

Abstract

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Effects of Carnitine and Coenzyme Q10 on Lipid Profile and Serum Levels of Lipoprotein(a) in Maintenance Hemodialysis Patients on Statin Therapy.

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INTRODUCTION: Dyslipidemia and high serum lipoprotein(a) are among the risk factors for cardiovascular diseases in hemodialysis patients. Statins as a first line of therapy in hyperlipidemia does not always reduce the serum lipoprotein(a) level. Several studies have reported the lipid-lowering effects of carnitine and coenzyme Q10 in hemodialysis patients. This study was designed to investigate the effects of carnitine and coenzyme Q10 on serum lipid profile and lipoprotein(a) level in maintenance hemodialysis patients.

MATERIALS AND METHODS: This was a randomized placebo-controlled trial. We studied on hemodialysis patients who were on treatment with atorvastatin or lovastatin to assess the efficacy of supplement therapy. They were divided into 4 groups to receive carnitine, coenzyme Q10, both carnitine and coenzyme Q10, and placebo. After a 3-month experiment, blood samples were collected to measure serum levels of lipoprotein(a), triglyceride, total cholesterol, high-density lipoprotein cholesterol and low-density lipoprotein cholesterol.

RESULTS: Fifty-two hemodialysis patients, 27 men and 25 women, completed the course of the study. Three months after supplement therapy, serum levels of lipoprotein(a) reduced significantly in the carnitine, coenzyme Q10, and combination groups compared to the baseline values and the 3-month value of lipoprotein(a) in the placebo group ($P = .01$). Serum levels of triglyceride and other lipoproteins did not significantly alter.

CONCLUSIONS: Our study showed that supplementation with carnitine and coenzyme Q10 could reduce serum levels of lipoprotein(a) in maintenance hemodialysis patients treated with statins.

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