
Serum Uric Acid Across Mood States in Bipolar Disorder: Evidence for a State-Dependent Biomarker

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Abstract:

Bipolar affective disorder (BPAD) is a recurrent mood disorder associated with substantial clinical burden. Increasing attention has been directed toward the role of purinergic dysfunction in its pathophysiology, with serum uric acid emerging as a potential biological indicator, particularly during manic states. This study was undertaken to evaluate and compare serum uric acid levels in individuals with BPAD across manic and remitting phases, and with healthy controls. A prospective observational case-control design was used, including 50 participants comprising 25 patients with BPAD and 25 age- and sex-matched controls. Patients diagnosed as per ICD-10 criteria were assessed during an acute manic episode and reassessed during remission, defined by a reduction of at least 50% in Young Mania Rating Scale scores. Serum uric acid was estimated using the uricase method, and statistical analysis was performed using paired and unpaired comparisons along with analysis of variance. The findings revealed significantly higher uric acid levels during mania compared to the remitting phase, with levels declining in parallel with clinical improvement. Additionally, values observed during remission were comparable to those of healthy controls, indicating normalization across illness phases. These results suggest that serum uric acid may function as a state-related marker in BPAD. Considering its simplicity and affordability, it may be useful as an adjunct in clinical evaluation and monitoring

Keywords:

Bipolar disorder, uric acid, mania, remission, biomarker.