Statins but Not Angiotensin-Converting Enzyme Inhibitors Delay Progression of Aortic Stenosis

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Background—Recently, statins and angiotensin-converting enzyme inhibitors (ACEIs) have been shown to slow aortic valve calcium accumulation. Although several studies also suggest that statins may reduce the hemodynamic progression of aortic stenosis (AS), no data are available for ACEIs or the combination of both.

Methods and Results—A total of 211 consecutive patients (aged 70±10 years, 104 females) with native AS, defined by a peak velocity >2.5 m/s (valve area 0.84±0.23 cm², mean gradient 42±19 mm Hg), with normal left ventricular function and no other significant valvular lesion who were examined between 2000 and 2002 and who had 2 echocardiograms separated by at least 6 months were included. Of these, 102 patients were treated with ACEIs, 50 patients received statins, and 32 patients received both. Hemodynamic progression of AS was assessed and related to medical treatment. Annualized increase in peak aortic jet velocity for the entire study group was 0.32±0.44 m · s⁻¹ · y⁻¹. Progression was significantly lower in patients treated with statins (0.10±0.41 m · s⁻¹ · y⁻¹) than in those who were not (0.39±0.42 m · s⁻¹ · y⁻¹; P<0.0001). This effect was observed both in mild-to-moderate and severe AS. ACEI use, however, did not significantly affect hemodynamic progression (P=0.29). Furthermore, ACEIs had no additional effect on AS progression when given in combination with statins (0.11±0.42 versus 0.08±0.43 m · s⁻¹ · y⁻¹ for combination versus statin only; P=0.81). Cholesterol levels did not correlate with hemodynamic progression either in the group receiving statins or in the group that did not.

Conclusions—ACEIs do not appear to slow AS progression. However, statins significantly reduce the hemodynamic progression of both mild-to-moderate and severe AS, an effect that may not be related to cholesterol lowering.

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