CLINICAL DETERMINANTS OF INCIDENT AORTIC STENOSIS IN STATIN-TREATED STABLE CORONARY PATIENTS

Poster Contributions
Poster Sessions, Expo North
Saturday, March 09, 2013, 3:45 p.m.-4:30 p.m.

Session Title: Valvular Heart Disease: Clinical III - Aortic Valve Stenosis
Abstract Category: 31. Valvular Heart Disease: Clinical
Presentation Number: 1155-84

Authors: Benoit Arsenault, Matthijs Boekholdt, Samia Mora, David DeMicco, Warren Bao, Prakash Deedwania, Jean Claude Tardif, John C. LaRosa, Philip Barter, David Waters, Montreal Heart Institute, Montreal, Canada

Background: Aortic stenosis (AS) is the most common valvular heart disease in the West, and may share some risk factors with coronary heart disease (CHD). Clinical trials have failed to show a benefit for statin therapy in delaying the progression of AS among asymptomatic individuals with known AS. But whether statin therapy may decrease the incidence of AS in a population enriched with CHD risk factors is unknown. Our objective was to compare the incidence rates of AS among patients treated with high- versus low-dose statin therapy and to identify clinical risk factors associated with the risk of AS.

Methods and Results: The Treating to New Targets (TNT) trial compared the impact of atorvastatin 80 mg vs. 10 mg per day in 10,001 patients with stable CHD. At randomization, 73 patients had known AS and were excluded from this analysis. During the 4.9 years follow-up, 45 patients developed AS. Clinical variables of interest included sex, race, smoking status, age, body mass index (BMI), systolic and diastolic blood pressure, diabetes, metabolic syndrome, cardiovascular history, estimated glomerular filtration rate, as well plasma lipoprotein-lipid levels including apolipoprotein B and A-1 and glucose levels. Treatment with atorvastatin 80 mg was not associated with a decreased risk of incident AS compared to treatment with atorvastatin 10 mg. In univariate analyses, continuous variables such as age, BMI and systolic blood pressure (p≤0.02 per 1-SD increment for each) and categorical variables such as previous coronary artery bypass grafting, diabetes and hypertension were significantly (p≤0.05 for each) associated with incident AS. In multivariate analyses forcing treatment, sex and race into the model, age (hazard ratio [HR]=2.18 [95% CI, 1.47-3.23], p=0.0001 per 1-SD increment [8.8 years]), BMI (HR=1.42 [1.17-1.72], p=0.0004 per 1-SD increment [4.6 kg/m2]) and diabetes (HR=2.08 [1.09-3.97], p=0.03) remained significantly associated with the onset of AS.

Conclusions: In this study, high- versus low-dose statin therapy did not impact the incidence of AS. We found that age, BMI and diabetes were significant predictors of incident AS in statin-treated, stable CHD patients.