

Clinical and Ultrasound Features of Normocyclic Non-Hyperandrogenic Adolescents in Early Gynecological Life.

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ABSTRACT

OBJECTIVE: This study aimed to determine the prevalence of polycystic ovarian morphology (PCOM) in healthy postmenarcheal girls and assess whether it represents a crucial physiological phase in gynecological development. Additionally, it evaluated if an elevated stromal-to-surface area (S/A) ratio could identify individuals at risk of developing polycystic ovarian syndrome (PCOS).

DESIGN: This is an observational cross-sectional study.

PARTICIPANTS: A total of 302 healthy postmenarcheal girls aged 14-18 were included in the study.

SETTING: The study was conducted at the Pediatric and Adolescent Gynecology Service of the University Hospital Duilio Casula, Monserrato, University of Cagliari, from 2020 to 2023.

METHODS: Participants were divided into three groups: normal ovarian morphology (NOM), PCOM with normal S/A ratio (PCOM-NS), and PCOM with increased S/A ratio (PCOM-IS). Anthropometric, clinical, hormonal, and ultrasound (US) characteristics were analyzed.

RESULTS: The overall prevalence of PCOM was 43% (95% CI: 0.37-0.49). Among 302 subjects, 171 (57%) exhibited NOM, 90 (30%) showed PCOM-NS, and 41 (13%) had PCOM-IS. The age and years of postmenarcheal life were significantly lower in the PCOM-NS group than in the NOM group. PCOM-NS exhibited a higher waist-to-hip ratio, hirsutism prevalence, and follicle count per ovarian section. PCOM-IS was associated with elevated androgen levels. A significant reduction in the PCOM pattern was observed after the third postmenarcheal year, while the NOM pattern increased significantly beyond 5 years postmenarche.

LIMITATIONS: The study is limited by its cross-sectional design, which precludes establishing causality. Additionally, the exclusion of certain participants due to technical limitations in US evaluation may introduce selection bias.

CONCLUSIONS: PCOM may represent a normal physiological phase in ovarian development during early adolescence, predominantly observed in the first 1-3 years postmenarche. An increased S/A ratio could help identify adolescents who may benefit from monitoring for potential PCOS development.