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EFFICACY AND SAFETY OF COENZYME Q10 SUPPLEMENT ON SIMVASTATIN INDUCED MYALGIA AND TRANSAMINASE INCREMENT

Zhang Lizhen, Zhang Zhulin, Ma Xiurui, Wang Xuling, Hu Zhiqiang *Shanxi Cardiovascular Hospital, Shanxi, China*

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Objective To investigate whether Coenzyme Q10 (CoQ10) supplement can help ease or eliminate some of the side effects that result from taking simvastatin medication in coronary artery disease (CAD) patients with hypercholesterolemia. These side effects include myalgia, fatigue and Transaminase Increment.

Methods 198 CAD patients with hypercholesterolemia were randomised to CoQ10 (30 mg/day) plus simvastatin (40 mg/day) as therapy group (n=99) or placebo plus simvastatin (40 mg/day) as control group (n=99). The incidence of myalgia and fatigue in the two groups were compared in 3 months after treatment. Plasma CoQ10 level, creatine kinase (CK), transaminase (ALT, AST) and blood lipids (TC, TG, LDL-C, HDL-C) were measured at baseline, 1 month and 3 months after treatment.

Results The incidence of myalgia and fatigue demonstrated a decrease in therapy group compared with control group (3% vs 12%, $p < 0.01$). Plasma CoQ10 level was no significant difference in therapy group in 1 month and 3 months after treatment, but in the control group, there was obviously decreased in both 1 month and 3 months after treatment compared with baseline (0.43 ± 0.16 vs 0.51 ± 0.13 , 0.39 ± 0.14 vs 0.51 ± 0.13 , $p < 0.05$). CK, ALT and AST of pre and post therapy had no significant difference in therapy group ($p > 0.05$), but in control group CK, ALT and AST were all increased significantly in 3 months compared with baseline. TC, TG and LDL-C were decreased significantly ($p < 0.01$) both in therapy and control group post-therapy.

Conclusion Simvastatin causes a marked decrease in plasma CoQ10 level in CAD patients. CoQ10 supplement can reduce myalgia and fatigue occurrence, decrease transaminase and creatine kinase increase caused by simvastatin. These data suggest that simvastatin related myopathy is associated with decrease in blood CoQ10 level. Widespread inhibition of CoQ10 synthesis could explain the most commonly reported adverse effects of simvastatins, especially myalgia, fatigue and rhabdomyolysis. So the combination of CoQ10 and simvastatins is safe and effective in CAD patients complicated by hypercholesterolemia.