Complex Coronary Lesions & Rotational Atherectomy from Single Center Experience

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Case 1

Rota for non-dilatable lesion
Male, 73y

Chief Complaint:
- Recurrent exertional chest pain for 3 year
- Failed PCI 2 weeks ago because of undilatable CX lesion

Medical History
- Hypertension
- Hyperlipidemia
Legend 1.25 × 10mm 16atm
6F EBU3.5+ Rotablator burr 1.25mm
ROTA again
EXCEL 2.75 × 24mm 14atm
EXCEL 3.0×24mm 16atm
Final Result
Case 2

Rota for severe calcified lesion
82 Year Old Chinese Male

Chief Complaint:
- Recurrent chest pain 11 years
- Worsening for 3 months

Medical History
- RCA 2 stents 8 years ago
- Hypertension
- Diabetes
- Subtotal gastrectomy
Rotablator burr 1.75mm and IVUS
The comparison of before and after rotation at LM

Pre-Rota

Post-Rota

JIANAN WANG
SeQuent 2.5*15mm pre-dilate
Xience V 3.5*28mm
Voyager 3.5*12mm
Final result
Post-stent IVUS
Discussion

- During DES era, RA is more useful technique for the patients with complex lesions, especially calcified and non-dilatable lesions.

- The purpose of RA is to making a high quality of deployment of stent in stead of big debulking as possible.
Our experience to decrease complications depending on:

1. Increasing burr size step by step
2. Reasonable Burr/artery ratio (0.5-0.7)
3. Maintaining SBP ≥ 100mmHg
4. Enough time for observing coronary flow between two rotations
The meaning of IVUS

1. Viewing site and range of calcification
2. Selection of burr size
3. Evaluate the effect and complications of rota
4. Quality of stent deployment
### Our Data from Aug 2006 to Aug 2011

**Patients characteristics**

<table>
<thead>
<tr>
<th>Type of lesion(n=289)</th>
<th>No of Pts</th>
<th>Age(yrs)</th>
<th>A</th>
<th>B₁</th>
<th>B₂</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>253</td>
<td>73 ± 12</td>
<td>23</td>
<td>25</td>
<td>154</td>
<td>87</td>
</tr>
</tbody>
</table>
**PCI procedure description for the patients**

<table>
<thead>
<tr>
<th>Procedure Success</th>
<th>Burr/artery Ratio (1.25-2.0mm)</th>
<th>Adjunctive Balloon</th>
<th>Stenting After Rota</th>
</tr>
</thead>
<tbody>
<tr>
<td>283(98%)</td>
<td>0.55 ± 0.08 (1.25-2.0)</td>
<td>246(85%)</td>
<td>100%</td>
</tr>
</tbody>
</table>
### In-hospital major complications after RA(1)

<table>
<thead>
<tr>
<th></th>
<th>Perforation</th>
<th>Dissection</th>
<th>Side branch occlusion</th>
<th>Slow-flow No flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>2(0.69%)</td>
<td>3(1%)</td>
<td>0</td>
<td>5(1.7%)</td>
</tr>
</tbody>
</table>
### In-hospital major complications after Rota(2)

<table>
<thead>
<tr>
<th></th>
<th>AMI</th>
<th>Non-AMI</th>
<th>Abrupt closure</th>
<th>CABG</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>3 (1.2%)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
MACE during Follow-up for two years (N=175)

<table>
<thead>
<tr>
<th></th>
<th>AMI</th>
<th>Restenosis</th>
<th>TLR</th>
<th>Death</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 (0.8%)</td>
<td>14 (4.8%)</td>
<td>8 (2.8%)</td>
<td>1 (0.3%)</td>
</tr>
</tbody>
</table>
**Indications of RA for the patients**

- Calcified lesions (208, 72%)
- Non-dilatable lesions (55, 19%)
- Bifurcation lesions (12, 4%)
- In-stent restenosis (3, 1%)
- Ostial lesions (3, 1%)
- Chronic total occlusion (8,3%)