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Association between mitral annular calcification and coronary artery disease  
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Objective: To determine whether there is an association between the presence of mitral annular calcification (MAC) and coronary artery disease (CAD).  
Methods: 386 patients aged >65 years with MAC diagnosed by transthoracic echocardiography underwent coronary angiography. They were compared with 86 age- and sex-matched patients without MAC who underwent coronary angiography during the same period.  
Results: 1. Compared with the control group, the MAC group had a higher prevalence of coronary artery disease (88.28% vs. 65.12%, P = 0.003) and a higher prevalence of left main coronary disease (15.62% vs. 4.60%, P = 0.017 and triple vessel disease (55.47% vs. 32.56%, P = 0.001). 2. On multivariate analysis, MAC (P = 0.008) was an independent predictor of coronary artery disease, and the odds ratio was 3.20 (95% confidence interval: 1.28 to 7.80) (P = 0.009) and age (P = 0.04). 3. The positive predictive value of MAC for finding coronary artery disease was 88.28%.  
Conclusions: In patients aged >65 years, there is a significant association between the presence of MAC and coronary artery disease. MAC may be an important marker for coronary artery disease. Coronary angiography should be undertaken to the patients with MAC diagnosed by transthoracic echocardiography as a common.  

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Association between mitral annular calcification and aortic valve annulus calcification and aortic valve calcification with coronary artery disease  
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Objective: To determine whether there is an association between mitral annular calcification (MAC), aortic valve annulus calcification (AVAC) and aortic valve calcification (AVC) with Coronary Artery Disease (CAD) in subjects age >65 years.  
Methods: 386 patients aged >65 years who underwent transthoracic echocardiography and coronary angiography at the same time.  
Results: 1. The age of patients with calcium deposits was older than that of patients without calcium deposits (p<0.01). Of the risk factors studied, hypertension (P<0.05) and diabetes mellitus (P<0.01) were significantly associated with MAC. Hypertension (P<0.05) and diabetes mellitus (P<0.05) and a smoking habit (p<0.05) were significantly more prevalent in patients with AVC than those without AVC. Hypertension was significantly more frequent in patients with AVAC (P<0.05). 2. There was a progressive increase in age (p<0.01), prevalence of hypertension (p<0.01), and diabetes mellitus (p<0.05) with an increasing number of sites with calcium deposits. 3. Compared patients with no calcium deposits, those with calcium deposits had significantly higher positive prevalence of coronary artery aneurysms (p<0.01), and there was a progressive increase in positive prevalence of coronary artery aneurysms (p<0.01). 4. Multiple logistic analyses identified the multiple calcium deposits (P<0.01), age (p<0.05), male gender (P<0.01), diabetes mellitus (P<0.01), and hypercholesterolemia (P<0.05) as independent predictors for the positive prevalence of coronary artery aneurysms. The multiple calcium deposits (P<0.01) and diabetes mellitus (P<0.01) were independent predictors for inoperable patients. In patients aged >65 years, the multiple calcium deposits (P=0.001) and diabetes mellitus (P=0.001) and smoking habit (p=0.05) and male gender (P<0.05) were statistically significant predictors of the positive prevalence of coronary artery aneurysms.  
Conclusions: There is a significant association between the presence of calcium deposits and coronary artery disease. The presence of multiple calcium deposits is an independent predictor of coronary artery disease.  

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Effectiveness of Intravascular ultrasound in drug-eluting stents age  
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Purpose: Drug-eluting stents (DESs) have been developed to prevent in-stent restenosis following percutaneous coronary revascularization, and its effectiveness in the prevention of restenosis has been confirmed in the world. Intravascular ultrasound (IVUS) is effective to determine a strategy of percutaneous coronary intervention even using bare metal stents. We evaluated whether IVUS could be useful to determine strategy for chronic total occlusion (CTO) in DES age.  
Methods: Twenty patients who performed PCI to CTO were studied. Length, diameter and characteristics of lesion were confirmed by IVUS in all patients after pre-stenting dilatation (balloon size was 1.25~1.5mm).  
Results: The average length was 15.4±7.3mm, diameter was 3.2±1.4mm, 2±4±1.4 stents were needed for covering lesion. No perforation was observed during stent implantation. Complications during percutaneous coronary intervention with IVUS were less than those with IVUS vs. DES. IVUS was used in 4 patients (20%), Target vessel revascularization was re-occurred in 6 months follow up. (Major adverse cardiac event was not occurred at six months follow up.)  
Conclusion: IVUS was effective device for PCI even in DES age.  

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Coronary artery wall thickness of the left anterior descending artery using high resolution transthoracic echocardiography an intra and inter operator variability  
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The ability of angiography to detect early atherosclerotic changes in the coronary arteries is limited by arterial remodeling. Failure to detect early atherosclerosis may represent a missed opportunity for pre-emptive treatment. The optimal method for prevention of subclinical coronary atherosclerosis would be non-invasive and would focus on the arterial wall rather than the lumen. A recent study has shown that high resolution transthoracic echocardiography (HRTTE) can be used to visualise and make accurate measurements of the proximal left anterior descending artery (LAD) wall. Moreover, these measurements differ between patients with coronary disease and normal volunteers.  
We used HRTTE to visualise and measure the LAD anterior and posterior wall thickness and vessel luminal and external diameters to determine the intra- and inter-operator variability of these measurements. Thirty volunteers without a history of cardiac disease underwent a HRTTE assessment of their LAD by two different operators on three separate occasions.  
Results: The correlations for intra-operator variability were r = 0.86 (p<0.001), r = 0.86 (p<0.001), r = 0.81 (p<0.001) and r = 0.85 (p<0.001) for anterior and posterior wall thickness and luminal and external diameters respectively. The correlations for inter-operator variability were r = 0.88 (p<0.001), r = 0.82 (p<0.001), r = 0.76 (p<0.001) and r = 0.70 (p<0.001) for anterior and posterior wall thickness and luminal and external diameters respectively.  
Conclusion: HRTTE measurement of the LAD vessel is reproducible within and between operators in normal volunteers. This technique therefore warrants further study as a potential screening modality for subclinical coronary atherosclerotic.