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## The relationship between serum trace element levels and clinical parameters in patients with fibromyalgia.

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### Abstract

We examined the association between serum trace elements and clinical findings such as number of sensitive tender points, severity of fatigue and functional status in patients with fibromyalgia (FM). Thirty-two patients diagnosed as having FM according to the ACR 1990 criteria and 32 normal healthy controls (NHC) were included in this study. The demographic data, disease duration, number of tender points and accompanying symptoms (fatigue, sleep disorders, headache, paresthesia, irritable bowel syndrome, sicca symptoms, Raynaud's phenomena) of the patients were noted. Visual analog scale (10 cm) was implemented to estimate daily severity of pain and fatigue. Fibromyalgia impact questionnaire was used for functional assessment. Serum selenium (microg/dL) and serum zinc (microg/dL) levels were measured by atomic absorption spectrometer. Serum magnesium (mmol/L) level was measured by the original kits of Abbott Aeroset auto-analyzer. The mean age of patients in FM group and NHC were calculated as 42.9 (SD = 7.7) years and 41.3 (SD = 9.7) years, respectively. Serum levels of zinc ( $P = 0.001$ ) and magnesium ( $P = 0.002$ ) were significantly decreased by FM groups, whereas there was no considerable difference with selenium levels of both groups ( $P > 0.05$ ). Association between serum zinc level and number of tender points ( $P = 0.008$ ) and that between fatigue and magnesium level ( $P = 0.003$ ) was found as meaningful. According to the results of this study, it was asserted that serum magnesium and zinc levels may play an important role in the pathophysiology of FM.

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