Randomized Controlled Trial J Investig Med. 2015 Jun;63(5):735-9.
doi: 10.1097/JIM.0000000000000202.

# Effect of coenzyme Q10 on the incidence of atrial fibrillation in patients with heart failure

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PMID: 25919281 DOI: 10.1097/JIM.0000000000000202

## Abstract

**Background:** There is mounting evidence to support the influence of inflammation and oxidative stress in the pathogenesis of atrial fibrillation (AF) and heart failure (HF). The efficacy of coenzymeQ10 (CoQ10), an antioxidant used as an adjunct treatment in patients with AF and HF, remains less well established.

**Methods:** Consecutive patients with HF were randomized and divided into 2 groups: the CoQ10 group (combined administration of common drugs and CoQ10) and the control group (administration of common drugs). Ambulatory electrocardiogram Holter monitoring (24 hours), Doppler echocardiography, and evaluation of inflammatory cytokines were performed before treatment and 6 and 12 months after treatment.

**Results:** One hundred two patients (72 male and 30 female patients), with ages ranging from 45 to 82 years (mean age, 62.3 years), were examined. There was significant reduction in the level of malondialdehyde (3.9 ± 0.7 vs 2.5 ± 0.6 ng/mL; 3.9 ± 0.7 vs 2.3 ± 0.5 ng/mL, $P < 0.05$) in the CoQ10 group, whereas there was no significant difference (3.3 ± 0.8 vs 2.9 ± 0.8 ng/mL; 3.3 ± 0.8 vs 2.9 ± 0.5 ng/mL) in the control group after 6 and 12 months. Three patients (6.3%) in the CoQ10 group and 12 patients (22.2%) in the control group had episodes of AF after 12 months' treatment ($P = 0.02$). Four patients with AF in the control group went through the third Holter recording.

**Conclusions:** CoenzymeQ10 as adjuvant treatment in patients with HF may attenuate the incidence of AF. The mechanisms of the effect perhaps have relation with the reduced levels of malondialdehyde.



## Related information



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**Miscellaneous**

NCI CPTAC Assay Portal