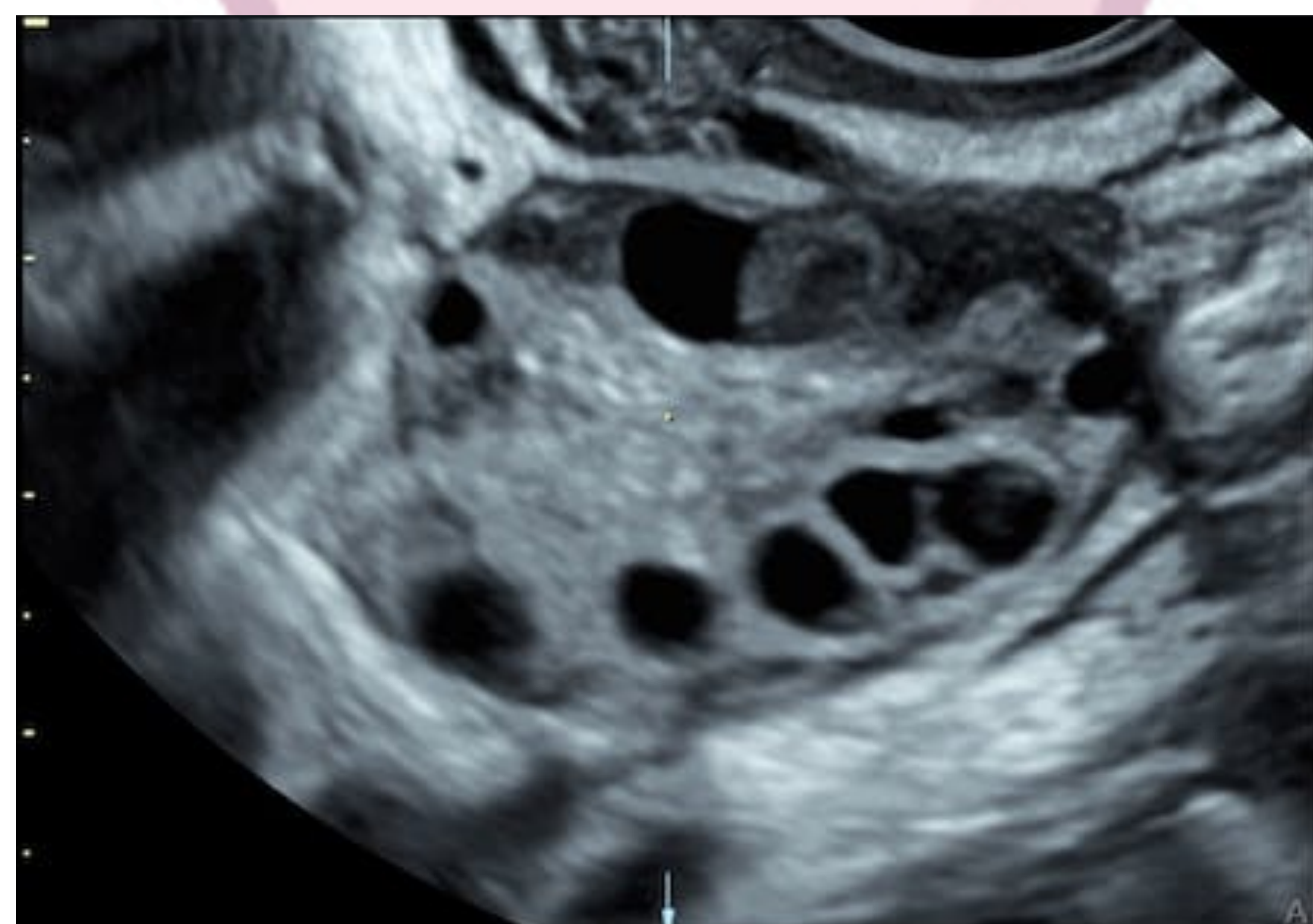
## Additional Diagnostic Testing

Follicle stimulating hormone (FSH), luteinizing hormone (LH), estradiol levels, a diabetic screen with fasting, and two-hour glucose tolerance tests, a lipid panel, and a fasting insulin level were all within normal limits.

## Patient's Results



## 3D Ultrasound Polycystic Ovary



General Electric (GE) Website Empowered Women's Health. PCOS Diagnosis: The Role of Pelvic Ultrasound. Accessed at: <https://www.volusonclub.net/empowered-womens-health/pcos-diagnosis-the-role-of-pelvic-ultrasound>

## Discussion

- PCOS is the most common endocrinopathy in women of reproductive age, but is often unrecognized, undiagnosed, and undertreated in adolescents, as family medicine physicians have limited exposure to adolescent women's health
- The incidence for adolescents, though not well-documented in literature, has been reported to be approximately 11-26%
- PCOS manifests with a trio of symptoms: oligomenorrhea, hyperandrogenism, and multiple ovarian follicles on pelvic ultrasound
- For adolescents, the most useful diagnostic criteria is the National Institute of Health criteria, which requires both hyperandrogenism and oligomenorrhea or amenorrhea for diagnosis
- Definitive diagnosis of PCOS is not required to initiate treatment.
- First-line treatment is lifestyle and dietary changes for weight loss and to improve insulin resistance
- A three-pronged medication regimen may be considered, including:
  - Combination OCPs to restore regular menstrual cycles and prevent development of endometrial hyperplasia
  - Spironolactone to improve hirsutism and acne
  - Metformin to decrease insulin resistance and help with weight loss
- Prompt recognition and treatment of PCOS in adolescents is important to reduce the risk of future comorbidities such as infertility, metabolic syndrome, and cardiovascular disease

## Management & Follow-Up Care

- The patient was prescribed combination OCPs to restore regular withdrawal bleeding pattern and spironolactone for cystic acne
- The use of dual therapy with combined OCPs and spironolactone was instituted to provide faster and more complete resolution of her hyperandrogenic symptoms
- At her six-month follow-up, she had an eight lb. weight loss and substantial resolution in her facial and upper back acne

## References

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3. Rosenfeld, R. The diagnosis of polycystic ovary syndrome in adolescents. Pediatr. 2015;136(6):1154-1165.
4. Tehrani, FR, Amiri, M. Polycystic ovary syndrome in adolescents: challenges in diagnosis and treatment. 2019. Int J Endocrinol Metab. July 17(3). doi:10.5812/ijem.91554.