Format: Abstract

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Acetyl-l-carnitine versus placebo for migraine prophylaxis: A randomized, triple-blind, crossover study.

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Abstract

BACKGROUND: Preventive medication is indicated for many migraine patients, but is used in relatively few. The aim of the present study was to evaluate the efficacy of acetyl-l-carnitine as a prophylactic drug in migraine patients.

METHODS: A single-center, randomized, triple-blind, placebo-controlled, crossover study was carried out. Men and women, age 18-65 years, with episodic migraine but otherwise healthy, were recruited mostly through advertisements. After a four-week run-in-phase, 72 participants were randomized to receive either placebo or 3 g acetyl-l-carnitine for 12 weeks. After a four-week washout, treatment was switched. The primary outcome was days with moderate or severe headache per four weeks. Secondary outcomes were days with headache, hours with headache, proportion of responders (>50% reduction in migraine days from baseline) and adverse events.

RESULTS: In the complete case analyses, no statistically significant differences were found between acetyl-l-carnitine and placebo in severe or moderate headache days per month (3.0 versus 3.1, p = 0.80), headache days per month (5.1 versus 5.2, p = 0.73) or for the other secondary outcome measures.

CONCLUSION: In this triple-blind crossover study no differences were found in headache outcomes between acetyl-l-carnitine and placebo. Our results do not provide evidence of benefit for efficacy of acetyl-l-carnitine as prophylactic treatment for migraine.

TRIAL REGISTRATION: EUDRACT (2012-001624-36), ClinicalTrials.gov (NCT01695317).

KEYWORDS: Migraine; crossover; placebo-controlled; single-center; triple-blind

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