426 Postsystolic shortening in patients with symptomatic aortic stenosis

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Background: Myocardial postsystolic shortening (PSS) is considered a sensitive marker of myocardial ischaemia. In most patients with aortic stenosis (AS), left ventricular long axis excursion is reduced even in the presence of normal ejection fraction. Limited information exists regarding value of PSS in AS. Aim of the study was to investigate the presence and significance of PSS in patients with symptomatic AS.

Methods: Seventy-two patients (aged 65±9 yrs.) with symptomatic AS were studied. Left ventricular long axis function was assessed echocardiographically using tissue Doppler and digitized M-mode echocardiography of mitral annulus motion.

Results: PSS was present in 32 (44.4%) patients with AS. No statistically significant difference between groups with and without PSS was found in clinical data, left ventricular function and grade of AS. Frequency of significant coronary stenosis did not differ significantly in groups with and without PSS (32% vs 16%, p=0.11). The only significant finding was correlation between duration of symptoms and amplitude of PSS (r=0.58, p<0.05). Multiple regression analysis revealed best predictors of PSS amplitude (R²=0.56): thickness of posterior wall of the left ventricle, left atrium dimension, and systolic lateral velocity of mitral annulus (p<0.05).

Conclusions: Postsystolic shortening was present in 44.4% of patients with symptomatic aortic stenosis and is associated with longer duration of symptoms. It in aortic stenosis postsystolic shortening amplitude is related to left ventricular hypertrophy and left atrial size.

427 Evaluation of left ventricular remodeling in patients with aortic stenosis

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Aim: The aim of study was to establish relation between type of left ventricular remodeling and echocardiographic parameters.

Methods: The study population consisted of 128 patients with isolated aortic stenosis (42 women; mean age 65±10 years). Types of left ventricular remodeling in patients with aortic stenosis were classified according to left ventricular hypertrophy and left atrial size.

Conclusions: End-systolic stress is the highest in group with excentric remodeling and is associated with lower left ventricular ejection fraction.

428 Association of aortic sclerosis and mitral annular calcification in patients referred to myocardial revascularisation

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Background: Aortic valve sclerosis (AVS) and mitral annular calcification (MAC) are common in patients referred to myocardial revascularization (men age 59.5±8.5 yrs.; 72.6% male). AVS and MAC were assayed by transthoracic echocardiography.

Results: 428 patients (mean age 65±10 yrs.) of 106 pts had MAC, 27 pts (25.5%) had AVS, 12 pts (11.3%) had both AVS and MAC, and 55 pts (51.9%) had neither MAC nor AVS. Pts were divided into three groups: Group A (without MAC and AVS), Group B (MAC or AVS) and Group C (MAC and AVS). Frequency of pts older than 65 yrs was higher in groups with valve sclerosis (Group 1 vs. 2 vs. Group 3: 56.6% vs. 33.3% vs. 41.7%, p=0.03). Female gender was more frequent in groups with valve sclerosis (Group 1 vs. Group 2 vs. Group 3: 64.8% vs. 35.8% vs. 41.7%, p=0.03). Frequency of DM was higher in groups with valve sclerosis (Group 1 vs 2 Group 2 vs. Group 3: 18.2% vs. 33.3% vs. 41.7%, p=0.041), as well as frequency of obesity (Group 1 vs. Group 2 vs. Group 3: 12.2% vs. 25.0% vs. 36.4%, p=0.049). Hypertension, smoking, lipid level and family history were similar between groups. With the progression of valve sclerosis frequency of one vessel and two vessel coronary diseases become lower, and frequency of three vessel disease become higher. Pts with AVS and/or MAC had more frequently three vessel disease than pts without AVS or MAC (71.7% vs. 44.7%, p=0.03). AVS and MAC are common in patients referred to myocardial revascularization, especially in diabetics, obese, female and older. Extent of the atherosclerotic coronary lesions is in concordance with the extent of valve sclerosis.

429 Predictors of early and medium-term survival after aortic valve replacement in patients with end-stage aortic stenosis and left ventricular dysfunction

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Background: Aortic valve replacement (AVR) for severe aortic stenosis (AS) is challenging in patients with left ventricular (LV) dysfunction. We aimed to identify survival risk, survival, and predictors of AVR-mortality in end-stage AS.

Methods: Between 1998-2003, 86 patients (aged 71±10 years, range 32-87 years) with severe AS but low peak aortic pressure-drop (AVPD) (<35 mm Hg) due to LV dysfunction (fractional shortening (FS)<25%) underwent AVR. Pre-operative echocardiographic measured FS, peak AVPD, mitral E/A ratio, peak systolic pulmonary artery pressure (from peak tricuspid regurgitant velocity and estimated right atrial pressure), and LV mass index (LVM). Cox proportional hazards identified independent clinical, surgical, and echocardiographic predictors of mortality.

Results: All patients were symptomatically (27 NYHA class II; 36 Class III; 23 Class IV; 49 exeretional angina); 50 patients had coronary artery bypass surgery (CABG) at time of AVR. 64 received a stented AVR, 22 received a stentless AVR. The long-term outcome of echocardiographic parameters was performed in 34. Operative (30-day) mortality (10%) was associated with lower mean FS and AVPD (by 6%, p<0.001 and 17 mm Hg, p=0.024), higher mitral E/A ratio, LV hypertrophy (by 2.3, 28 mm Hg, and 71%, p<0.001, all p<0.001), NYHA class III-II (100% vs 65%), CABG (89% vs 55%), emergency surgery (78% vs 35%) and longer cardiopulmonary bypass-time (by 28 minutes, p<0.01). There was no difference in LVM between patients who died and those that survived (p=0.49).