clinical, echocardiographic and hemodynamic effects of percutaneous mitral balloon valvuloplasty (PMV) vs patients(pts) with mitral stenosis complicated by pulmonary hypertension

Clinical and hemodynamic results of mitral balloon valvuloplasty in patients with mitral stenosis complicated by pulmonary hypertension

TCT-817

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Background: OBJECTIVE: assess the long-term clinical, echocardiographic and hemodynamic effects of percutaneous mitral balloon valvuloplasty (PMV) vs patients(pts) with pulmonary hypertension(PHT).

Methods: PMV was performed in 157 consecutive pts. 47 (29.9%) had PHT defined as resting pulmonary artery systolic pressure(PAPs) > 50 mmHg at baseline (group A), and 110 controls pts(70.1%) (group B). Pts were clinical and echocardiographically evaluated immediately after procedure 6 months after and once per year thereafter. Following endpoints were considered: restenosis(RS),mitral valve replacement(MVR) or MBV requirement, or cardiovascular death. A logistic regression model was adjusted to determine independent predictors for outcome. A value of p < 0.05 was considered significant.

Results: Median follow-up was 48 months (Q25-75: 24-84). Group A pts aged 43.7±12 years; 89.3% (42 pts) were female; 23.4% pts had atrial fibrillation(AF). Median ES was 7(Q25-75: 5-9).No differences on baseline characteristics, success achievement, RS and follow up symptoms between Groups were found. PMV immediate success was 76.6% in Group A and 80% in Group B (p=0.003).MVA increased from 0.90 cm2 to 1.75 cm2. PAPs fell from 57.5 mmHg to 35 mmHg in Group A and from 38 mmHg to 30 mmHg in Group B. Success was associated with ES > 8 (p=0.01) both in group A and B. Long term outcomes are shown in table 1.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>12 month</th>
<th>24 m</th>
<th>36 m</th>
<th>48 m</th>
<th>60 m</th>
<th>72 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVA (group A)</td>
<td>1.06</td>
<td>1.64</td>
<td>1.67</td>
<td>1.59</td>
<td>1.54</td>
<td>1.52</td>
</tr>
<tr>
<td>MVA (group B)</td>
<td>1.64</td>
<td>1.56</td>
<td>1.54</td>
<td>1.64</td>
<td>1.51</td>
<td>1.47</td>
</tr>
<tr>
<td>PAPs (Group A)</td>
<td>35</td>
<td>32</td>
<td>36</td>
<td>38</td>
<td>34</td>
<td>37</td>
</tr>
<tr>
<td>PAPs (Group B)</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>33</td>
<td>31</td>
<td>31.5</td>
</tr>
</tbody>
</table>

PMV: 6 p RVM. RS at 60 months follow-up was associated with ES > 8 in both groups, A (p=0.003) B (p=0.02).

Conclusions: PMV is a safe and effective technique for treating patients with mitral stenosis and PHT. Despite a gradual MVA decrease, most patients remain asymptomatic and PAPs values were stable in the long term follow up.

Vascular Access and Intervention - Transradial

Saturday, September 13, 2014, 5:00 PM-7:00 PM

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TCT-818

A Comparison Of Transradial Approach Versus Transfemoral Approach For Percutaneous Coronary Intervention In Women: A Propensity Score Matching Analysis

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Background: Percutaneous coronary intervention (PCI) by the transradial approach (TRA) is increasing adopted in most countries with the advantage of fewer vascular complications compared with the transfemoral approach (TFA). Women are associated with higher risk of bleeding and access site complications undergoing PCI. So we performed this study to compare the effect of TRA vs. TFA in women patients.

Methods: From July, 2006 to Aug, 2011, 4755 women patients who have undergone PCI with stent implantation were included in the analysis. The primary endpoint was defined as in-hospital net adverse clinical events (NACE), which was a composite of all-cause death, myocardial infarction (MI), target vessel revascularization (TVR), stroke and major bleeding. The secondary endpoint was defined as major adverse cardiovascular events (MACE) which included all-cause death, MI and TVR.

Propensity score (PS) matching was performed to minimize the baseline disparity. Propensity score (PS) matching was performed to minimize the baseline disparity. Successive Transradial Approach is Associated with an Acceptable Success Rate and a Lower Risk of Vascular Complications Compared to the Transfemoral Approach in Women Undergoing Repeat Percutaneous Coronary Intervention

Payam Dehghani1, Sami Al Nasser2, Akshay Bagai4, Hatim Al Lawati5, Asim Cheema6
1Fawai Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, AL

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Propensity score (PS) matching was performed to minimize the baseline disparity.

Results: Among 4755 women patients, 3801 (80%) patients were in the TRA group, and 954 (20%) were in the TFA group. 563 pairs matched after PS calculating. In the PS-matched patients, the rates of in-hospital NACE (3.6% vs. 5.5%, p=0.001) and access site complications (2.0% vs. 7.5%, p=0.001) were both lower in the TRA group than in the TFA group.

Conclusions: TRA did not reduce the in-hospital and 1 year adverse clinical outcomes compared with TFA in the PS-matched women patients, but TRA was associated with fewer access site complications and major bleeding.

TCT-819

Successive Transradial Approach is Associated with an Acceptable Success Rate and a Lower Risk of Vascular Complications Compared to the Transfemoral Approach in Patients Undergoing Repeat Percutaneous Coronary Intervention

Payam Dehghani1, Sami Al Nasser2, Akshay Bagai4, Hatim Al Lawati5, Asim Cheema6
1Fawai Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, AL
Background: A transradial (TR) approach for percutaneous coronary intervention (PCI) significantly reduces bleeding and vascular complications compared to the transfemoral (TF) approach. However, many patients undergoing PCI return for repeat procedures over time and limited data is available to guide the choice of TR vs TF approach in these patients. The present study compared procedural success and adverse outcomes of TF and TR approach in patients undergoing successive PCI procedures.

Methods: Baseline clinical, procedural and outcome data for patients undergoing successive ipsilateral TR or TF approach for PCI were compared. The primary outcome was procedural success defined as completion of PCI by ipsilateral TR. Results: A total of 634 and 2195 patients underwent ≥ 2 PCI procedures by ipsilateral TR and TF approach respectively. The baseline characteristics, procedural parameters, clinical outcomes and vascular complications of the study group are shown in the Table.

Conclusions: Successive ipsilateral TR approach can be accomplished in more than 90% of patients undergoing repeat PCI with no clinically important difference in radiation exposure and contrast usage. In addition, TR approach results in a significantly shorter in the 4-Fr than in the 6-Fr groups (237 ± 105 min vs. 320 ± 238 min, p = 0.007).

Conclusions: The current study demonstrates that 4-Fr TRI could deliver procedural success rates that are comparable to 6-Fr TRI, with shorter times to hemostasis and fewer access-related complications. Furthermore, 4-Fr TRI may reduce radial artery occlusions. Hence, these findings suggest that 4-Fr PCI may provide a less invasive approach to treat coronary artery diseases.

TCT-820

How to limit radial artery spasm in patients treated by transradial interventions

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Background: Radial artery spasm (RAS) remains the major limitation for transradial approach, especially among transradialists physicians. Our team has performed three successive randomized controlled trials sharing similar methodology and endpoints and evaluating different vaso dilator agents in the prevention of RAS. We are reporting the results of the pooled analysis of our three studies.

Methods: A total of 1,950 patients were consecutively randomized to receive diltiazem, verapamil, molsidomine, isosorbide dinitrate (ISDN) or placebo, through the arterial sheath after radial artery catheterization. The primary endpoint was the occurrence of a RAS defined as a limitation of the catheter movement and/or a significant pain perceived by the patient during catheter mobilization. Secondary endpoints included the occurrence of symptomatic or significant fall of systolic blood pressure and determination of independent predictors of RAS.

Results: RAS occurred in 44/198 patients (22.2 %) in the placebo group with a significant reduction in the molsidomine 27/203 (13.3%) and verapamil 88/847 (10.4%) group (p=0.02). The rate of occurrence of RAS was similar between the placebo, IDN and diltiazem groups (p=0.2). Significant fall of blood pressure occurred significantly more with diltiazem and ISDN compared to placebo or other vasodilators (p=0.001). Female gender and the use of more than 3 catheters were identified as independent predictors of RAS.

Conclusions: Among vasodilators verapamil and/or molsidomine showed the best efficacy to prevent RAS without affecting patient safety. Their use reduces the occurrence of RAS more than 50%. ISDN and diltiazem should be avoided as they don’t prevent RAS.

TCT-821

Comparison of Frequency of Radial Artery Occlusion after 4-Fr versus 6-Fr Transradial Coronary Intervention from the NAUSICA (Novel Angioplasty Using Coronary Accessor) Trial

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Background: The small profile of a 4-Fr guiding catheter may reduce complications associated with vascular access. In this study, we investigated the hypothesis whether the use of a 4-Fr guiding catheter would have a lower rate of radial artery occlusion compared with the use of a 6-Fr guiding catheter.

Methods: The study was conducted at 19 institutions across Asia. The frequency of radial artery occlusion was compared between patients receiving 4-Fr vs. 6-Fr transradial coronary interventions (TRI) in an open-label randomized trial (ClinicalTrials.gov identifier: NCT00815997). The primary outcome measure was radial artery occlusion on the day after TRI. The secondary outcome measures were the procedural success, major advanced cardiac events, access-site-related complications, procedural times, fluoroscopy times, and contrast dye usage.

Results: The present study comprised a total of 160 patients divided into 2 groups who underwent 4-Fr TRI and those who underwent 6-Fr TRI. The procedure was successful in 79 of 80 patients (99%) in both groups. While the 4-Fr group showed no access-site-related complications, the 6-Fr developed 5 (6%), including 3 radial artery occlusions and 2 bleedings (1 radial artery perforation and 1 massive hemotoma) (p=0.02). Although the radial artery occlusion rate was lower in the 4-Fr vs. in the 6-Fr groups, the difference was not significant (0% vs. 4%, p=0.08). The mean hemostasis time was significantly shorter in the 4-Fr than in the 6-Fr groups (237 ± 105 min vs. 320 ± 238 min, p=0.007).

Conclusions: The current study demonstrates that 4-Fr TRI could deliver procedural success rates that are comparable to 6-Fr TRI, with shorter times to hemostasis and fewer access-site-related complications. Furthermore, 4-Fr TRI may reduce radial artery occlusions. Hence, these findings suggest that 4-Fr PCI may provide a less invasive approach to treat coronary artery diseases.

TCT-822

Overcoming The Challenge Of Transradial Interventions In Women : Insights From a Color Doppler Study

Sanjay K Chugh1, Yashasvi Chugh1, Sunita Chugh1

1Institute of Heart & Vascular Diseases, Jaipur Golden Hospital, Jaipur, India

Background: The use of compression of the other artery [COOA]:ulnar compression for radial access and vice versa], could increase access artery diameter(AAD)(via collateral flow through palmar arch) thus reducing puncture failure in small arteries, which is a major challenge of transradial access in women; another being risk for radial access and vice versa], could increase access artery diameter(AAD)(via compression of the other artery (COOA):ulnar compression could increase access artery diameter(AAD)(via collateral flow through palmar arch) thus reducing puncture failure in small arteries, which is a major challenge of transradial access in women; another being risk of radial artery occlusion was compared between patients receiving 4-Fr vs. 6-Fr transradial coronary interventions (TRI) in an open-label randomized trial (ClinicalTrials.gov identifier: NCT00815997). The primary outcome measure was radial artery occlusion on the day after TRI. The secondary outcome measures were the procedural success, major advanced cardiac events, access-site-related complications, procedural times, fluoroscopy times, and contrast dye usage.

Conclusion: The present study comprised a total of 160 patients divided into 2 groups who underwent 4-Fr TRI and those who underwent 6-Fr TRI. The procedure was successful in 79 of 80 patients (99%) in both groups. While the 4-Fr group showed no access-site-related complications, the 6-Fr developed 5 (6%), including 3 radial artery occlusions and 2 bleedings (1 radial artery perforation and 1 massive hemotoma) (p=0.02). Although the radial artery occlusion rate was lower in the 4-Fr vs. in the 6-Fr groups, the difference was not significant (0% vs. 4%, p=0.08). The mean hemostasis time was significantly shorter in the 4-Fr than in the 6-Fr groups (237 ± 105 min vs. 320 ± 238 min, p=0.007).

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