The Turkish Journal of Occupational / Environmental Medicine and Safety
Vol:1, Issue Supplement 1 Web: http://www.turjoem.com ISSN : 2149-4711 Poster Presentation

P60. SERUM S100B, NEURON SPESIFIC ENOLASE (NSE) and GLUTAMATE RECEPTOR 1(GRIA) LEVELS AS NEUROLOGICAL MARKERS in LEAD EXPOSURE

Esra FIRAT OĞUZ[1], Fatma Meriç YILMAZ[1,2], Engin TUTKUN[3], Hınç YILMAZ[3], Sevilay SEZER[1]
[1]Clinical Biochemistry, Ankara Numune Education and Research Hospital, TÜRKİYE
[2]Yıldırım Beyazıt University Medical Faculty Biochemistry Department, TÜRKİYE
[3]Ankara Occupational Diseases Hospital, TÜRKİYE

Central nervous system is a major target in lead exposure. Markers for the diagnosis and follow up of lead exposure have not been identified. In this study, serum S100 B, neuron specific enolase (NSE) and Glutamate Receptor 1 (GRIA) levels were determined as possible markers for lead neurotoxicity

25 patients with chronic lead exposure and 25 controls were included in the study. NSE and S100B were measured by elechtrochemiluminescence immunoassay in Cobas E601 analyzer. GRIA levels were measured by Cusabio brand ELISA kit using quantitive sandwich enzyme immunoassay technique.

GRIA levels were significantly higher in patient group than in control group (p=0,011). No significant difference was determined between the patient and the control group in the name of NSE, S100B, ALT, AST and creatinine levels (p>0.05). There was not a significant difference between neurological sign positive and negative groups in any of the studied parameters.

Patients with chronic lead exposure are found to have increased glutamate receptor levels and do not seem to have glial and neuronal damage which can be demonstrated with the elevation of NSE and S100 B levels. Glutamate signaling pathways might be the major affected side in chronic lead exposure and can be used as a marker for the neurotoxicity of lead.