Results: The mean study population LVEF was 40.8±6.0%, WMSI 1.41±0.2 and RSP1 1.29±0.69. During 500 day follow-up 28 MACE were registered (8 deaths, 7 T/M x 13 rehospitalizations for CHF). Minimal NT-proBNP was 56.0, and maximal 8337.0 pg/mL. The ROC curve was constructed to assess cut-off point for MACE prediction during long-term follow-up. The best value to predict MACE was NT-proBNP over 1895 pg/ml (AUC 0.79), Based onNT-proBNP, following a CK rise in 52% and n-MCE results (MCE+ in 62 pts) the study population was divided into 4 groups: group A (N-TproBNP< and MCE-), group B (N-TproBNP< and MCE+), group C (N-TproBNP+ and MCE-) and group D (N-TproBNP> and MCE+). According to survival analysis with Kaplan Meier method cumulative probability of MACE-free survival during 1.5 year follow-up was 35%, 78%, 91% and 98%, respectively. Conclusions: Combined use of discharge NT-proBNP and n-MCE examination in patients with acute myocardial infarction treated with early PCI is simple and accurate predictor of major adverse cardiac events in long-term follow-up.

CARDIOMYOPATHY/PERICARDIAL DISEASE

844 Incremental prognostic value of restrictive filling pattern in hypertrophic cardiomyopathy: a Doppler echocardiographic study B. Pinamonti1, G. Nucliera1, A. Di Lenarda1, G. Gregori1, A. Perkani1, G. Sinagra1, Ospedale Di Cattinara, Divisione Di Cardiologia, Trieste, Italy

Objectives: To study frequency and incremental prognostic value of restrictive filling pattern (RFP) in hypertrophic cardiomyopathy (HCM).

Background: HCM is usually characterized by left ventricular diastolic dysfunction and preserved systolic function. Main diastolic abnormality at Doppler study is early diastolic flow reversal in the proximal pulmonary vein which, however RFP has never been extensively evaluated before.

Methods: 87 consecutive HCM patients (64 men, mean age 45±19 years) underwent physical and Doppler-echocardiographic evaluation at our centre from March 1993 to February 2001. Mean length of follow-up was 96±54 months.

Results: RFP was found in 14 patients (16%) at index evaluation. Patients with RFP had higher NYHA class, more frequently signs of heart failure and lower left ventricular ejection fraction (p=0.018, p=0.002 and p=0.001, respectively). During follow-up, mortality plus heart transplantation was significantly higher in HCM patients with RFP than in those without RFP (p=0.001) (figure 1). NYHA class (HR=5.95, 95% CI: 1.34-26.38, p=0.019) and RFP was found in 14 patients (16%) at index evaluation. Patients with RFP had higher NYHA class, more frequently signs of heart failure and lower left ventricular ejection fraction (p=0.018, p=0.002 and p=0.001, respectively). During follow-up, mortality plus heart transplantation was significantly higher in HCM patients with RFP than in those without RFP (p=0.001) (figure 1). NYHA class (HR=5.95, 95% CI: 1.34-26.38, p=0.019) and RFP were significant predictors of in-hospital HF, mortality, and heart transplantation.

Conclusions: RFP is rare but not exceptional in HCM. Echo-Doppler evaluation of filling pattern confers additional prognostic advantage to clinical stratification.

845 Early predictors of in-hospital heart failure in patients with a first acute myocardial infarction E. Kinova1, N. Zlatareva1, I. Angelova1, L. Peneva1, A. Goudev1, 1University Hospital, Queen Giovanna, Cardiology Dept., Sofia, Bulgaria

Identifying echocardiographic parameters in acute myocardial infarction (MI) which could predict development of heart failure (HF) would allow early and appropriate treatment of high-risk patients. Aim: To determine echocardiographic left ventricular (LV) indices in acute phase of MI for predicting development of in-hospital HF.

Methods: 117 consecutive patients with a first acute MI (aged 62±12 years, 66 male, 82 Q-wave MI) were followed-up for development of in-hospital congestive HF (Killip class ≥ II). Two-dimensional and Doppler echocardiography were performed during the first 72 hours of MI. Left ventricular diastolic function was assessed by pulsed Doppler-measurements of transmitral flow and to color M-mode Doppler propagation flow velocity.

Results: Fifty eight patients (50%) developed signs and symptoms of HF. Early predictors of development of in-hospital HF were: LVMII ≥ 246 g/m², E/E′ ≥ 15, E′ ≤ 9 cm/s, TDI/DTI ≤ 1.80, LVEF ≤ 40%, E/A ≤ 1.2 and E/A ≤ 0.05. Sensitivity, specificity, NPV and PPV were 87, 71, 88 and 66%, respectively.

Conclusions: E/E′ ≥ 15 and WMI ≥ 246 g/m² are the early predictors of in-hospital congestive HF.
846 Importants of echocardiography in early assessment and follow up in surgically treated patients with ventricular septal defect after acute myocardial infarction
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Objective: Rupture of the left ventricle wall (VSD) in patients with acute myocardial infarction (MI) is severe and often life threatening complication. The aim of the study was to assess the risk of early surgical treatment in this group of patients, outcome and long term prognosis using echocardiography and clinical data.

Material and methods: Clinical and echocardiographic parameters were assessed in 14/17 patients operated due to VSD which was confirmed by echocardiography and angiography before the operation (11 men, 3 women, mean age 63±7.9). The following clinical parameters were analyzed: NYHA class, heart rate (HR), blood pressure (BP), cardiac rhythm, ECG. The following echocardiographic parameters were measured: left atrium diameter (LA), end-diastolic (EDD), and end-systolic (ESD), left ventricle diameter, ejection fraction (EF), severity of mitral and tricuspid (TR) regurgitation. The pressure gradient on the site of VSD and systolic pressure of the right ventricle (RVP) were also measured.

Results: All patients were in NYHA III class, in sinus rhythm with average heart rate 86±18/min. LA and LV diameters were normal and average EF assessed by Simpson was decreased (32.9±7.5%). In 6 patients with inferior MI, VSD was located in the basal segment of the inferior LV wall, in 3 patients with anteroseptal MI at the site of interventricular septum and in 4 patients at the posterior wall of the LV. All patients had significant left-to-right shunt whereas in 2 patients small right-to-left shunt also existed. Pressure gradient at the site of VSD was 72.8±21 mm Hg. All patients had mild MR and TR. RVP was moderately increased (48.8±22.1 mm Hg). Dacron patch was placed on the VSD site in the majority of patients (12/14) with additional coronary artery by-pass grafting in 7 patients. In two patients direct suture was done. Haemodynamically insignificant residual shunt was detected immediately after operation in only two patients. One patient died immediately after operation and one 42 months after the operation.

Conclusion: Patients with VSD after acute MI could be successfully surgically treated with good as well as long term prognosis. Although these are high risk patients, in our study group surgical intervention was found to be justified and efficient treatment with good results. Echocardiography as non-invasive technique is a method of choice for early assessment for precise localization of the ruptured site and haemodynamic parameters as well as for early and late postoperative follow up.

847 NT-proBNP in differentiation of normal and pseudonormal mitral flow in ischemic heart disease
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Background: Diastolic assessment of LV diastolic function is important in settings of objective signs of heart failure in patients with preserved LV systolic function. Diagnosis of moderate diastolic dysfunction (DD) with pseudonormalization feature is difficult.

Aim of the study was to assess NT-proBNP diagnostic value for diagnosis of DD and differentiation of normal and pseudonormal mitral flow.

Methods: Among 83 consecutive patients/ppts with angiographically documented coronary artery disease and LVEF >45% the normal mitral flow (E/A <1) was assessed in 40 pts (age 56+-10 years, 33 men) in 32 of them the inflow from right superior pulmonary vein (RSPV) was normal (S/D >=1, A <35 cm/s), and in 8 pts it was found to be pseudonormal/abnormal. NT-proBNP was assessed in all pts.

Results: LVEF was similar in both groups. In group B NT-proBNP levels were significantly higher (734+/-586 mg/ml vs 167+/-100; p=0.001) than in group A. Based on the ROC curve the best discriminative value was >323 pg/ml (AUC 0.83, sensitivity 63%, specificity 97%, accuracy 85%, PPV 63%, NPV 90%).

Conclusions: In ischemic heart disease with preserved LV systolic function and normal mitral flow NT-proBNP may be useful in selection of patients with isolated diastolic dysfunction and pseudonormal pattern of mitral flow.

848 Relationship between N-terminal pro brain natriuretic peptide and ventricular function in patients with non-ST-elevation acute coronary syndromes
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Increased levels of N-terminal pro brain natriuretic peptide (NT-proBNP) in non-ST-segment elevation acute coronary syndromes (NSTE-ACS) have been related to elevated ventricular filling pressures due to myocardial ischemia, even on patients without heart failure. Analysis of echocardiographic parameters may be useful to show any relationship between NT-proBNP elevation with systolic and/or diastolic ventricular function.

Objectives: to detect any association between NT-proBNP and ventricular systolic and/or diastolic dysfunction in NSTE-ACS patients without heart failure.

Methods: 70 NSTE-ACS patients (age 61±12 years, 60% men) without prior or in-hospital heart failure underwent transthoracic Doppler-echo and tissue Doppler (mitral and tricuspid annulus and basal segments of left ventricle) within 24 hours from last chest pain episode onset and within 1 hour of blood sampling. NT-proBNP, Doppler-echo variables associated to elevated NT-proBNP were left ventricular ejection fraction (LVEF, mean=0.56±0.11, p=0.002), fractional shortening (p=0.02), wall motion score index (p=0.08), LV mass (p=0.02), left atrial diameter (p=0.04), A mitral regurgitation (p=0.044), systolic mitral annular velocity (p=0.02), E’ (p=0.001) and E/E’ (p=0.044). Multivariable analysis showed that the independent predictors of NT-proBNP elevated were LVEF=55% (OR=6.78, 95% CI 1.65-27.75, p=0.008) and E’ velocity (OR=5.46, 95% CI 1.68-17.72, p=0.005). Including other clinical and biochemical variables in the model, both ultrasonic variables persisted as independent predictors.

Conclusion: In patients with non-ST-segment elevation acute coronary syndromes, the increase in NT-proBNP levels is associated to both systolic and diastolic left ventricular dysfunction, even on patients without heart failure.

849 Factors determining left ventricular remodeling in patients with acute myocardial infarction after primary PPCI
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Background: Fast and full restoration of infarct related artery patency did not mean achievement of tissue perfusion influencing remodeling process, adversely affecting left ventricular function.

Aim of the study was to assess frequency, prognostic value and factors determining unfavorable remodeling.

Material and methods: Consecutive 90 pts with first, only anterior wall myocardial infarction undergoing successful primary PPCI were prospectively enrolled. Angiographic parameters: Rentrop scale, MBG, proximity of occlusion, echo-doppler: maximal ST segment elevation from single lead, sum of ST segment elevations, and reduction of at least 50% of ST segment elevations 1hour after PCI. The next day echocardiographic assessment of left ventricular ejection fraction (LVEF); end-diastolic volume (LVEDV); perfusion contrast imaging to determine regional perfusion score index (RPSI) were performed.

Results: High correlation was found for maximum CK-MB and LVEDV at day 30 and 180 (r=0.71 and r=0.82). According to LVEDV increase >20% at 6-month follow-up study population was divided to group A 52 pts without unfavorable remodeling and group B 38 pts with it. Group A baseline LVEDV was 105.8 ml, group B 106 ml (p=ns), and RCSI 1.49 and 0.95 respectively (p<0.001). At 6-months group A LVEDV decreased to 99.1, and in group B increased to 156.1 (p<0.001). RPSI, proximal LAD occlusion, presence of ≤ ST50% and CKMB value over cut-off value were significantly prognostic for remodeling.

Conclusion: Despite therapy according to current guidelines remodeling is present in significant proportion of pts with anterior MI. Among many established and well known electrocardiographic, angiographic and biochemical indices myocardial contrast echocardiography was found to have the highest remodeling prediction power.

850 Role of myocarical performance index in assessment of postinfarction remodeling process
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Myocardial performance index (MPI) is clinically relevant measurement of global LV function in patients with coronary heart disease. LV remodeling...