Abstract

BACKGROUND AND AIMS:

Migraine and inflammation are correlated. Coenzyme Q10 (CoQ10) as an anti-inflammatory agent has shown useful effects in other diseases. The present study aimed to assess the effect of CoQ10 supplementation on inflammation and clinical features of migraine.

METHODS:

This randomized double-blind placebo-controlled clinical trial was conducted among 45 non-menopausal women aged 18-50 years, diagnosed for episodic migraine according to the International Headache Society. After one month run-in period, subjects received CoQ10 (400 mg/day CoQ10, n = 23) or placebo (wheat starch, n = 22) for three months. All the patients got prophylactic medication too.
Serum CoQ10 concentration, Calcitonin gene-related peptide (CGRP), interleukin (IL)-6, IL-10 and tumor necrosis factor-α (TNF-α) were measured at the beginning and end of the study.

RESULTS:

CoQ10 supplementation reduced CGRP and TNF-α significantly (p = 0.011 and p = 0.044, respectively), but there were no significant differences in serum IL-6 and IL-10 between the two groups. Significant increase in serum CoQ10 levels was evident with CoQ10 therapy (P < 0.001). A significant improvement was found in frequency (p = 0.018), severity (p = 0.001) and duration (p = 0.012) of migraine attacks in CoQ10 group compared to placebo.

CONCLUSION:

CoQ10 supplementation may decrease CGRP and TNF-α with no favorable effects on IL-6 and IL-10 in patients with migraine.

PMID: 29298622

Icon for Taylor & Francis