CCT @ LINC : Japanese art of endovascular treatment : up-date

「 Duplex Ultrasound guided wiring for long SFA–CTO lesions 」

〜 Why we prefer intra-plaque wiring? 〜

Saiseikai Yokohama City Eastern Hospital, Keisuke Hirano
Disclosure

Speaker name: ..................................................................................

I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

✓ I do not have any potential conflict of interest
Case presentation of echo guided wiring for SFA CTO
1. Puncture to lesion cross time: 16 minutes
2. Fluoroscopy time: 6 minutes
3. Distal puncture rate at last year: 1/178 (0.5%)
Duplex Ultrasound guided wiring method for SFA CTO
Ultrasonography long axis view

Ultrasonography short axis view

Saiseikai Yokohama City Eastern Hospital, Kanagawa, Japan
Term: between May 2007 and April 2015
Subject: EVT for long CTO lesion (>150mm) of femoropopliteal arteries 182 cases 230 legs

N group
- 84 legs
- Duplex ultrasound guided wiring  (Novel method)

C group
- 146 legs
- Angiographic guide group  (Conventional method)

Follow up:
- N group: 73 limbs (86.9%)
- C group: 106 limbs (72.6%)

Saiseikai Yokohama City Eastern Hospital, Kanagawa, Japan
Radiation and Contrast media

<table>
<thead>
<tr>
<th>Group</th>
<th>Dose of radiation [mGy]</th>
<th>Time of radiation [min]</th>
<th>Dose of contrast media [ml]</th>
</tr>
</thead>
<tbody>
<tr>
<td>N group</td>
<td>Mean±SD</td>
<td>Time of radiation [min]</td>
<td>Mean±SD</td>
</tr>
<tr>
<td></td>
<td>Median(min, max)</td>
<td></td>
<td>Median(min, max)</td>
</tr>
<tr>
<td>N group</td>
<td>194.1±167.1</td>
<td>40.1±27.5</td>
<td>139.1±67.2</td>
</tr>
<tr>
<td></td>
<td>147.6(29.0, 880.9)</td>
<td>33(5, 134)</td>
<td>130(0, 400)</td>
</tr>
<tr>
<td>C group</td>
<td>275.4±216.9</td>
<td>49.4±29.9</td>
<td>197.0±85.1</td>
</tr>
<tr>
<td></td>
<td>213.1(28.3, 1391.7)</td>
<td>42(13, 170)</td>
<td>175(50, 430)</td>
</tr>
<tr>
<td>P value</td>
<td>&lt;0.01</td>
<td>0.02</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

Saiseikai Yokohama City Eastern Hospital, Kanagawa, Japan
Primary Patency: N vs. C group

<table>
<thead>
<tr>
<th>Term[month]</th>
<th>0</th>
<th>6</th>
<th>12</th>
<th>18</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>N group %</td>
<td>90.4</td>
<td>78.1</td>
<td>76.7</td>
<td>74.0</td>
<td></td>
</tr>
<tr>
<td>No. at risk</td>
<td>73</td>
<td>66</td>
<td>57</td>
<td>56</td>
<td>54</td>
</tr>
<tr>
<td>O group %</td>
<td>93.4</td>
<td>73.6</td>
<td>63.2</td>
<td>54.7</td>
<td></td>
</tr>
<tr>
<td>No. at risk</td>
<td>106</td>
<td>99</td>
<td>78</td>
<td>67</td>
<td>58</td>
</tr>
</tbody>
</table>

p(log rank) = 0.02
Term: between May 2007 and April 2015
Subject: EVT for long CTO lesion (>150mm) of femoropopliteal arteries 182 cases 230 legs

Intraluminal approach
(Subintimal lumen length = 0%)
Follow up: 111 limbs

Subintimal approach
(Subintimal lumen length ≥ 30%)
Follow up: 68 limbs
Primary Patency: Intraluminal vs. subintimal

<table>
<thead>
<tr>
<th>Term [month]</th>
<th>Intraluminal approach %</th>
<th>Subintimal approach %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>100%</td>
<td>93.7%</td>
</tr>
<tr>
<td>6</td>
<td>89.7%</td>
<td>69.1%</td>
</tr>
<tr>
<td>12</td>
<td>69.1%</td>
<td>60.3%</td>
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<tr>
<td>18</td>
<td>60.3%</td>
<td>51.5%</td>
</tr>
<tr>
<td>24</td>
<td>51.5%</td>
<td></td>
</tr>
</tbody>
</table>

No. at risk: Intraluminal approach = 111, Subintimal approach = 68

p(log rank) = 0.02

Saiseikai Yokohama City Eastern Hospital, Kanagawa, Japan
**Advantage of Echo guided wiring**

1. Echo guided wiring is a safe procedure.
2. It leads to a decrease of Radiation dosage as well as shortening the Fluoroscopy time.
3. It is easy to get the true lumen.
4. It enables us to perform the true lumen angioplasty.
5. We cannot use Debulking device without the technique of true lumen angioplasty when it is released.
6. The DCB effect to the pseudo lumen angioplasty is not yet known.

**Drawbacks of Echo guided wiring.**

1. Sonographer is vital to perform Echo guided wiring.
   → Sonographer is not necessarily required.
   → Because Doctor can do the same procedure.

2. We cannot detect the high quality image without Hi-end machine.
   → There is no other way but to purchase the machine.
I believe that the Intraluminal approach is safer than the subintimal approach in using the Debulking device.

Duplex ultrasound guide wiring is an easier procedure to get the Intra plaque angioplasty, and I strongly recommend you to master this procedure.
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