

Unfavorable hormonal and psychologic profile in adult women with a history of premature adrenarche (PA) and pubarche (PA) but not thelarche: Similarities with and differences from women with PCOS

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No disclosures

Under review, *Frontiers in Endocrinology*: 425186

Background

- The early activation of the adrenal zona reticularis, characterized by increased circulating levels of adrenal androgens before the age of 8 years in girls, is called premature adrenarche (PA), while the concomitant appearance of pubic hair is termed premature pubarche (PP).
- Girls with PA-PP display an unfavorable metabolic, hormonal and psychological profile compared to their normal peers and seem to have an increased risk of developing (PCOS) features peripubertally, especially those born small for gestational age (SGA). The natural history of these girls post puberty remains unclear.

Aim of the study:

- To define the metabolic, hormonal, and psychological profile of young lean women born with normal birth weight and with a history of both PA and PP.

Methods

- Twenty-one young lean women (age: 21.35 ± 3.36 years, BMI: 23.59 ± 4.40kg/m²) with evidence of both PA and PP who did not seek medical assistance were compared with 26 controls and 45 women with PCOS.

Results

Parameter	Controls (n=25)	PA-PP (n=21)	PCOS (n=45)
FG score	4.54±1.65	6.74±2.86 ^{b,c}	9.44±5.35 ^a
Cholesterol (mg/dl)	187.31±28.46	165.23±20.45 ^c	173.65±32.67
TG (mg/dl)	69.94±20.62	59.94±22.17	70.17±30.10
HDL (mg/dl)	56.23±10.91	65.31±11.44 ^c	59.54±13.85
LDL (mg/dl)	108.21±40.66	87.86±21.77 ^c	97.03±24.14
HOMA-IR	1.13±0.49	2.09±1.42 ^c	2.08±0.83 ^a
Total Testosterone (ng/dl)	0.42±0.09	0.41±0.18 ^b	0.74±0.27 ^a
SHBG (nmol/l)	44.51±12.86	39.76±14.88	38.21±16.54
FAI	10.22±3.97	11.43±6.58 ^b	25.09±20.94 ^a
DHEAS (ng/ml)	162±71	297±92 ^c	258±114 ^a
Δ4 (ng/ml)	0.58±1.42	3.22±1.44 ^c	3.54±1.14 ^a
17-OH-PRG (ng/ml)	0.90±0.39	1.10±0.34 ^b	1.53±0.75 ^a

Table 1: Characteristics of the different groups: a denotes p<0.05 between PCOS and controls, b denotes p<0.05 between PCOS and PA-PP group and c denotes p<0.05 between PA-PP and controls.

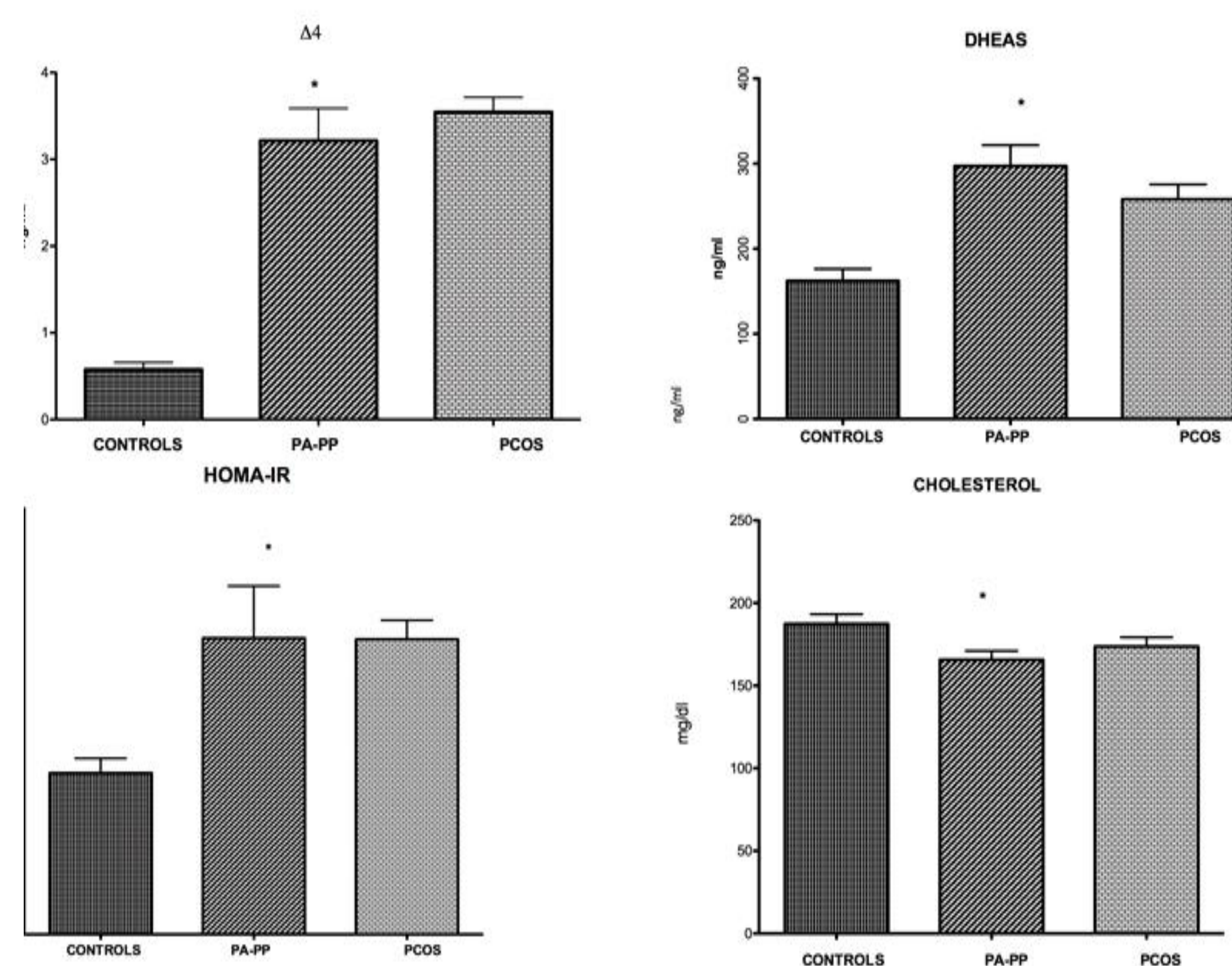


Figure 1: Differences in Δ4, DHEAS, HOMA-IR, and Cholesterol levels among groups

* denotes statistical significance at p<0.05 level

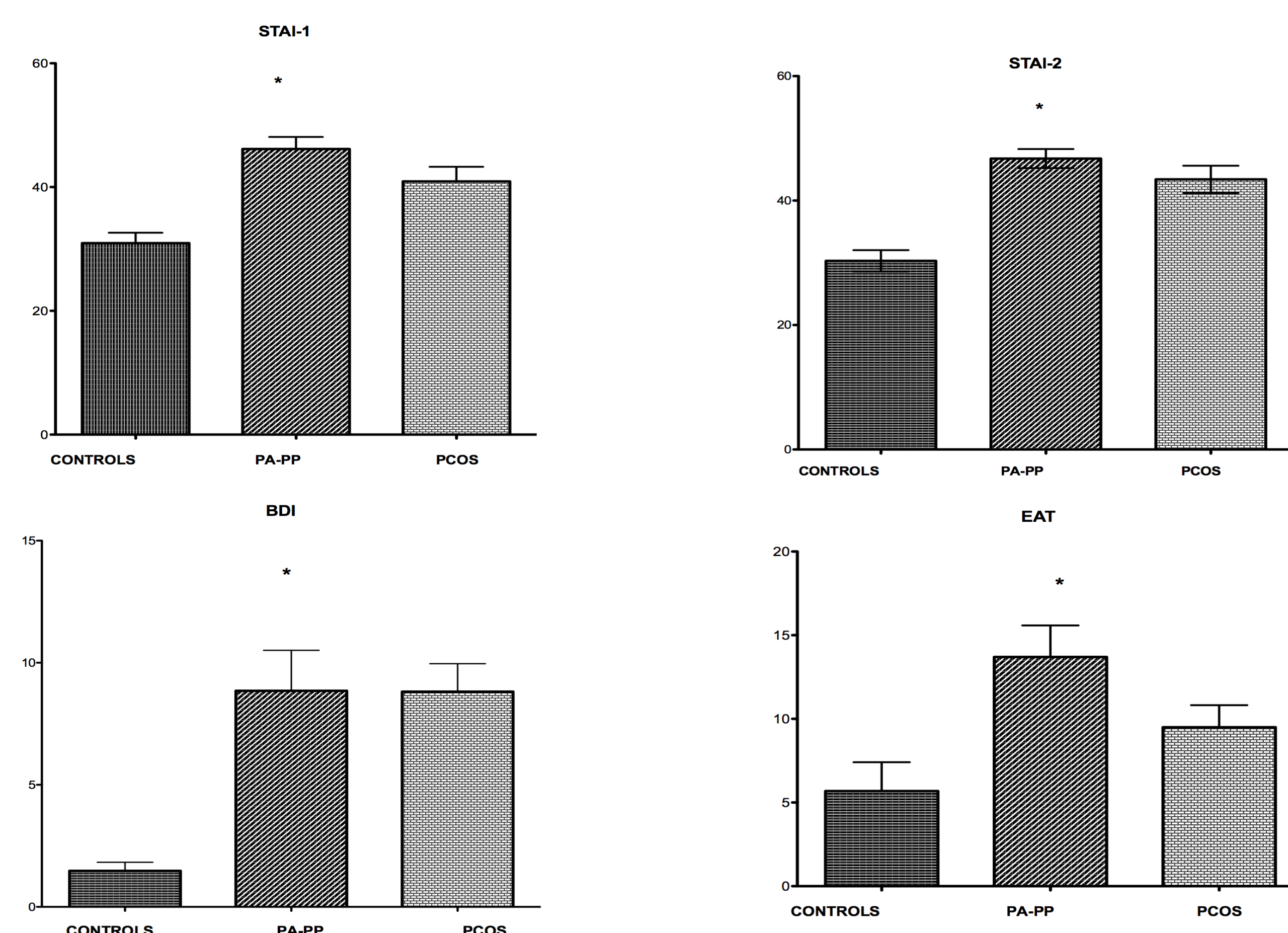


Figure 2: Differences in STAI-S, STAI-T, BDI, and EAT-26 among groups

* denotes statistical significance at p<0.05 level

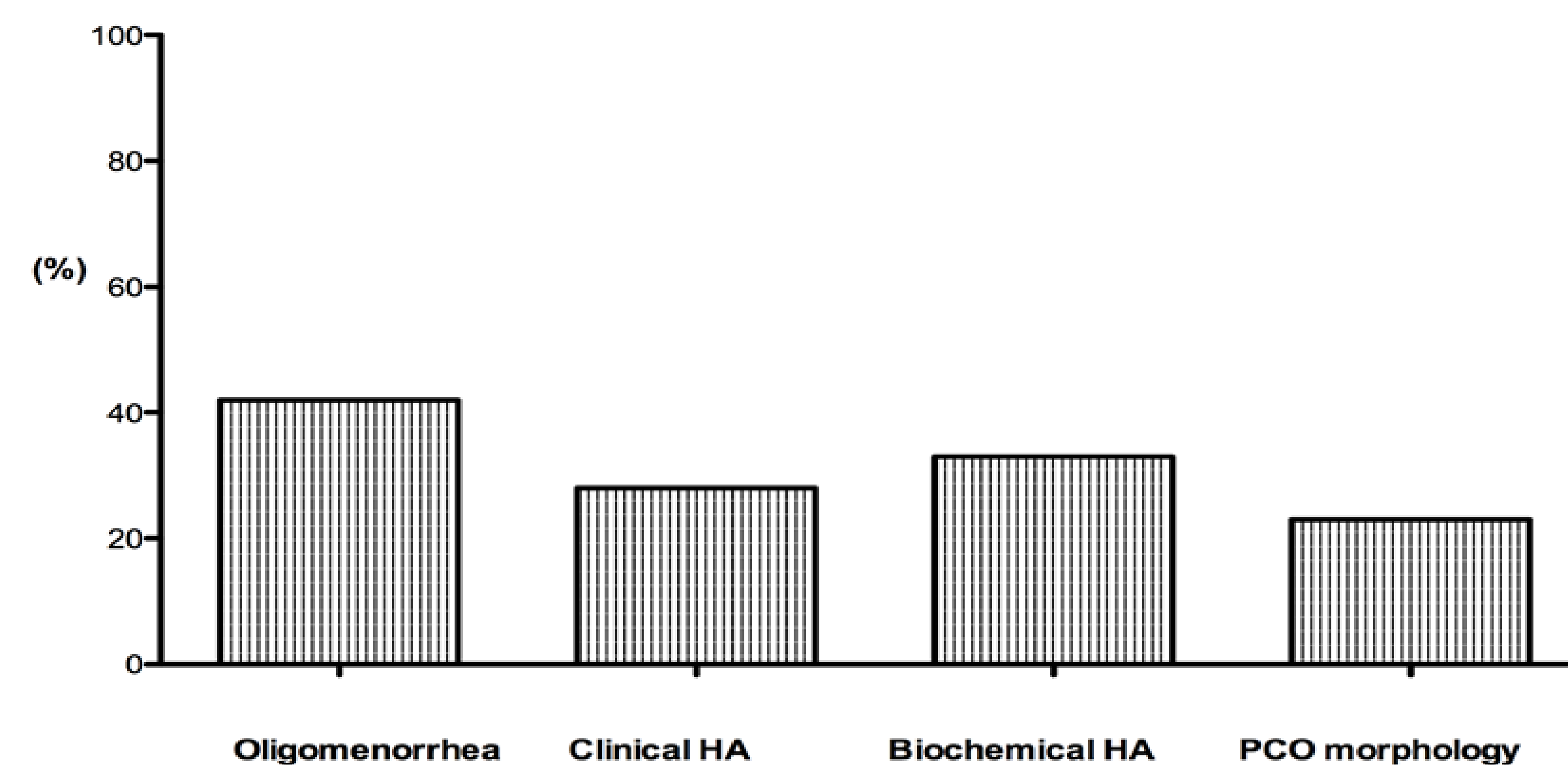


Figure 3: The occurrence of PCOS Rotterdam criteria in the PA-PP group

HA: denotes hyperandrogenism
PCO Morphology: denotes ultrasound findings compatible with polycystic ovarian morphology

Conclusion

Women with a history of PA-PP displayed a hormonal and psychologic profile similar to those with classic PCOS. These findings indicate that these women deserve a thorough evaluation and long-term monitoring.

