leaflet separation index to predict a good valve opening was 0.87. Using a threshold value of 0.98 cm, sensitivity, specificity, positive predicted value and negative predicted value were 85%, 77%, 82% and 80% respectively. 

**Conclusion:** In this large study group of patients with a wide range of MS severity, mitral leaflet separation index was well correlated to the planimetry and a threshold value of 0.98 cm could predict a good PMC result with high sensitivity and specificity. Thus the leaflet separation index, as a semi-quantitative method, seems to be a useful and complimentary method for MS severity assessment in the setting of PMC.

**HEART VALVE DISEASE**

**1054**

Long-term prognostic value of right ventricular contractile reserve by dobutamine stress echocardiography in patients with mitral stenosis

A tissue Doppler study

L.E. Sade 1; B. Ozin 1; T. Ulus 1; S. Ackel 1; M. Bilgi 1; B. Pırat 1; M. Ulucam 1; H. Muderrisoglu 1

1University of Baskete, Cardiology Dept., Ankara, Turkey

**Purpose:** Isovolumic acceleration (IVA) is a measure of right ventricular (RV) contractile function that is unaffected by loading conditions. The objective of this study was to test the hypothesis that RV contractile reserve assessed by tissue Doppler (TD) derived IVA may be associated with long-term outcome in patients with mitral stenosis (MS).

**Methods:** We prospectively studied 43 subjects (mean age 44±16). Twenty-four with MS and nineteen controls. RV contractile reserve was evaluated under dobutamine challenge at a maximum dose of 20 mcg/kg/min. Conventional 2D and Doppler measurements, pulsed wave TD velocity measurements of the tricuspid annulus at the RV free wall were performed at baseline and during dobutamine infusion. All patients underwent cardiac catheterization. Follow-up duration was 14.5 months.

**Results:** Patients with major cardiac adverse events (MACE +): Two patients died, two were hospitalized for acute pulmonary edema, and one deteriorated from NYHA II to III. Mean mitral valve index was 0.7±0.2 cm²/m² in MACE (+) patients and 0.7±0.2 cm²/m² in MACE (-) MS patients (p NS). Baseline 2D and TD measures did not differ between patients and controls and were not associated with patient outcome. Under dobutamine challenge IVA, isovolumic contraction, A’, and RV fractional area change were significantly larger in patients than in controls (all p<0.05) However only reduced IVA was associated with unfavorable clinical outcome (p<0.01) (Figure).

**Conclusion:** Inability to increase RV IVA during dobutamine challenge is associated with an unfavorable long-term outcome and may be of prognostic value in patients with MS.

**ISCHAEMIC HEART DISEASE**

**1054**

Translational echocardiography in the prediction of ischaemic mitral valve repair failure

J. Biernat 1; K.S. Golba 1; M.A. Deja 1; K. Widenka 1; W. Domaradzki 1; M. Malinowski 1; A.-M. Dalecka 1; S. Wos 1

1Medical University of Silesia, Cardiology Dept., Katowice, Poland

Recent studies have demonstrated that mitral regurgitation (MR) might re- currence after ring annuloplasty. The recurrence of MR might lead to relapse of congestive heart failure symptoms.

The purpose of this study was to identify echocardiographic predictors of long-term ischemic mitral valve (MV) repair failure.

**Methods:** Baseline translational echo examination was performed in 188 patients, 44 females (aged 59.3±13.91 years) who underwent undersized ring annuloplasty. The recurrence of MR might lead to relapse of congestive heart failure symptoms. The preliminary results of this observational study show that the prognostic value of patients with ischemic MR was independent on echocardiographic pattern but was mainly affected by the degree of MR.

**HEART VALVE DISEASE**

**1055**

Long-term outcome of patients with ischemic mitral regurgitation according to the tethering pattern, preliminary results of an observational study

E. Agricola 1; S. Ceruti 1; M. Oppizzi 1; M. Pisani 1; A. Margonato 1

1San Raffaele Hospital, IRCCS, Division of Non-Invasive Cardiology, Milan, Italy

**Background:** In the spectrum of the patients with ischemic mitral regurgitation (MR) is it possible to distinguish at least two different subgroups on the basis of some echocardiographic characteristics: 1. patients symmetric tethering (prevalent apical tethering of both leaflets) and 2. patients with asymmetric tethering. The clinical severity of MR between these groups differs for clinical features, degree of local and global left ventricular remodelling and dysfunction, and characteristics of the regurgitant jet.

**Aim:** To evaluate if these two groups have different long-term prognosis.

**Methods:** The cohort consisted of patients with ischemic MR who were re- corded in our echocardiographic database from January 2000 to January 2006. All patients with a effective regurgitant area >10 mm² or vena contracta ≥0.2 cm were included in the study. Thus, 219 patients (mean age 67±7 years) were enrolled, 104 (47%) patients in the symmetric and 115 (53%) patients in the asymmetric group.

The mean ejection fraction (EF) was 31.3±7%. The end point was cardiac mortality. Survival and event-free survival of patients with symmetric and asymmetric tethering were determined by the Kaplan-Meier method and compared by the log-rank test. Patients were censored at the time of last follow-up. To detect the independent predictors of death, a multivariate Cox regression procedure was performed including the end-diastolic and end systolic volumes, the deceleration time of E wave, the degree of MR and the EF as potential variables.

**Results:** The overall survival at 32 months was 72%. At 32 months the sur- vival in the symmetric group was 79% and in the asymmetric group was 69%, but this difference was not statistically significant (p=0.2). The univariate predictors of death were the EF (p=0.013) and the degree of MR (p=0.019), whereas at multivariate analysis the only independent predictors of death was the degree of MR (p=0.009).

**Conclusion:** The preliminary results of this observational study show that the prognostic value of patients with ischemic MR was independent on echocardiographic pattern but was mainly affected by the degree of MR.

**ISCHAEMIC HEART DISEASE**

**1056**

The comparison of mitral deformation indices and left ventricle geometry with quantitative assessment of ischaemic mitral regurgitation: echocardiographic and cardiovascular magnetic resonance study

A.M. Lesniki-Sobelska 1; E. Wicher-Muniak 1; M. Olszewska 1; M. Kostlikiewicz 1; P. Pieniazek 1; K. Klimeczek 1; M. Pasowicz 1; W. Traczyk 1

1Institute Of Cardiology, Collegium Medicum, Cardiac And Vascular Diseases Dept., Crakow, Poland; 2John Paul II Hospital, Center for Diagnosis and Rehabilitation, Cracow, Poland

**Background:** The pathophysiology of ischemic mitral regurgitation (MR) is related to local and global left ventricular remodeling and the papillary muscle dysfunction. Aim of this study was to compare mitral deformation indices and left ventricle remodeling with quantitative assessment of mitral regurgitation using translational echocardiography (TTE) and cardiovascular magnetic resonance (CMR) methods.

**Material and methods:** 21 subjects (18 M, 3 F; mean age: 61.3 years) with coronary artery disease, ≥6 months after myocardial infarction, with func- tional mitral regurgitation (MR ≤IV grade) underwent CMR and TTE within the period ≤5 days. There were only 4 subjects with MR ≤III grade, the remaining 17 with II grade. The following parameters, assessed by both methods, were analysed: mitral deformation indices as end- systolic and end-diastolic mitral annular area, the coaptation height, the tenting area, mitral annulus leaflet area - anterior mitral leaflet length ratio; left ventricle remodelling parameters: left ventricle end-systolic diameter (LVESD), left ventricle end-systolic volume (LVESV), left ventricular end-diastolic diameter (LVEDD), left ventricular end-diastolic volume (LVEDV), stroke volume (SV),

Table 1. Predictors of the MV repair failure

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Cut-off value</th>
<th>Long Rank P (0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>End-diastolic volume index</td>
<td>&gt;75.3 cm²/m²</td>
<td>0.033</td>
</tr>
<tr>
<td>End-systolic volume index</td>
<td>&gt;35.4 cm²/m²</td>
<td>0.006</td>
</tr>
<tr>
<td>Eccentricity index, diastolic</td>
<td>&lt;0.65</td>
<td>0.033</td>
</tr>
<tr>
<td>Eccentricity index, systolic</td>
<td>&lt;0.78</td>
<td>0.006</td>
</tr>
<tr>
<td>MR jet area</td>
<td>&gt;6.5 cm²</td>
<td>0.001</td>
</tr>
<tr>
<td>MR jet area/leaf atria area ratio</td>
<td>&gt;0.36</td>
<td>0.031</td>
</tr>
</tbody>
</table>