EFFECT OF EZETIMIBE PLUS LOW-DOSE ATORVASTATIN VERSUS DOUBLE-DOSE ATORVASTATIN ON INSULIN RESISTANCE AND LIPID METABOLISM IN CORONARY ARTERY DISEASE PATIENTS WITH OR WITHOUT METABOLIC SYNDROME

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Background: Anti-hyperlipidemic treatment is one of the main treatments in the management of coronary artery disease (CAD). LDL-C goal of patients with CAD is defined <100mg/dl by Japan Atherosclerosis Society Guidelines for Prevention of Atherosclerotic Cardiovascular Diseases. The effect of ezetimibe on insulin resistance and lipid profile in CAD patients with and without metabolic syndrome (METS) remains unclear. In this study we examined the effect of high-dose atorvastatin and low-dose atorvastatin plus ezetimibe therapy on insulin resistance and lipid metabolism in CAD patients with and without METS.

Methods: Patients with CAD receiving atorvastatin 10mg, who could not achieve LDL-C goal(<100mg/dl), were enrolled to the multicenter randomized study. It was designed to investigate the efficacy of 20mg/day double-dose atorvastatin(STA/STA) and atorvastatin10mg/day plus ezetimibe10mg/day (STA/EZE) for 12 weeks.

Results: Sixty-eight patients (M/F=52/16, mean age 66±8 yrs, 30 METS) were enrolled. Baseline characteristics including LDL level (115±28 vs 117±18 mg/dl) were similar between STA/STA and STA/EZE groups. Reduction in LDL-C by STA/EZE was greater than by STA/STA (25±11% vs 17±12%, p=0.01) in all patients. Reduction in LDL-C by STA/EZE was greater than by STA/STA in both patients with METS (24±11% vs 16±12%, p<0.01) and without METS (29±9 vs 19±10%, p<0.01). Between baseline and 12 weeks, insulin resistance (HOMA-R) did not change in STA/STA (3.6±0.6 to 3.4±0.5, p=0.38), but decreased in STA/EZE (4.3±0.7 to 2.6±0.3, p=0.01) in all patients. In patients with METS, HOMA-R decrease in STA/STA (5.8±1.4 to 3.3±0.9, p=0.06) and STA/EZE (7.9±1.8 to 4.0±0.8, p=0.04). In patients without METS, HOMA-R increased in STA/STA (2.0±0.3 to 2.4±0.3, p=0.05), whereas did not change in STA/EZE (2.7±0.5 to 2.3±0.3, p=0.24).

Conclusion: Both atorvastatin plus ezetimibe and double-dose atorvastatin are effective to improve insulin resistance effectively in patients with METS. However, atorvastatin plus ezetimibe is able to reduce LDL-C more intensively. Atorvastatin plus ezetimibe may be preferable to provide improvement of insulin resistance and reduction of LDL-C in the patients with METS.