AGING GARLIC EXTRACT AND COENZYME Q10 HAS FAVORABLE EFFECT ON OXIDATIVE AND INFLAMMATORY MARKERS AND CORONARY ATHEROSCLEROSIS PROGRESSION

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Background: Aged garlic extract (AGE) and Coenzyme Q10 (CoQ10) has been shown to affect multiple cardiovascular risk factors. The current study evaluates the effect of AGE combined with CoQ10 on inflammatory and oxidative markers and progression of coronary atherosclerosis compared with placebo.

Methods: In this placebo-controlled, double-blind, randomized trial, 65 intermediate risk patients (age 55±6 years) were treated with a placebo capsule or a capsule containing AGE and CoQ10 (AGE+CoQ10) daily for 1 year. All participants underwent coronary artery calcium scanning (CAC), auto-antibodies to malondialdehyde (MDA)-LDL and apoB-immune complexes, oxidized phospholipids (OxPL) on apolipoprotein B-100(OxPL/apoB), Lipoprotein (a) [Lp (a)], C-reactive protein (CRP) and PLAC (test for Lp-PLA2) that were measured at baseline and at 12 months.

Results: At 1 year, mean CAC progression was significantly lower in AGE+CoQ10 (32±6 vs. 58±8, p=0.01) than placebo. OxPL/apoB and Lp (a) were significantly increased in AGE+CoQ10 compared to placebo (1286±463 vs. 210±505 & 3.7±1.9 vs. -0.4±1.7, p<0.05 respectively). There was significant decrease in auto-antibodies to apo-B immune complexes and MDA-LDL in AGE+CoQ10 group (p<0.05). Similarly, PLAC and CRP was significantly decreased in AGE+CoQ10 compared with placebo (-87±17 vs. -52±15 & -0.12±0.24 vs. 0.91±0.56, p<0.05 respectively). After adjustment for age, gender, conventional cardiac risk factors and statin therapy, AGE+CoQ10 was associated with 3.99 fold (95% 1.3-12.2, p=0.01) lack of CAC progression and 7.0 fold (95% 2.4-19.9, p=0.0001) decrease in PLAC compared with the placebo.

Conclusion: AGE+CoQ10 are associated with beneficial effect on inflammatory and oxidative markers and reduced progression of coronary atherosclerosis.