Relationship Between the Clinical and Biochemical Findings of Polycystic Ovary Syndrome and Depression and Anxiety

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Dear Editor,

We read the article "Depression, Anxiety, and Anger in Patients with Polycystic Ovary Syndrome" by Balıkcı et al with great interest (1). The authors aimed to evaluate the relations of some biochemical parameters with anger, anxiety, and depression in patients with polycystic ovary syndrome (PCOS). They concluded that anxiety symptoms assessed based on anxiety scores were significantly correlated with serum levels of dehydroepiandrosterone sulfate (DHEAS). We would like to thank the authors for their contribution to the present study, which is successfully designed and documented.

Polycystic ovary syndrome is a common and heterogeneous endocrine disorder characterized by hirsutism, amenorrhea, infertility, and obesity. All these clinical disorders in patients with PCOS may increase both depression and anxiety symptoms, as shown in previous studies (2,3). Hirsutism is a major sign of clinical hyperandrogenism; besides this, biochemical hyperandrogenism is defined as high serum total testosterone and/or DHEAS levels in patients with PCOS (4). The Ferriman–Gallwey scoring system (FGs) was proposed to determine the degree of hirsutism in 1961 (5). Both FGs and biochemical hyperandrogenism are closely related. However, little data is available about the impacts of biochemical and clinical hyperandrogenism on anxiety and depression symptoms in these patients. In this study, despite the significant correlation between DHEAS and anxiety symptoms, they did not mention the signs of clinical hyperandrogenism (particularly hirsutism) and other confounding factors related to PCOS, such as infertility and amenorrhea. Therefore, it would be better if the authors gave some information about these factors.

Previous studies have shown that obesity, which is particularly responsible for insulin resistance, also partially leads to biochemical hyperandrogenism in patients with PCOS (6). However, in this study, the body mass index of the patients were significantly higher than that of controls. Therefore, this condition could be considered a confounding factor regarding the relationship between high DHEAS and anxiety symptoms. In conclusion, the results may have been different if the authors had mentioned all the cardiovascular risk factors in their study.

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Author's Reply

Dear Editor,

We would like to thank the authors for their contribution to our present study. In their letter, they stated that we did not mention the signs of clinical hyperandrogenism (particularly hirsutism) and other confounding factors related to PCOS, such as infertility and amenorrhea. In our

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Received: 04.05.2015

Accepted: 12.05.2015

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study, there was no difference between the patient and control groups in terms of the mean age of menarche. Because it was previously shown that hirsute women who were identified as having abnormally raised androgen levels reported negative feelings, such as depression, hostility, and irritability, we mainly tried to investigate the possible relationships among biochemical changes, levels of anxiety, depression, and anger, rather than clinical signs. Therefore, less detail was given about clinical issues.

They also stated that confounding factors, particularly obesity and related insulin resistance, should be evaluated in terms of their association with hyperandrogenism and anxiety, and cardiovascular risk factors should be more clearly identified. The value of body mass index, insulin, luteinizing hormone, DHEAS, and total testosterone serum levels in the patient group were significantly higher than those in the control group in our study, but this was expected for PCOS patients. In our study, patients who were smokers or had type 2 diabetes mellitus, uncontrolled hypertension, or who were using antidepressant, anxiolytic, hormonal (e.g., oral contraceptive pill), or insulin-sensitizing medications for the last 3 months prior

to the study were excluded from the study to avoid confounding factors. However, these criticisms can be acceptable as limitations of our study. We thank them very much for their contributions.

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