Comparison of low-dose diprydamole radionuclide ventriculography and low-dose diprydamole stress echocardiography for identification of myocardial viability

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Objective: The purpose of the study was to compare diagnostic value of low dose diprydamole radionuclide ventriculography (Dipy-RNV) and low dose diprydamole echocardiography (Dipy-ECHO) for the prediction of functional recovery of viable myocardium in the medium term follow up.

Methods: Twenty ca (18 male; 51±10 years) with previous myocardial infarction and resting wall motion dyssynergy were studied before angioplasty of infarcted region. A full echo study was preformed within 24 hours of an acute myocardial infarction and resting wall motion dyssynergy were studied before angioplasty of infarcted region. By ECHO, viability was defined as improvement of wall thickening or concordable improvement of ≥1 grade, utilizing wall motion score index (WMSI).

Results: Out of 180 examined (20x9) segments by RNV, 51 were dysynergic and they had abnormal REF (<50%). Out of 51 segments, functional improvement was documented in 33 on low Dipy-RNV Sensitivity for predicting functional recovery after 12 weeks follow up was 63%, and specificity was 77%. WMSI assessed by ECHO was 1.36±0.22, 1.16±0.20 and 1.13±0.14 for rest, low Dipy and rest follow up, respectively (p=0.05 vs. resting echo). Sensitivity of low Dipy-ECHO predicting functional recovery was 80%, and the specificity was 90% (p=0.4 vs. low Dipy-RNV)

Conclusion: Both techniques, RNV and ECHO are comparable diagnostic predictors of myocardial viability in medium term follow up, with Dipy-ECHO having even stronger diagnostic potential.

187 Poor concordance between systolic and diastolic remodeling after acute myocardial infarction

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Background: During the early hours of an acute myocardial infarction both systolic and diastolic function may be expected to be affected by ischemia and reperfusion injury. During the early hours of an acute myocardial infarction both systolic and diastolic function may be expected to be affected by ischemia and reperfusion injury. Methods: A full echo study was preformed within 24 hours of an acute myocardial infarction and repeated 3 months later in 76 consecutive patients (age 61±16). Differences between the 2 echos were calculated for the following systolic and diastolic parameters: LV ejection fraction (EF), Simpson’s, aortic flow-volume (as AVTI), mitral inflow (E/A,E/A’ ratio, E-deceleration time), mitral anular displacement - by tissue-Doppler (E’,A’,E’/E), inflow propagation velocity rate (Vp,E’/VpE) as well as other routine parameters.

Results: Systolic function (EF) improved by >5% in 23 patients and worsened by <5% in 20 patients. For EF and E/A ratios, changes were statistically significant (p<0.05) in 32 and 16 patients, respectively. Changes were not significant for other parameters.

Conclusion: Both EF and E/A ratio are good indicators for early systolic and diastolic remodeling after myocardial infarction. The other parameters, such as E’,A’,E’/E, Vp,E’/VpE, were not good indicators of systolic or diastolic remodeling after myocardial infarction.

188 Decrease of fetuin is correlated to left ventricular dysfunction and outcome after acute myocardial infarction

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Background: Fetuin is a negative acute phase reactant glycoprotein involved in the inhibition of inflammatory reaction. Downregulation of fetuin is associated with higher cardiovascular mortality in patients with severe renal failure. In the present study, we investigated the relation between fetuin and left ventricular (LV) function and outcome in patients admitted for acute myocardial infarction (AMI).

Methods: Seventy one patients (60±14 years, 61 men) with AMI (37 anterior wall infarction, 10 inferior, 20 left anteroseptal, 3 left lateral) were included in the study. Plasma fetuin level (ELISA kit by Epitope-Diagnostic Laboratory) and Brain Natriuretic peptide (BNP) were determined at day 1 (D1) and day 7 (D7). LV dysfunction was defined by an ejection fraction (EF) <45% (biplane Simpson method, Vivid 7, GE). Patients were considered to be at high risk (HR) if death or within Cadilacs score was >5 (risk of death >12% at 1 year).

Results: LV dysfunction (n=21) was associated to a significant decrease of fetuin between D1 and D7 (-11%±17% for EF<45% vs 64±12% for EF>45%, p<0.01) Changes of fetuin were strongly predictive of the identication of HR patients (n=21, AUC=0.81, p<0.0001, fig). Furthermore, fetuin was well correlated to BNP (r=0.56, p<0.0001) and peak troponin (r=0.41, p<0.0001). Importantly by multiple logistic regression, decrease of fetuin was an independent predictor of LV dysfunction (OR=5.3 [3-21], p<0.02).

Conclusion: Decrease of fetuin after AMI is independently associated to LV function and patient outcome. This negative acute phase reactant protein has a potential important prognostic value in patients after AMI.

189 Dissecting intramural haematomas complicating acute myocardial infarction

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Introduction: Dissecting intramural haematomata (DIH) is a rare form of myocardial rupture complicating acute myocardial infarction (AMI). The purpose of the current study is to determine the prevalence and outcome of DIHs in AMI patients.

Methods: Prospective single-center study of all patients admitted with the diagnosis of AMI from June 2003 to January 2005. All patients underwent echocardiography within five to seven days after admission or earlier if clinically indicated (new murmur, pericardial friction rub, heart failure symptoms, haemodynamic instability, cardiogenic shock). Endocardial delineation was enhanced by means of an echocardiographic contrast agent if it was initially considered suboptimal.

Results: The study population consisted of 115 consecutive AMI patients (age 68±12 years, 97 male). A DIH was detected in 6 (2.8%) patients (age 68±13 years, range 42 to 80, 5 male) from 1 to 7 days after AMI. It was associated with anterior AMI in 4 patients, inferior in 1 and lateral in 1 patient. Location of the DIH was: interventricular septum (IVS) - 2 patients, apex - 1 patient, lateral wall - 1, inferior and right atrial wall - 1. In 2 cases DIH was associated with rupture of the affected wall-case one with free wall, one case with IVS rupture. In one case DIH extended from the inferior left ventricular wall through the posterior wall of the right atrium and the right ventricular free wall and decompressed into both ventricles resulting in interventricular communication with intact IVS. Total mortality of patients with DIHs was 50%. Two patients died within 24 hours of diagnosis of DIH-both of them of cardiogenic shock. Two patients with total rupture underwent emergent operation-one of them died at the immediate postoperative period, the other one was alive 6 months post operation. Two patients with small DIHs were treated conservatively and were alive 6 and 2 months post AMI, respectively. In both those patients DIHs remained stable in size during follow up.

Conclusion: DIHs complicating AMI might not be as rare as previously considered and are associated with high mortality in the immediate post infarction period. Old DIHs do not show the tendency to expand or to lead to complete myocardial rupture and can be treated conservatively.

190 Intracardiac calcification is a marker of generalized atherosclerosis

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Aortic valve calcification (AVC) and carotid artery calcification (CAC) are considered to be markers of generalised atherosclerosis. The role of intracardiac calcification (ICC) however is not as clear. The objective of this retrospective study was to analyse the relationship of ICC and CAC, risk factors and clinical atherosclerotic disease. Risk factors included age, sex, diabetes mellitus (DM), hypercholes-