

Abstract

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Abnormal platelet mitochondrial function in patients affected by migraine with and without aura.

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OBJECTIVE AND METHODS: To investigate energy metabolism in migraine, we determined platelet mitochondrial enzyme activities in 40 patients with migraine with aura and in 40 patients with migraine without aura during attack-free intervals and in 24 healthy control subjects.

RESULTS: NADH-dehydrogenase, citrate synthase and cytochrome-c-oxidase activities in both patient groups were significantly lower than in controls ($p < 0.01$), while NADH-cytochrome-c-reductase activity was reduced only in migraine with aura ($p < 0.01$). No alteration in succinate-dehydrogenase was observed. Monoamine-oxidase activity differed between sexes ($p < 0.05$) but within each sex group no difference was observed between patients and controls.

CONCLUSIONS: We hypothesize that the defect in mitochondrial enzymes observed indicates a systemic impairment of mitochondrial function in migraine patients.

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