Conclusion: The results of this study suggest that inferior myocardial systolic function may affect the configuration of mitral apparatus and may be one of the determinants of functional MR severity.

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P Wave duration and dispersion in mitral valve prolapse
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Aims: P wave dispersion (PWD) is an electrocardiographic measurement, which reflects a disparity in atrial conduction and vulnerability to atrial fibrillation. In this study, we compared P wave duration and PWD of mitral valve prolapse (MVP) patients with healthy control subjects. We also investigate the echocardiographic determinants of PWD in MVP patients.

Methods and results: Sixty-nine MVP patients (mean age 36.1±12.4 years) and 32 healthy control subjects (mean age 35.5±10.9 years) were included in the study. Twelve-lead surface electrocardiography recording was obtained from all participants. The change in maximum and minimum P wave duration was measured manually and the difference between the two values was defined as PWD. There was no difference between the two groups in terms of baseline demographic characteristics. Maximum P wave duration was higher in MVP patients than controls (123.8±7.2 vs 115.3±6.1 ms, p=0.007). Minimum P wave duration was found to be similar in MVP patients and healthy controls. Mean PWD value of MVP patients was found to be higher than that of controls (52.6±12.7 vs 46.2±9.1 ms, p=0.01). In patients with MVP, multiple regression analysis revealed that among the echocardiographic parameters that were tested, the echocardiographic degree of the prolapse, anterior mitral leaflet thickness, left atrial diameter and detection of mitral regurgitation were independently associated with PWD.

Conclusion: P wave duration and PWD are increased in patients with MVP. PWD is related to the echocardiographic degree of the prolapse, anterior mitral leaflet thickness, left atrial diameter and detection of mitral regurgitation. The echocardiographic assessment may help to identify a subgroup of patients at increased risk of atrial arrhythmias.

Key words: Mitral valve prolapse, P wave dispersion, echocardiography

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Outcome of mitral valve repair in population with high incidence of rheumatic heart disease
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Background: Preserving the mitral valve (MV) apparatus by repair has widely become the preferred method of treating mitral valve regurgitation (MR). The outcome has been consistently good in mainly degenerative mitral valve disease.

Aims: We aimed to evaluate the result of MV repair using echocardiography in a population with mainly rheumatic valve diseases.

Methods: Patients were enrolled prospectively, and have been evaluated pre and postoperatively by serial echocardiographic studies.

Results: One hundred patients with MR were enrolled prospectively in the study. The mean age was 48.5±15.6 years, 56% males and 44% females. Etiology was rheumatic in 38.9%, ischemic in 23.3%, leaflet prolapse in 28%, degenerative in 4%, and endocarditis in 1%. At baseline, 80% of pat had severe MR, and 20% had moderate MR. At 12 months follow up, 88% had no or mild MR, and 9% had moderate MR, and 3% had moderately severe to severe MR. The leaf ventricle end systolic volume decreased from 59±38 to 52±32 ml, p<0.001, and the end diastolic volume has decreased from 112.5±72.7 to 88.4±38.5 ml, p<0.001. The pulmonary systolic pressure decreased from 48.8±17.5 to 37.7±8.9 mm Hg, p<0.0001.

Conclusion: MV repair can be performed successfully in different MV pathologies, including rheumatic valve disease. Left ventricular remodeling indices, and pulmonary artery pressure have improved after MV repair.

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Left ventricular function in mitral stenosis assessed by TDI
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Aim: Left ventricular global systolic function is accepted to be well preserved in patients with mitral stenosis (MS). There are few studies evaluating the left ventricular (LV) longitudinal function by tissue Doppler imaging (TDI) in patients with MS. Furthermore recently, isovolumic acceleration (IVA) during the contraction phase has been proposed to be useful index of myocardial contractility independent of loading conditions. Aim of our study was to assess the LV longitudinal function and LV contractility using TDI in patients with MS.

Methods: Seventy-two patients (57 female with mean age of 43±11) with mitral stenosis and 34 healthy controls (27 female with mean age of 47±12) were evaluated by echocardiography. From the tissue Doppler recordings of mitral valve septal and lateral annulus, peak systolic ejection velocity and isovolumetric acceleration (IVA) were measured. IVA was defined as the mean slope of the isovolumic contraction velocity wave (Vp/acceleration time, m/s²).

Results: There were no statistically significant difference in left ventricular diameters between two groups. Left atrial diameter and pulmonary artery pressure were significantly higher in patients with mitral stenosis as expected. Mitral valve septal and lateral annulus S wave and IVA were also significantly lower in patients with MS.

Conclusion: LV longitudinal function assessed by S wave and contractility function assessed by IVA are impaired in patients with MS.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Mitral stenosis</th>
<th>Control</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>LVEDD (cm)</td>
<td>4.9±0.5</td>
<td>4.7 ± 0.4</td>
<td>0.183</td>
</tr>
<tr>
<td>LVESD (cm)</td>
<td>3.1±0.6</td>
<td>2.9±0.3</td>
<td>0.63</td>
</tr>
<tr>
<td>LA (cm)</td>
<td>5.2±0.9</td>
<td>3.5±0.4</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>PAP (mm Hg)</td>
<td>40±12</td>
<td>25±3</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>(s lateral annulus)</td>
<td>5.4±1.4</td>
<td>8±2.7</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>(s mitral annulus)</td>
<td>1.6±0.6</td>
<td>2.6±0.9</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Echocardiographic findings in patients with mitral stenosis and control group

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Asymptomatic commissural fusion and rheumatic mitral stenosis; Immediate results after percutaneous mitral commissurotomy
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Background: Normal mitral valve is characterized by equivocal bilateral commissural length. Since the main factor for success of percutaneous balloon mitral commissurotomy (PTMC) is valvular morphology, and the mechanism of balloon valvular dilatation is commissural splitting, however the issue of asymptomatic commissural pathology was not completely evaluated.

Objective: To determine the relation between asymptomatic commissural length and immediate PTMC results in patients with rheumatic pliable mitral stenosis.

Material and methods: Twenty five patients (22 F, 3 M), mean age 44±11 year (range: 23-76) with a mean mitral valve area (MVA) of 1.0±0.1cm² were included in this echocardiographic study. All patients were characterized by asymptomatic commissural pathology in the presence of 7.9±0.7 mean echocardiographic Wilkin’s score. We excluded patients after previous surgical commissurotomy, or bilateral commissural calcification. Commissural length was measured in early diastole using parasternal short axis view from echocardiographic territory towards the mitral valve orifice whereas planimetric MVA calculation was undertaken. Off line measurements were collected using the Mides functional analysis system. Commissural asymptomatic index (ASI) was defined as the length of the longest fused commissure divided by the shortest one. The relation between ASI and post PTMC MVA is presented in Figure1.

Results: All PTMC procedures terminated successfully. Immediate post procedure, 22/25 (88%) had MVA > of 1.5 cm² whereas only 3/25 (12%) had MVA of 1.4 cm².

Conclusion: PTMC is feasible in the presence of asymptomatic commissural fusion in patients with pliable rheumatic MS. Furthermore there is no negative impact upon immediate results after this procedure.

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Validity of the right ventricular isovolumic myocardial acceleration to assess the severity of rheumatic mitral stenosis
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Objectives: To demonstrate whether the myocardial acceleration during isovolumic contraction (IVA) is a sensitive indicator of right ventricular (RV)