

KALCIFIKIMI I RRËNJËS SË AORTËS ËSHTË NJË TREGUES EKOKARDIOGRAFIK PËR SAK TË RËNDËSISHME NË PACIENTËT QË I NËNSHTROHEN KORONAROGRAFISË

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Summary

AORTIC ROOT CALCIFICATION IS AN ECHOCARDIOGRAPHIC INDICATOR OF SIGNIFICANT CORONARY ARTERY DISEASE IN PATIENTS UNDERGOING DIAGNOSTIC CORONARY ANGIOGRAPHY

Introduction: Aortic sclero-calcification is considered not a mere benign finding, but a manifestation of coexisting coronary, especially in elderly population. Early aortic root calcification (ARC) may have a similar association, but it has not been previously determined in our population.

Aim: Using transthoracic echocardiography (TEE), we evaluated diagnostic value of ARC in a relatively young population, undergoing coronary angiography.

Methods: In a prospective, cohort study, we identified 293 patients who all underwent coronary angiography. ARC was considered present when the anterior and/or posterior wall demonstrated increased echo reflectance and thickness of >2.4 mm. All known cardiac risk factors for atherosclerosis including age, gender, hypertension, smoking, dyslipidemia, diabetes and family history were investigated.

Results: The mean age of the study population was 60.07 ± 9.03 years. These patients were divided into two groups: 186 (63%) in the ARC group and 107 (37%) in the non-ARC group. The ARC group had a higher positive rate of coronary angiography (81.1% versus 53.3%, with $p=0.001$), and a higher incidence rate of 3-vessel disease than the non-ARC group. Mitral annular calcification (MAC) and carotid artery disease were found to be significantly more prevalent in ARC group than in non-ARC group. When the cohort was divided by presence of CAD, we found that 206 patients had obstructive CAD and 87 did not. In the CAD group 167 (72.3%) had ARC compared with 39 (41.1%) in the non-CAD group ($p=0.001$). After adjusting for coronary risk factors, logistic regression analysis showed that aortic root calcification (ARC) was strongly and significantly associated with obstructive CAD in a such clinical setting (OR 3.4, 95% confidence interval 1.77-6.5, $p=0.001$). Others independent predictors were smoke (OR 4.88, CI 95% 2.46-9.66, $p=0.001$) and diabetes (OR 3.79, 95% CI 1.56-9.07, $p=0.003$).

In our study, the presence of Aortic Root Calcification (ARC), diabetes and smoke were the best predictors of obstructive CAD. The sensitivity, specificity, positive and negative predictive values for ARC in diagnosing CAD were 72.2%, 60%, 81% and 50%, respectively.

Conclusions: Previous studies and our data suggest that aortic root calcification may not be simply a benign age-associated degenerative process but instead may be a marker for the presence of CAD and hence an increased risk of cardiovascular events. Our study further demonstrates that aortic root calcification and significant Coronary Artery Disease are significantly associated with each-other. Therefore, it is reasonable to suggest a common etiologic basis for these calcifications, and their presence should be regarded as a sign for the presence of CAD.

Key words: Aortal root calcification; coronary artery disease; transthoracic echocardiography; albanian population.