

THE PREDICTIVE ROLE OF INFLAMMATORY MARKERS IN METHAMPHETAMINE-INDUCED PSYCHOSIS

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BACKGROUND AND AIM: Existing literature suggests a potential predictive role of inflammatory parameters in individuals diagnosed with psychosis. This study aims to investigate the diagnostic and predictive value of clinical and inflammatory markers in the development of psychosis among individuals presenting to our clinic with methamphetamine use.

METHODS: Patients presenting with methamphetamine use were included in this study. Participants were divided into two groups according to the development of psychosis: Group 1 (with psychosis development), Group 2 (without psychosis development). Demographic data such as age, gender, alcohol and tobacco use, hemogram and biochemical parameters, and inflammation markers such as Neutrophil-Lymphocyte Ratio (NLR), Platelet-Lymphocyte Ratio (PLR), Absolute Granulocyte Count Ratio (AGR), Systemic Immune Inflammation Index (SII), Systemic Inflammation Response Index (SIRI), and presepsin levels were evaluated. Binary logistic regression analysis was performed to evaluate the predictive value of these parameters in the development of psychosis and to create a predictive model. Ethics committee approval was obtained from Çam and Sakura City Hospital (KA EK/13.12.2023.646).

RESULTS: The study population comprised Group 1 (n=41) and Group 2 (n=19). The average age of participants was 32 years, with 90% (n=54) being male. A significant proportion of the participants reported a history of tobacco use (90%, n=54), while 53.3% (n=32) reported a history of alcohol use. Significant differences were found between the groups in PANSS-P ($p<0.001$), PANSS-N ($p=0.003$), PANSS-G ($p=0.002$), and PANSS-Total ($p<0.001$) scores. Group 1 exhibited higher mean scores across all subscales and the total score. Univariate analysis revealed significant associations for smoking (OR:14.28, $p=0.020$), WBC>10.5 (OR:18.9, $p=0.006$), and HGB>15.8 (OR:9.3, $p=0.038$). Multivariate analysis confirmed WBC>10.5 (OR:13.4, $p=0.018$). No difference was found in terms of presepsin levels. The limitation of this study is the difference in sample size between the two groups due to variations in hospitalization rates.

CONCLUSIONS: This study highlights the significant role of clinical and inflammatory markers in predicting psychosis development among individuals using methamphetamine. Elevated WBC (>10.5) emerged as an independent predictor in multivariate analysis, underscoring its diagnostic value.

Keywords: Inflammatory markers, methamphetamine, psychosis