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i2 SUMMIT

THE EFFECTS OF COMBINATION OF FELODIPINE AND RAMIPRIL ON REGRESSION AND COMPOSITIONAL CHANGES OF PLAQUE IN PATIENTS WITH HYPERTENSION AND ANGINA WITH MILD TO MODERATE DEGREE OF CORONARY STENOSIS

i2 Poster Contributions
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Background: We used serial virtual histology-intravascular ultrasound (VH-IVUS) to assess the efficacy of combination therapy of felodipine and ramipril on regression and compositional changes of plaque in patients with hypertension and angina with mild to moderate degree of coronary stenosis (diameter stenosis 30-70%).

Methods: This study was a prospective, randomized, comparative study using felodipine 5mg/ramipril 5mg vs. felodipine 10mg vs. ramipril 10mg. A total of 84 patients were enrolled in this study, and a total of 68 lesions in 44 patients were analyzed so far (felodipine group; 25 lesions in 15 patients vs. ramipril group; 21 lesions in 13 patients vs. felodipine/ramipril group; 22 lesions in 16 patients). VH-IVUS was performed during baseline coronary angiography and repeated after 9-month of treatment. Efficacy parameters included changes in atheroma volume and plaque composition.

Results: Total atheroma significantly decreased from baseline to follow-up in all three groups (felodipine group: 157±115 to 151±115 mm3, p<0.001 vs. ramipril group: 110±64 to 105±59 mm3, p<0.001, combination group: 151±78 to 148±76 mm3, p<0.001, no differences in p value among three groups). There were no significant differences in the changes of absolute and relative plaque volumes from baseline to follow-up comparing three groups (in order of felodipine, ramipril, combination group, fibrotic; -1.94±9.00mm3 vs. -1.26±8.76mm3 vs. -0.67±11.49mm3, p=0.9, and +2.5±9.2% vs. +1.3±11.6% vs. -2.6±9.7%, p=0.2, fibro-fatty; -6.07±16.40mm3 vs. -3.28±7.93mm3 vs. -1.07±4.26mm3, p=0.3, and -4.9±10.8% vs. -4.6±10.1% vs. -2.1±4.9%, p=0.5, dense calcium; +0.48±5.20mm3 vs. +0.58±2.37mm3 vs. +1.00±3.17mm3, p=0.9, and +1.6±6.0% vs. +1.2±7.3% vs. +2.1±4.2%, p=0.9, necrotic core; +1.20±8.07mm3 vs. +1.16±8.12mm3 vs. -0.03±7.05mm3, p=0.8, and +0.6±9.2% vs. +2.1±10.4% vs. +2.5±9.2%, p=0.8).

Conclusions: Although combination therapy with felodipine and ramipril regressed plaque effectively, it didn't show any benefits on plaque compositional changes compared with monotherapy of felodipine or ramipril in patients with hypertension and angina with mild to moderate coronary stenosis.