

## Testosterone levels comparison between bipolar and depressed women.

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**Context.** Reproductive and hormone function abnormalities have been reported in women with affective disorders. In Bipolar Disorder (BD) patients, testosterone levels have been related with some specific symptoms such as mania, suicide ideation, and fatigue. Testosterone has been also related to some depressive symptoms and intensity of depression.

**Objective.** To compare free and total testosterone levels between female depressed patients and female bipolar patients.

**Methods.** Females with major depressive disorder (MDD), or BD coursing a manic or depressive episode were included in the study. Participants were evaluated during a depressive or manic episode with the Hamilton Depression Rating Scale (HDRS) or Young Mania Rating Scale (YMRS), respectively. Blood samples were taken during the early follicular phase of the cycle, total and free testosterone serum levels were quantified.

**Results.** 23 MDD patients and 38 BD patients (29 with a manic episode and 9 with a depressive episode) were included in the study. No differences were observed in socio-demographic variables across groups. When considering normal TT levels for women (according to our laboratory reference: 0.11 to 0.57 ng/ml in women older than 19 years) we observed that 65.8% of bipolar patients had higher levels than those considered as normal, as well as 34.8% of the patients with MDD. Mean TT serum levels were significantly higher in BD patients in comparison to MDD patients (2.12 ng/ml vs 0.5 ng/ml,  $t=2.71$ ,  $p=0.01$ ). . No significant differences were observed in TT and FT serum levels when we compared patients taking valproate and those non-taking valproate, and when we compared patients with a suicide attempt and without suicide attempt in the current episode.

**Conclusions.** Total testosterone levels are higher in Bipolar patients compared to depressed patients, independently of valproate.

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