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VALVULAR HEART DISEASE

AORTIC VALVE CALCIFICATION IN MILD PRIMARY HYPERPARATHYROIDISM

ACC Poster Contributions

Ernest N. Morial Convention Center, Hall F

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Session Title: Valvular Disease-Aortic Stenosis in the 21st Century Redefining the Process

Abstract Category: 19. Valvular Disease

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Background: The presence of calcification in the aortic valve (AVC) leads to aortic valve sclerosis, which is an independent risk factor for cardiovascular mortality and morbidity. AVC is a frequent complication in patients with uremic secondary hyperparathyroidism and may contribute to a poor prognosis. However, little is known about AVC in primary hyperparathyroidism (PHPT), particularly in those with biochemically mild disease. This study was designed to clarify the influence of mild PHPT on AVC.

Methods: The study population included 50 patients with mild PHPT (mean age: 61±7 yrs; PTH: 85±33 pg/ml; serum calcium: 10.4±0.5 mg/dl) and 49 age- and sex-matched controls without PHPT (age: 63±5 yrs). Comprehensive echocardiographic measurements were performed using standard techniques and commercially available equipment. We measured calcification area for each aortic valve at mid-systole, and the sum total of the calcification areas of three aortic valve leaflets were calculated (AVCA) in both groups.

Results: Peak transaortic pressure gradient was similar among PHPT patients and controls (6±2 mmHg vs. 6±2 mmHg; p=0.2). However AVCA was significantly higher in patients with PHPT (0.24 cm² vs. 0.17 cm²; p<0.01). On linear regression analysis, AVCA was positively associated with PTH levels (r=0.34, p<0.05) in patients with PHPT, while no association was found with serum calcium or 25-hydroxyvitamin D. Serum PTH level remained independently associated with AVCA on multivariate analysis, after adjustment for differences in age, sex, body mass index, smoking status, and history of diabetes mellitus, hypercholesterolemia and hypertension.

Conclusions: Mild PHPT is associated with subclinical AVC. PTH level, but not serum calcium concentration, is an independent predictive parameter. These findings may have important implications in gaining insight into the mechanism of calcification in PHPT.