PRAVASTATIN COMBINED WITH VALSARTAN SHOWS ADDITIVE BENEFICIAL VASCULAR EFFECTS IN PATIENTS WITH HYPERCHOLESTEROLEMIA

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Background: We compared blood pressure and vascular responses with inflammatory biomarkers to these therapies either alone or in combination in hypercholesterolemic patients. Methods: This was a randomized, single-blind, placebo-controlled cross-over trial with three treatment arms (each 2 months) and two washout periods (each 2 months). Forty-eight hypercholesterolemic patients (23 had metabolic syndrome) were given pravastatin 40 mg and placebo, pravastatin 40 mg and valsartan 160 mg, or valsartan 160 mg and placebo daily during each 2 month treatment period. Results: All three treatment arms significantly improved flow-mediated dilator response to hyperemia (FMD) relative to baseline measurements. However, FMD were changed to a greater extent with combined therapy when compared with pravastatin or valsartan alone (P<0.001 by repeated measures ANOVA). Relative to baseline measurements, valsartan alone, pravastatin alone or combined therapy reduced hs-CRP levels (P=0.158, P=0.001, and P<0.001 by Wilcoxon Signed Rank test, respectively). Interestingly, when compared with valsartan or pravastatin alone, combined therapy significantly reduced hs-CRP levels to a greater extent (P=0.019 by repeated measures ANOVA on Ranks). All three treatment arms significantly increased plasma adiponectin levels relative to baseline measurements. However, combined therapy significantly increased plasma adiponectin levels to a greater extent than monotherapy (P=0.003 by repeated measures ANOVA on Ranks). Overall, we observed similar results in 23 patients with metabolic syndrome. Conclusions: Pravastatin combined with valsartan improved endothelial function with improving inflammatory biomarkers to a greater extent than monotherapy with either drug in patients with hypercholesterolemia or metabolic syndrome.