TCT-399
Long-Term Impact Of Iatrogenic Dissection Of A Left Main Coronary Artery During Percutaneous Coronary Intervention

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BACKGROUND Iatrogenic dissection (ICAD) of the left main coronary artery (LM) and proximal LAD (p-LAD) during percutaneous coronary intervention (PCI) is a much dreaded complication; however, little is known regarding the long-term clinical outcome of these patients. The aim of the present study was to evaluate the short- and long-term clinical outcome of ICAD involving LM and p-LAD during PCI and to compare it to those of non-LM dissections.

METHODS All consecutive ICAD during PCI were identified using National Heart Lung and Blood Institute diagnostic criteria. The cohort was divided into LM and p-LAD group and all other coronary arteries as non-LM group. Demographic clinical, procedural and follow-up data were collected. These patients were prospectively followed for a 3-year period for the outcomes of major adverse cardiovascular events (MACE) and cardiac death.

RESULTS A total of 1132 ICAD events were identified, of which 27% occurred in the LM group. Lower incidence of LM ICAD was seen during primary PCI (9 vs. 23, p=0.04). Right coronary was the commonest artery in the non-LM group. As a result of the dissection there was one death during the procedure in the non-LM group. Forty-four patients (8 in the LM-P-LAD group) underwent urgent coronary artery bypass grafting. In-hospital outcomes were favorable with only 1 patient developing subacute stent thrombosis in the non LM group and with 1 cardiac death in the non-LM group. In the non-LM group, 4 patients underwent target vessel PCI. There was no significant difference in the rates of MACE or cardiac death between the LM and non-LM group at 30 days, 1, 2 and 3 years.

CONCLUSIONS ICAD involving LM and p-LAD is a rare complication of PCI procedure. Although considered a serious complication of PCI, it does not necessarily portend a worse early or long-term clinical outcome when compared to non-LM dissections.
for simple coronary lesions has been demonstrated. The objective of this study was to demonstrate the feasibility of robotic PCI for unprotected left main stenosis.

**METHODS** The robotic CorPath 200 robotic system (Corindus Vascular Robotics, Waltham, MA) consists of a robotic arm mounted on the cardiac catheterization table that consists of a drive housing a single-use sterile cassette, which is connected to the guiding catheter. While sitting in the non-sterile, radiation-shielded cockpit, the operator remotely controls delivery and removal of intracoronary devices including the guidewire, angioplasty balloons, and stents. The database for the ongoing PRECISION registry was queried at a single center including the guidewire, angioplasty balloons, and stents. The data-based for the ongoing PRECISION registry was queried at a single center to identify all unprotected left main robotic PCI procedures performed and outcomes are reported.

**RESULTS** During the study period 102 robotic PCI procedures were performed in our center of which 6 were identified as unprotected left main stenosis (age 69±14 years; 67% male). All 6 subjects underwent successful PCI (fluoroscopy time 26.8±11.4 min, with an average of 1.8 stents and 2.2 vessels treated/patient). Clinical and procedural success was 100%. Three of the 6 subjects underwent robotic left main PCI without hemodynamic support while 2 were supported with percutaneous left ventricular hemodynamic assistance using the impella 2.5 device (Abiomed, Danvers, MA) and 1 with intra-aortic balloon pump.

**CONCLUSIONS** This is the first report demonstrating the feasibility of robotic PCI for unprotected left main stenosis. Left main disease was treated robotically in the absence and presence of adjunctive hemodynamic support. Though this report demonstrates the feasibility of performing robotic PCI in a high-risk cohort of patients, further studies are needed to examine the safety and effectiveness of this approach in a larger sample of patients.

**CATEGORIES CORONARY:** Complex and Higher Risk Procedures for Indicated Patients (CHIP)

**KEYWORDS** Impella, Left main coronary artery disease, Robotics

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**Table: Clinical and Procedural Characteristics**

<table>
<thead>
<tr>
<th>Case</th>
<th>Age</th>
<th>Sex</th>
<th>Coronary Dominance</th>
<th>Hemodynamic support</th>
<th>Access</th>
<th>Guide</th>
<th>Wire</th>
<th>Antiplatelet</th>
<th>Anticoagulation</th>
<th>Antithrombotic</th>
<th>Procedure Duration</th>
<th>Total Fluoroscopy Time</th>
<th>Total Contrast Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>63</td>
<td>M</td>
<td>Right-dominant with patent left main</td>
<td>No</td>
<td>Femoral</td>
<td>3F-DBA 1.75</td>
<td>BMW</td>
<td>Clopidogrel</td>
<td>Aspirin + Prasugrel</td>
<td>68%</td>
<td>46.9 min</td>
<td>450 mL</td>
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<tr>
<td>2</td>
<td>71</td>
<td>M</td>
<td>Right-dominant with patent left main</td>
<td>No</td>
<td>Femoral</td>
<td>6F-DBA 4.5</td>
<td>BMW</td>
<td>Clopidogrel</td>
<td>Aspirin + Ticagrel</td>
<td>69%</td>
<td>23.6 min</td>
<td>225 mL</td>
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<tr>
<td>3</td>
<td>60</td>
<td>M</td>
<td>Right-dominant with patent left main</td>
<td>No</td>
<td>Radial</td>
<td>7F-DBA 1.5</td>
<td>BMW</td>
<td>Heparin</td>
<td>Aspirin + Ticagrel</td>
<td>69%</td>
<td>18.8 min</td>
<td>165 mL</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>68</td>
<td>M</td>
<td>Right-dominant: 100% occlusion</td>
<td>Impella 2.5 LVAD</td>
<td>Femoral</td>
<td>3F-DBA 1.75</td>
<td>BMW</td>
<td>Heparin</td>
<td>Aspirin + Ticagrel</td>
<td>62%</td>
<td>24.6 min</td>
<td>200 mL</td>
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<tr>
<td>5</td>
<td>70</td>
<td>M</td>
<td>Right-dominant, patent RCA stenosis</td>
<td>MAB</td>
<td>Femoral</td>
<td>3F-DBA 1.5</td>
<td>BMW</td>
<td>Heparin</td>
<td>Aspirin + Ticagrel</td>
<td>69%</td>
<td>53.1 min</td>
<td>155 mL</td>
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<tr>
<td>6</td>
<td>83</td>
<td>M</td>
<td>Right-dominant, 80% prox RCA stenosis</td>
<td>Impella CF</td>
<td>Femoral</td>
<td>3F-DBA 1.75</td>
<td>BMW</td>
<td>Heparin</td>
<td>Aspirin + Ticagrel</td>
<td>27%</td>
<td>26.7 min</td>
<td>250 mL</td>
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</tr>
</tbody>
</table>

**TCT-403**

**Procedural, In-Hospital And One-Year Outcome Of Provisional Versus Planned Rotational Atherectomy In Complex Calcified Coronary Lesions**

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**BACKGROUND** Rotational atherectomy (RA) is recommended by current guidelines as a provisional (bailout) procedure for heavily calcified or severely fibrotic coronary lesions that cannot be crossed by a balloon or adequately dilated before stenting. There is little information available on procedural, in-hospital, and long-term outcome of provisional RA as compared to a planned rotational strategy for complex calcified coronary lesions.

**METHODS** We performed a retrospective cohort study of all consecutive patients treated with RA for complex calcified coronary lesions at our institution between November 2002 and February 2014. Clinical follow-up was obtained at 1 year by either clinic visit or telephone interview.

**RESULTS** During this time interval we identified a total of 512 patients treated for 559 coronary lesions. 204 patients (39.8%) with 221 lesions were treated with provisional RA for complex calcified coronary lesions, while 308 patients (60.2%) with 338 lesions were treated with planned RA respectively. We performed a retrospective cohort study of all consecutive patients treated with RA for complex calcified coronary lesions at our institution between November 2002 and February 2014. Clinical follow-up was obtained at 1 year by either clinic visit or telephone interview.

**CONCLUSIONS** In a comparison of provisional and planned RA for complex calcified coronary lesions,