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TITLE

DOES AMH HAS THE ROLE IN DIFFERENT POLYCYSTIC OVARIAN SYNDROME PHENOTYPES

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ABSTRACT

Anti Müllerian hormone (AMH) was suggested to play a pathophysiologic and diagnostic role in polycystic ovarian syndrome. Due to Rotterdam criteria, there are 4 polycystic ovary syndrome (PCOS) phenotypes based on the combination of anovulation (ANOV), hyperandrogenism (HA), and polycystic ovaries (PCOs): phenotype 1 (ANOV + HA + PCO), phenotype 2 (ANOV + HA), phenotype 3 (HA + PCO), and phenotype 4 (ANOV + PCO). The purpose of this study was to compare AMH levels among the different phenotypes in relation to clinical, endocrine, and metabolic features. We enrolled 37 women with PCOS (body mass index: 25.95 ± 6.5 kg/m², age range: 20-35 years) and 5 controls. Anthropometric characteristics, hirsutism score, ultrasound ovarian features, and hormonal parameters, including AMH, were evaluated. The prevalence of phenotypes 1 to 4 was 66.2%, 6.4%, 9.1% and 18.3%. Phenotype 1 showed the highest level of luteinizing hormone, androgens, ovarian volume, and AMH concentrations (9.17 ± 8.27 ng/mL, $P < .05$) versus other three phenotypes and controls. Phenotype 2 women were hirsute, had an intermediate free androgen index value, low ovarian volume, and low AMH levels (4.10 ± 4.07 ng/mL). Phenotype 3 showed an intermediate state of hirsutism and slightly augmented AMH levels (5.90 ± 4.30 ng/mL). The clinical and endocrine characteristics of phenotype 4 seemed like those of controls, except of higher ovarian volume and AMH levels (7.71 ± 3.78 ng/mL; $P < .05$). Our results indicate the heterogeneity of the association between increased AMH levels, anovulation, and hyperandrogenism in the different PCOS phenotypes.

INSTITUTE

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