Treatment of coenzyme Q10 for 24 weeks improves lipid and glycemic profile in dyslipidemic individuals.


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BACKGROUND: The use of coenzyme Q10 (CoQ10) as an adjuvant treatment with routine clinical therapy against metabolic diseases has shown benefit. However, the effect of CoQ10 as a primary preventive agent against cardiovascular diseases (CVDs) has not been well studied.

OBJECTIVE: The objective of this study was to investigate the effect of CoQ10 on CVD risk factors in dyslipidemic patients.

METHODS: In this randomized, double-blinded, placebo-controlled trial, 101 dyslipidemic subjects without taking any hypoglycemic or hypolipidemic drugs were administrated to 120 mg CoQ10 or placebo daily for 24 weeks. Anthropometric parameters, lipid and glycemic profile, biomarkers of inflammation, and antioxidant capacity were evaluated before and after 12 and 24 weeks of intervention.

RESULTS: All 101 subjects were included in the analysis. On the 12th week, compared to placebo, CoQ10 supplementation decreased systolic (P = .010) and diastolic pressure (P = .001) and increased serum total antioxidant capacity (TAC; P = .003). On the 24th week, compared to placebo, CoQ10 supplementation further lowered blood pressure and TAC, reduced triglyceride (P = .020) and low-density lipoprotein cholesterol (P = .016), and increased ApoA-I (P < .001) while decreasing homeostasis model assessment of insulin resistance index (P = .009). Adjustment for change of physical activity and energy intake did not alter the effect of CoQ10 on the aforementioned parameters but led to significant decrease of non-high-density lipoprotein cholesterol in CoQ10 group compared to placebo (P = .031).

CONCLUSIONS: Twenty-four-week treatment of CoQ10 ameliorates multiple CVD risk factors. The versatility and safety of CoQ10 makes it a potential candidate for the primary prevention of CVD.

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