

REPRODUCTIVE ENDOCRINOLOGY

Androgens inversely related to depression in PCOS

Lower rather than higher concentrations of circulating androgens contribute to symptoms of depression in women with polycystic ovary syndrome (PCOS), according to a study published in *Psychoneuroendocrinology*.

A growing body of evidence suggests that psychological disorders such as depression, anxiety and eating disorders are more common in women with PCOS—a condition characterized by clinical signs of hirsutism, high circulating levels of androgens, irregular menstrual cycles and polycystic ovaries—than in normally ovulating, nonhyperandrogenic peers. However, few data exist on the possible association between hormonal derangements in PCOS and these psychological disorders.

The group led by Elisabet Stener-Victorin from the University of Gothenburg had previously shown that women with PCOS

display more symptoms of anxiety and depression than healthy control individuals. In addition, the investigators demonstrated that the circulating levels of all sex steroids, precursors and glucuronidated androgen metabolites, as well as insulin resistance and sympathetic nerve activity, were higher in women with PCOS than in women without this condition, which raised the question of whether any of these disturbances could explain the symptoms of anxiety and depression associated with PCOS.

Using state-of-the-art technology, the two cardinal hormonal manifestations of PCOS—hyperandrogenemia and insulin resistance—were quantified in a cohort of 72 women with PCOS aged 21–37 years. Symptoms of anxiety and depression were measured with the Comprehensive Psychopathological Rating Scale for Affective Syndromes (CPRS-S-A), a

previously validated and reliable tool frequently used in clinical practice.

Of note, the study revealed an inverse relationship between androgens and depression. “This finding is intriguing,” says Evanthia Diamanti-Kandarakis, Professor of Medicine at the University of Athens Medical School, who was not involved in the study, “since from the available reports a rather positive association among these two parameters was expected.” In addition, no association between the degree of insulin resistance or sympathetic activity and either depression or anxiety was found, maybe because these factors were measured in only 42 of the patients. To elucidate the potential relationships between psychological disorders and hormonal findings, “a larger cohort may be needed, since a power analysis was not conducted,” adds Diamanti-Kandarakis.

Nevertheless, “women with PCOS should routinely be screened for symptoms of anxiety and depression to further increase our understanding of the treatment of these symptoms,” concludes Stener-Victorin.

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