

PREVALENCE AND CHARACTERISTICS OF POLYCYSTIC OVARY SYNDROME IN OBESE ADOLESCENTS

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BACKGROUND

Polycystic ovary syndrome (PCOS) in adolescence is a challenging diagnosis and therefore has raised intense discussions. Its prevalence in childbearing age women ranges from 5 to 10%. However, the prevalence in obese adolescents has not yet been reported. Besides, the relationship of PCOS with metabolic and cardiovascular disorders in this specific population has not been established. Thus, we aimed to assess the prevalence and characteristics of PCOS in a population of obese adolescents followed at a quaternary hospital.

METHODS

We performed a cross-sectional study with 49 postmenarcheal obese adolescents with a mean age of 15.6 years. Anthropometric assessment and review of medical records were performed. Clinical and laboratory hyperandrogenism were evaluated using Ferriman-Gallwey index (Figure 1) and serum androgens, respectively. The ovarian morphology was evaluated by supra-pubic pelvic ultrasound. All patients had their metabolic profile evaluated.

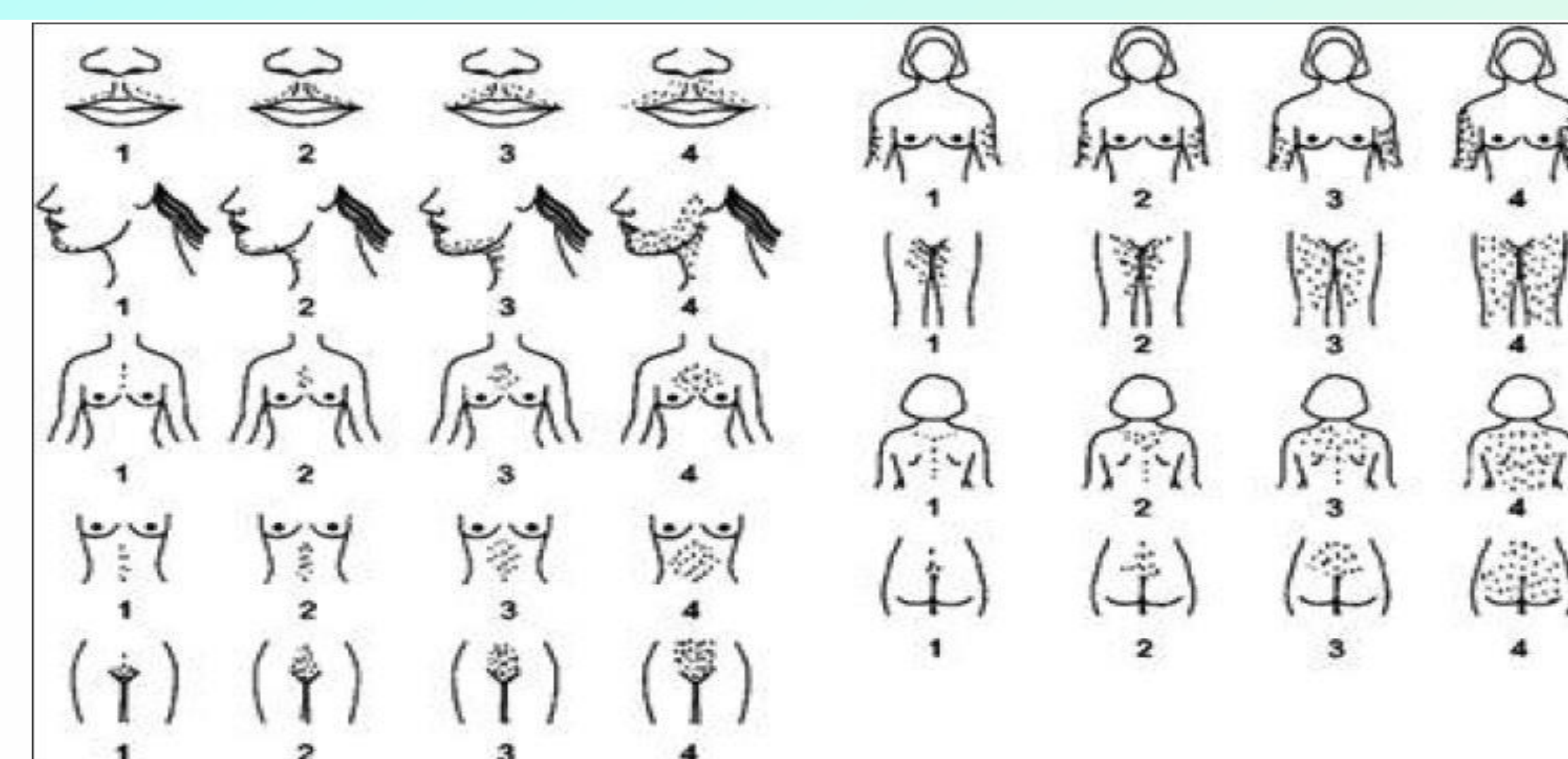


Figura 1: Ferriman-Gallwey index for hirsutism

RESULTS

The prevalence of PCOS in obese adolescents, according to the new guideline for PCOS in adolescence of the American Pediatric Endocrinology Society, was 18.4%. When assessed by the Rotterdam, the Androgen Excess and PCOS Society and the National Institute of Health criteria, the prevalence of PCOS was 26.4%, 22.4% and 20.4%, respectively (Table 1).

Menstrual irregularity was found in 65.3% of the patients. Clinical hyperandrogenism was observed in 16.3% while 18.4% had total testosterone concentrations above the normal range. Ultrasonography revealed that 18.4% had polycystic ovaries (Table 2). Obese adolescents with PCOS had higher prevalence of metabolic syndrome [4/9 (44,4%)] x [4/40 (10%)].

| Criteria | n (total: 49) | Confidence (%) | Interval (95%) |
|-----------------------------------|---------------|----------------|----------------|
| PES-Guideline (2015) ¹ | 9 (18.4%) | 9.2; | 32.5 |
| NIH ² | 10 (20.4%) | 10.7; | 34.8 |
| AES ³ | 11 (22.4%) | 12.2; | 37.0 |
| Rotterdam ⁴ | 13 (26.5%) | 15.4; | 41.3 |

Table 1: Prevalence of Polycystic Ovary Syndrome according to criteria of the NIH (National Institution of Health - USA), Rotterdam criteria, AES (Androgen Excess and Polycystic Ovary Syndrome Society) and the PES-Guidelines (2015): Guidelines of the Pediatric Endocrinology Society; n: number of affected patients

CONCLUSIONS

The prevalence of PCOS in obese adolescents is high compared to that observed in the literature.

BIBLIOGRAPHY

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| Variables | n (total: 49) (%) | CI (95%) | |
|----------------------------------|---|-------------------|-------------------|
| Chronic anovulation | Irregular menstrual cycle | 32 (65.3%) | 50.3; 77.9 |
| Clinical Hyperandrogenism | Hirsutism (F-G ≥ 8) | 8 (16.3%) | 7.8; 30.2 |
| Serum Hyperandrogenism | Total Testosterone > 48 (ng/dL) | 9 (18.4%) | 9.2; 32.5 |
| | Free Testosterone > 37 (pmol/L) | 5 (10.2%) | 3.8; 23 |
| | FAI > 5 | 14 (28.6%) | 17; 43.5 |
| USG | Ovary volume ≥ 10 mL | 9 (18.3%) | 10.1; 35.1 |
| | Ovary volume ≥ 12 mL | 5 (10.2%) | 4.2; 24.8 |

Table 2: Prevalence of variables used to diagnose polycystic ovary syndrome. n: number of subjects with abnormality; F-G: Ferriman-Gallwey index; FAI: free androgen index [Total testosterone (ng/dL) x 0.0347 / sex hormone binding globulin (SHBG - nmol/L) x 100]; USG: supra-pubic pelvic ultrasonography.

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