# BASAL METABOLIC RATE AS MODERATOR OF INFLAMMATION IN PCOS

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## BACKGROUND

Polycystic ovary syndrome (PCOS) is a common endocrine disorder in women of reproductive age, but adolescence is a period in need for extensive research. .

## OBJECTIVES & HYPOTHESES

This study aims to study the cardiovascular implications of the PCOS síndrome
In adolescence

## METHODS

The present case-control study focuses on metabolic differences between patients with polycystic ovary syndrome and age/BMI matched non- patients. The age group of interest is puberty and the relevant population (of 41 females) is recruited by the Centre for Adolescent Medicine and UNESCO Chair on Adolescent Health Care of the First Department of Paediatrics, at the "Aghia Sophia" Children's Hospital, in Athens, Greece: The participants were measured for (i) bioreflex sensitivity (BRS) as markers of cardiac function, (ii) carotid pulse pressure (PP) and subendocardial viability ratio (SEVR) as markers of arterial stiffness, (iii) intima medial thickness (IMT) as markers of arterial thickness.

## RESULTS AND CONCLUSIONS

Non- parametric statistical analysis showed significant differences, only, in arterial stiffness measured by pulse wave velocity PP (p=0.006) and SEVR (p=0.0042) between PCOS patients and controls. No difference was detected in BRS or IMT. As expected, a strong correlation of PP and IMT showed relationship between cyclic stress and arterial remodeling (Spearman's Rho coefficient is - 0.603 p=0.023) in carotid (elastic) artery. The arterial stiffness results illustrated early onset of vascular dysfunction, predisposition to hypertension and metabolic syndrome in adolescent PCOS.

## PARTICIPANTS' CHARACTERISTICS

| Vascular markers | PCOS (n=19) | Non-PCOS (n=18) | p-value |
|---|---|---|---|
| IMT-R | 0.4.505 (0.0.66) | 0.4.30 (0.1.14) | P=0.074 |
| IMT-L | 0.4.537(0.0.55) | 0.4.32 (0.1.19) | P=0.6 |
| SEVR carotid | 124,00(45,94) | 146,71(40,302) | P=0.042 |
| PP | 48,929(10,118) | 40,13(12,47) | P=0.006 |
| BRS | 21,24 (9,006) | 23,609(11,66) | P>0.05 |
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There is no conflict of interest

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