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Late clinical outcomes of post balloon mitral valvotomy patients who were categorized based on the absolute post procedural mitral valve area and percentage gain in valve area
M. Krishna Kumar, S. Harikrishnan, S. Bijulal, G. Sanjay, T. Anees, N. Namboodiri, S. Shivasankaran, V.K. Ajitkumar, Department of Cardiology, Heart Center Brandenburg, Germany

Background: Instead of absolute post procedure mitral valve area (MVA) of at least 1.5 cm², gain in MVA by 50% may solely be accepted as a determining factor in defining immediate procedural success during balloon mitral valvotomy (BMV).

Aim: The aim of the study was to determine the late clinical outcomes of post BMV patients who were categorized based on the absolute post procedural MVA and percentage gain in valve area and to assess whether at least 50% gain in the valve area from the base line alone can be considered as a criteria for immediate procedural success in selected population.

Methods: This was a follow up study of 818 consecutive patients who underwent BMV in a tertiary institute from 2000 to 2008. They were categorized into three groups based on the post procedural MVA and percentage gain in valve area. Those who had post procedural gain in mitral valve area of at least 50%, but final MVA 1-<1.5cm² were categorized in group 1 (fair result group), post procedural MVA of 1.5-<1.5 cm² were included in group 2 (good result group) and post procedural valve area of less than 50%, with post procedural MVA 1-<1.5 cm² were placed in group 3 (suboptimal result group).

Results: The patients who had suboptimal results had more advanced disease with more deformed valves than the patients who had good results. They also had higher trans mitral valve gradients, left mean mitral valve area, left atrial and pulmonary artery pressures. Kaplan–Meier curves and the log-rank test revealed that the primary endpoint-free survival rates and the survival rates were lower in patients with residual MR2+ than those in the group with MR1+. However, residual MR 2+ was associated with poorer prognosis in patients with impaired LV function, severe heart failure, and renal dysfunction, suggesting that the optimal endpoint of MitraClip procedure should be individualized according to each patient’s baseline characteristic.

Table 1

<table>
<thead>
<tr>
<th>Group</th>
<th>Fair result</th>
<th>Good result</th>
<th>Suboptimal result</th>
<th>P value P value P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart failure, N (%)</td>
<td>19 (11.3)</td>
<td>24 (4.8)</td>
<td>9 (14.5)</td>
<td>0.003</td>
</tr>
<tr>
<td>Atrial fibrillation, N (%)</td>
<td>34 (20.7)</td>
<td>71 (14.4)</td>
<td>25 (40.3)</td>
<td>0.05</td>
</tr>
<tr>
<td>Mitral valve area (cm²)</td>
<td>1.27±0.29</td>
<td>1.54±0.32</td>
<td>1.18±0.3</td>
<td>0.000</td>
</tr>
<tr>
<td>Mitral valve gradient – mean (mm Hg)</td>
<td>8.8±5.21</td>
<td>6.49±3.73</td>
<td>9.68±5.36</td>
<td>0.000</td>
</tr>
<tr>
<td>Grades of mitral regurgitation</td>
<td>1.6±0.9</td>
<td>1.56±0.88</td>
<td>1.63±0.75</td>
<td>0.000</td>
</tr>
<tr>
<td>Pulmonary artery systolic pressure (mm Hg)</td>
<td>42.35±12.51</td>
<td>39.23±11.12</td>
<td>45.48±14.29</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Conclusions: In patients in post BMV MVA less than 1.5cm² immediate and long term clinical outcomes were superior in those subgroup with at least 50% gain in valve area i.e., the fair result group. Hence in selected subgroup of patients with deformed valves and advanced disease, at least 50% gain in MVA should be one of the targets of intervention.

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Long-term outcomes of mitral valve annuloplasty versus replacement for severe ischemic mitral regurgitation
B. Li, H. Sun, Fuwai Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Department of Adult Cardiac Surgery, Beijing, China

Background: The optimal management of patients with severe ischemic mitral regurgitation (IMR), specifically the choice between mitral valve annuloplasty and replacement, has been debated. To date, however, very limited evidence has been available on the long-term outcomes of mitral valve annuloplasty and replacement for patients with severe IMR.

Purpose: The purpose of this study was to compare the long-term outcomes in patients with severe IMR undergoing mitral valve annuloplasty and replacement.

Methods: The study included 436 consecutive patients with severe IMR, of which 316 (72.5%) underwent mitral valve annuloplasty whereas 120 (27.5%) received mitral valve replacement. Differences in risk-adjusted, long-term rates of study outcomes among patients with different surgical managements were assessed by use of multivariable Cox proportional hazards regression. The optimal management of patients with severe IMR undergoing mitral valve annuloplasty and replacement was determined.

Results: During 51 months (interquartile range, 34–80 months) follow-up, 63 patients (14.4%) died, of whom 50 (79.4%) died of a cardiac cause. After adjustment for baseline differences with multivariable regression analysis, there was no significant differences between the two groups in risks of major adverse cardiac or cerebrovascular events (MACCE), all-cause death or cardiac death at follow-up.

Conclusions: Multivariate Cox regression analysis revealed that procedure failure independently predicted the primary endpoint (p=0.001, hazard ratio 3.056). Kaplan-Meier curves and the log-rank test revealed that the primary endpoint-free survival rates and the survival rates were lower in patients with procedure failure than those with acute procedure success. Multivariable Cox regression analysis revealed that procedure failure independently predicted the primary endpoint. The primary endpoint-free survival rates and the survival rates were comparable between patients with residual MR 1+ and 2+. In the sub group analysis, we divided patients with acute procedure success into two groups according to baseline estimated glomerular filtration rate (<60 mL/min/1.73 m²). Kaplan–Meier curves and the log-rank test showed the comparable primary endpoint-free survival rates between patients with MR 1+ and 2+ in patients with LVEF <40%, NYHA-class III/IV, and non-CKD. On the other hand, the composite endpoint-free survival rates were lower in patients with residual MR2+ than those in those with MR 1+ in patients with LVEF <40%, NYHA-class IV, and CKD.

Conclusion: Procedure failure was associated with adverse outcomes after MitraClip treatment. Among patients with acute procedure success, residual MR 2+ was not significantly associated with overall study outcomes than residual MR 1+. However, residual MR 2+ was associated with poorer prognosis in patients with impaired LV function, severe heart failure, and renal dysfunction, suggesting that the optimal endpoint of MitraClip procedure should be individualized according to each patient's baseline characteristic.

P3547 | BEDSIDE
Assessment, treatment and prognosis of complex mitral disease
H. Kaneko, M. Neuss, J. Weissenborn, C. Butter. Heart Center Brandenburg, Department of Cardiology, Bernau, Germany

Background: Despite the increasing number of mitral valve procedures, the optimal surgical strategy is often debated. For complex mitral valve disease, the optimal surgical choice of annuloplasty or replacement for severe IMR has long been debated. To date, however, very limited evidence has been available on the long-term outcomes of mitral valve annuloplasty and replacement for patients with severe IMR.

Purpose: The purpose of this study was to compare the long-term outcomes in patients with severe IMR undergoing mitral valve annuloplasty and replacement.

Methods: This was a follow up study of 818 consecutive patients who underwent MitraClip. The primary endpoint was freedom from cardiac death or MACCE, major adverse cardiac or cerebrovascular event (MACCE), all-cause death or cardiac death at follow-up. The optimal management of patients with severe IMR undergoing mitral valve annuloplasty and replacement was determined.

Results: During 51 months (interquartile range, 34–80 months) follow-up, 63 patients (14.4%) died, of whom 50 (79.4%) died of a cardiac cause. After adjustment for baseline differences with multivariable Cox proportional hazards regression, there was no significant differences between the two groups in risks of major adverse cardiac or cerebrovascular events (MACCE), all-cause death or cardiac death at follow-up. Compared with replacement, mitral valve annuloplasty provides better results in terms of freedom from cardiac death in subgroups of left ventricular ejection fraction <50% and age≥62 years. Replacement was significantly associated with less MACCE than annuloplasty in subgroups of age<62 years or left ventricular basal wall motion abnormality.

Conclusions: There was no significant difference in overall survival, freedom from cardiac death or MACCE between patients who underwent mitral valve annuloplasty and those who underwent replacement at long-term follow-up. The choice of annuloplasty or replacement for severe IMR should depend on major high-risk clinical factors.