

EXAMINATION OF FACTORS PREDICTING RESPONSE TO LITHIUM TREATMENT AND THE ROLE OF MONOCYTE/HIGH-DENSITY LIPOPROTEIN RATIO

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BACKGROUND AND AIM: Lithium is the gold standard for bipolar disorder treatment, but predicting response remains challenging. The monocyte/HDL ratio (MHR), a biomarker of inflammation and oxidative stress, has been studied in inflammation-related diseases. As inflammation's role in bipolar disorder gains support, higher MHR levels have been linked to disease severity. This study evaluates the effects of sociodemographic factors, clinical severity, and MHR on lithium response.

METHODS: This retrospective study included 97 bipolar disorder patients using lithium, meeting inclusion criteria, and visiting our hospital between 01.01.2024 and 01.12.2024. Sociodemographic data (gender, age, smoking status, education level), Hamilton Depression Rating Scale (HAM-D), Young Mania Rating Scale (YMRS), thyroid function tests, lithium levels, and MHR were recorded. Scales were administered during the last three months in the euthymic period. Based on the Alda Scale for Lithium Response, patients were classified as good (n=59) or poor responders (n=38). Groups were compared in terms of sociodemographic and clinical features, as well as MHR.

The study protocol was approved by the Ethics Committee (protocol code: 2024-TBEK 2025/01-08).

RESULTS: 33% of patients were male (n=32) and 67% were female (n=65), with a mean age of 41.1 ± 12.2 years. Gender, age, and smoking status showed no significant differences between groups. MHR did not predict lithium response, but regression analysis ($R^2=0.097$, $F=5.066$, $p=0.008$) indicated MHR predicted HAM-D scores ($B=100.753$, $p=0.009$). A moderate negative correlation was found between Alda Scale and HAM-D ($R=0.45$, $p<0.001$). Logistic regression showed low education level and high HAM-D scores predicted poor response ($p=0.004$, $\chi^2=25.8$, $R^2=31.7$).

CONCLUSIONS: Subthreshold depressive symptoms may be linked to poor lithium response. Early assessment is crucial. MHR's potential as a biomarker for response prediction warrants further research

Keywords: Bipolar disorder, lithium response, alda scale, MHR, inflammation