SERUM CXCL13 LEVELS ASSOCIATE WITH EDSS SCORE AND SPINAL CORD LESION NUMBER IN MS

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Objectives: Our study aims to determine a biomarker that reflects the disease activity by evaluating the cytokine and chemokine levels from the serum and CSF samples of patients with the poor prognostic data and patients without poor prognostic data when diagnosed with Multipl Sclerosis

Method: Patients who applied to Marmara University Pendik Training and Research Hospital Neurology Clinic diagnosed either with MS according to 2017 McDonald criteria or non-inflammatory neurological diseases for which lumbar puncture is indicated included in our study. MS patients were divided into two classes according to their clinical and radiological findings as those with poor prognostic expectation and those without. After the clinical and radiological evaluation of each patient, serum and CSF samples were obtained simultaneously. IL-8, IL-12 / IL-23p40, IL-21, CHI3L1 and CXCL13 levels were measured using ELISA method.

Results: A total of 56 patients included to our study. Of those patients 21 were MS patients with poor prognostic data, 8 had MS without poor prognostic data and 27 were control patients. 62.1% of all MS patients and 92.6% of the control group were female, and the rate of female patients in the control group was found to be significantly higher ($p = 0.01$). CSF levels of CHI3L1 ($p = 0.003$) and CXCL13 ($p < 0.001$) were found to be significantly higher in MS patients compared to control group. For MS patients a positive correlation between serum CXCL13 levels and EDSS score ($p = 0.04$, $r = 0.39$), and a positive correlation between serum CXCL13 levels and number of spinal cord lesions ($p = 0.009$, $r = 0.48$) were discovered.

Conclusion: Serum CXCL13 shows positive correlation with both EDSS score and number of spinal cord lesion both of which are related to poor disability. Considering the ease of obtaining serum samples, it is essential to evaluate this relationship in a larger population.