Polycystic Ovary Syndrome: Androgens, Autonomic Nervous System, and Hypertension

To the Editor:

We have read with interest the article by MJ Chen et al1 on the relationship between androgen levels and blood pressure in young women with polycystic ovary syndrome (PCOS). The authors have observed that characteristic hyperandrogenemia in young women with PCOS is associated with an elevated systolic and diastolic blood pressure independent of age, insulin resistance, obesity, and dyslipidemia.

We propose autonomic nervous system as possible “link” between hyperandrogenemia and hypertension in young women with PCOS. In our opinion, two mechanisms may be involved in this relationship.

Recently, Pereira et al2 and Yildirir et al3 have shown that hyperandrogenemia is associated with an impaired cardiac autonomic activity, characterized by a sympathetic hyperactivity.

Corbould et al4 have observed in animals that testosterone and/or androgenic metabolites of testosterone induce insulin resistance in adipocytes of women. This may explain the high prevalence of insulin resistance in PCOS. In a prior study,5 we have observed that insulin resistance is associated with an impaired heart rate variability.

We conclude that an impaired autonomic nervous system may be a “link” between hyperandrogenemia and blood pressure in PCOS. In these subjects, cardiovascular autonomic activity may be affected directly by androgen levels or by insulin resistance hyperandrogemia-induced.

Disclosures

None.

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