Strategy of EVT for calcified below-the-knee lesions in our hospital

Yutaka Dannoura, MD

Department of Cardiology, Cardiovascular center,
Sapporo City General Hospital
Sapporo, Hokkaido, JAPAN
Disclosure

Speaker name: Yutaka Dannoura

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
In Japan, many CLI patients undergo hemodialysis

**OLIVE registry**

Baseline characteristics (n=312)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>73.1 ± 9.8</td>
</tr>
<tr>
<td>Coronary disease</td>
<td>203 (65%)</td>
</tr>
<tr>
<td>Male</td>
<td>203 (65%)</td>
</tr>
<tr>
<td>Hypertension</td>
<td>248 (79%)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>143 (49%)</td>
</tr>
<tr>
<td>Smoking</td>
<td>160 (51%)</td>
</tr>
<tr>
<td>Hemodialysis</td>
<td>163 (52%)</td>
</tr>
<tr>
<td>Dyslipidemia</td>
<td>81 (26%)</td>
</tr>
</tbody>
</table>


Sapporo City General Hospital
In Japan, many CLI patients undergo hemodialysis

63 EVT Cases in our hospital 2017-2018

for pure BTK and de novo lesions

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Coronary disease</th>
<th>25(39.7%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>72.1±11.0</td>
<td>Coronary disease</td>
<td>25(39.7%)</td>
</tr>
<tr>
<td>Male</td>
<td>41(65.1%)</td>
<td>Hypertension</td>
<td>28(44.4%)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>46(73.0%)</td>
<td>Smoking</td>
<td>11(17.5%)</td>
</tr>
<tr>
<td>Hemodialysis</td>
<td>46(73.0%)</td>
<td>Dyslipidemia</td>
<td>13(20.6%)</td>
</tr>
</tbody>
</table>

Below the ankle disease 52.4%(33 cases)

(zero or one vessel run off and no pedal arch)
There are many severe calcified lesions in Japanese CLI patients
“Below the ankle disease” is common in Japanese CLI patents.
The characteristics of Japanese CLI patients

- There are many hemodialysis patients
- There are many severe calcified long CTO lesions
- There are many below-the-ankle disease

It is difficult not only for crossing guidewire but also for crossing any devices to BTK lesions
The techniques when it is difficult to crossing balloon to calcified lesions

- Using CROSSER® (BIRD) or Corsair Armet® (Asahi intecc)
- Trying distal puncture, and pulling through guide wire to increase back up force
- Proceeding microcatheter or balloon retrogradely from the point of distal puncture
- Puncturing needle to calcified vessel to crack the lesion
CROSSER® is useful for spot calcified lesions

Corsair Armet

JADE

Sapporo City General Hospital
CROSSER® is useful for spot calcified lesion

* You must take care when you use CROSSER for long lesions, because it causes slow flow.

Sapporo City General Hospital
CROSSER® is useful for spot calcified lesion
Corsair Armet is a useful device especially for below-the-ankle lesions.
Pulling through the wire is useful technique to increase back up force

**Diagnosis:** Rt.PAD (Rutherford 5)
*Ulcer on right fourth and fifth digits*

Rt. PTA 90% stenosis
Poor run off vessels below the ankle
Pulling through the wire is useful technique to increase back up force

Corsair Armet and balloon did not cross calcified lesion after crossing guidewire to pedal arch
Pulling through the wire is useful technique to increase back up force.

Puncured lateral planter artery to pull through the wire and to increase back up force.
Pulling through the wire is useful technique to increase back up force

Inserted Regalia from punctured needle and inserted microcatheter

Sapporo City General Hospital
Pulling through the wire is useful technique to increase back up force

Wire rendez-vous by antegrade wire and wire pull through
Pulling through the wire is a useful technique to increase back up force.

Corsair Armet finally crossed the calcified lesion after wire pull through.
Pulling through the wire is useful technique to increase back up force

JADE 1.5 × 80mm crossed the lesion
Pulling through the wire is useful technique to increase back up force POBA by 2.0mm balloon for hemostasis
Final angiography
Summary

- Japanese CLI patients are often undergo hemodialysis, so there are many severe calcified BTK lesions.
- When we performed EVT for calcified lesions, it is often difficult to cross any devices after crossing guidewire.
- There are many techniques to cross devices to calcified lesions in our hospital.
Thank you for your attention!
Strategy of EVT for calcified below-the-knee lesions in our hospital

Yutaka Dannoura, MD
Department of Cardiology, Cardiovascular center,
Sapporo City General Hospital
Sapporo, Hokkaido, JAPAN