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# The levels of trace elements and heavy metals in patients with acute migraine headache

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## Abstract

**Objective:** To compare the levels of trace elements and heavy metal in patients with acute migraine and healthy controls.

**Methods:** The prospective study was conducted at Yuzuncu Yil University, Turkey, from May to July 2013, and comprised migraine patients and an equal number of healthy controls. International Headache Society classification was used for diagnosing migraine. Serum copper, zinc, lead, iron, cadmium, cobalt, manganese, and magnesium levels were measured in both groups. Metal concentrations were assessed by atomic absorption spectrophotometry. SPSS 13 was used for statistical analysis.

**Results:** There were 25 migraine patients with an average age of 36.4±8.9 years and 25 healthy controls with a mean age of 42.4±9.5 years. Cadmium, iron, manganese and lead levels were significantly elevated in the patients compared to the controls ( $p<0.05$  each), while copper, magnesium and zinc were decreased and cobalt demonstrated no change.

**Conclusions:** Trace elements and heavy metals may have a role in the genesis of considerable oxidative stress in patients with acute migraine headache.

**Keywords:** Acute migraine attack, Trace elements, Heavy metals..

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