Vascular Access for Percutaneous Coronary Intervention (PCI) and Anticoagulation for PCI

Sunday, March 07, 2004, 9:00 a.m.-11:00 a.m.
Morial Convention Center, Hall G
Presentation Hour: 9:00 a.m.-10:00 a.m.

1004-47 A Randomized Comparison of Transradial and Transfemoral Approaches for Coronary Angiography and Percutaneous Transluminal Coronary Angioplasty in Octogenarians: Final Results of the OCTO-PLUS Study

Yves Louvard, Rémi Sabatier, Hakim Banermer, Philippe Garot, David Hildick-Smith, Christophe Loubeyre, Thierry Lefèvre, Gilles Grollier, Martial Hamon, Institut Cardiovasculaire Paris Sud, Massy, France

Background: The rate of access site complications after coronary angiography (Angio) and/or PCI has been shown to be higher in older patients. This prospective randomized study was carried out to assess the potential advantages of Transradial (TRA) approach in this setting.

Methods: Patients (pts) undergoing Angio or PCI were randomized to either transfemoral approach (TFA) or TRA, using the OCTO-PLUS randomizer. The primary end-point was the rate of access site complications leading to increased hospital stay. Study population included 371 pts, mean age 82.8 ± 2.9 years, 53.4 % male, presenting with unstable angina in 35.6% of cases or AMI in 10.5%. 188 pts were randomized to TFA (174 angio followed by 87 PCI, and 9 PCI), 183 to TFA (176 angio followed by 74 PCI and 12 PCI). 51.9% of PCI pts received a femoral closure device. Main results by intention to treat are summarized below:

<table>
<thead>
<tr>
<th>Trait</th>
<th>Radial (n=90)</th>
<th>Femoral (n=90)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-over (%)</td>
<td>9.0</td>
<td>8.2</td>
<td>ns</td>
</tr>
<tr>
<td>Angio duration (min)</td>
<td>18.5±10.5</td>
<td>16.9±11.0</td>
<td>0.069</td>
</tr>
<tr>
<td>X-ray duration (min)</td>
<td>6.0±4.4</td>
<td>4.4±3.4</td>
<td>0.01</td>
</tr>
<tr>
<td>PCI success (%)</td>
<td>95.3</td>
<td>93.7</td>
<td>ns</td>
</tr>
<tr>
<td>PCI duration (min)</td>
<td>33.9±21.6</td>
<td>34.1±23.1</td>
<td>0.13</td>
</tr>
<tr>
<td>PCI X-ray duration (min)</td>
<td>11.8±5.9</td>
<td>10.8±8.9</td>
<td>ns</td>
</tr>
<tr>
<td>Primary endpoint</td>
<td>1.6</td>
<td>0.3</td>
<td>0.0025</td>
</tr>
<tr>
<td>Hematoma&gt;3 cm (%)</td>
<td>2.2</td>
<td>11.4</td>
<td></td>
</tr>
</tbody>
</table>

* per protocol: 0.5% vs 7.6%, p= 0.001

Conclusion: Combined end-point of all access-related vascular complications leading to prolonged hospital stay is significantly lower in octogenarians randomized to transradial approach for coronary angiography and/or PCI compared to transfemoral approach. As in younger patients, for coronary angiography, X-Ray exposure time is slightly but significantly longer in the transradial group. There is no difference in X-Ray exposure time for PCI, procedural time, contrast medium volume and equipment used in Angio and PCI.

1004-48 Randomized Trial of Radial Versus Femoral Access for Primary and Rescue Angioplasty

Warren J. Cantor, Geoff Puley, Madhu Natarajan, Vlad Dzavik, Mina Madan, Anne Fry, Nurry Pirani, Hahn Hoe Kim, James Velianou, Bradley H. Strauss, Robert J. Chisholm, St. Michael’s Hospital, Toronto, ON, Canada

Background: Transradial access for percutaneous coronary intervention (PCI) results in fewer bleeding and vascular complications, earlier ambulation and improved patient comfort. Limited data exists for radial access in acute myocardial infarction (MI), where reperfusion must occur quickly.

Methods: In a multicentre pilot trial, 50 patients with MI requiring either primary or rescue PCI for radial access or femoral access were randomized. Patients in cardiogenic shock were excluded. All patients received aspirin and heparin. All operators had previously performed at least 100 transradial cases. Procedure times were prospectively measured. All patients underwent ultrasound-Doppler of the access site, and were followed to 30 days.

Results: To date, procedural data, inhospital events and Doppler results are available for 44 patients (25 radial, 19 femoral). Thrombolysis was made using 5 or 6 F guiding catheters. Manual compression was done after the procedure. An Echo Doppler of the wrist vessels was done 10 ± 7 days after procedure. From 143 patients screened, radial access was intended in 107 pts (73%), successful in 96 pts (91%). Time and number of punctions were 118 ± 135 sec and 1.6 (maximal 5).

Procedures | Number | Success rate | Procedural X-ray time | X-ray dose (Gycm2)
-----------|--------|-------------|-----------------------|---------------------|
Coronography | 71     | 100 | 13.2 ± 5.2 | 7.1 ± 6.5 | 35 ± 27 |
Coronography + PTCA | 20     | 100 | 41 ± 26 | 19.4 ± 14 | 126 ± 70 |
Delayed PTCA | 5      | 100 | 25 ± 16 | 13 ± 7 | 74 ± 38 |

There were no procedural complications. Echo Doppler was obtained in 91 pts (94%). Access site complications were: 0 occlusion, 1 pseudo-aneurysm, 3 slight hematomas.

Conclusion: radial access is feasible and safe alternative to radial access for percutaneous coronary interventions.

1004-ST Assessment of the Feasibility, Safety, and Success of Transradial Access for Percutaneous Coronary Intervention: A Report From the American College of Cardiology-National Cardiovascular Data Registry


Background: Previous studies have shown that transradial access (TRA) appears to be safe, with an acceptable success rate, but these studies were limited by small sample size. The purpose of this study was to evaluate the feasibility, safety and success rate of the TRA for percutaneous coronary intervention (PCI) in contemporary practice.

Methods: Between January 1, 2001 and March 31, 2003, data from 278,105 PCI procedures were submitted from 304 institutions to the American College of Cardiology National Cardiovascular Data Registry (ACC-NCDR). Of these, valid data on access site entry were available for 275,290 PCI procedures. TRA was used in 3,237 (1.2%) of these procedures.