

# Abstract

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## Plasma lactic acid and pyruvic acid levels in migraine and tension-type headache.

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**OBJECTIVE AND METHODS:** We examined the lactic and pyruvic acid levels in the plasma of 14 patients with migraine, 17 patients with tension-type headache, and 12 normal controls.

**RESULTS:** The lactic and pyruvic acid levels in the plasma of the migraine patients were significantly higher than those of the normal controls ( $9.6 \pm 5.0$  mg/dL and  $0.51 \pm 0.30$  mg/dL versus  $3.3 \pm 1.9$  mg/dL and  $0.26 \pm 0.20$  mg/dL, respectively). There were no significant differences in the levels between the patients with tension-type headache and normal controls.

**CONCLUSION:** Our results suggest that migraine patients may have functional abnormalities in mitochondrial energy metabolism.

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