Impact of “Super Slow Inflation (SSI)” as a lesion preparation in the DCB era

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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
DCB
There are some limitations in Japan.

- **Provisional Stent**
- **Severe Dissection**
- **Residual Stenosis ≥ 50%**
Dead load

Impact load

Live load
Fracture Mechanics

Ultimate tensile strength

Yield strength

Recoil

elastic deformation

plastic deformation

Dissection
Keywords

- Gradually
- Equally
- Gently

SSI Concept
SIMULATED CONSTRICITION BLOOD VESSEL

laser distance-measuring instrument,

Product
• SHIDEN HP φ4.0 × 40mm (NP: 20 atm)

Inflation Speed
• Super Slow Inflation (1 atm/20 sec)
• Quick Inflation (1 atm/1 sec)
Time and Pressure

VS

Reference of Simulated Constriction Vessel model

- Super Slow Inflation (1 atm/20 sec)
- Quick Inflation (1 atm/1 sec)

Measurement

Inflation

20 atm

Finish

17 atm

Reference

Time (sec)

2.7

2.8

2.9

3.0

3.1

3.2

3.3

3.4

3.5

-0.5

0.0

0.5

1.0

1.5

2.0

2.5

3.0

3.5

4.0

4.5

5.0
Contact load measuring instrument

Burst Leak Tester

Balloon Cath.

Measure the load

Inflation

4 mm

15 mm
Lower load in SSI model
Case
<table>
<thead>
<tr>
<th></th>
<th>POBA</th>
<th>CTO</th>
<th>Lesion length</th>
<th>Balloon reference</th>
<th>Balloon length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>76%</td>
<td>55%</td>
<td>154mm</td>
<td>5.03mm</td>
<td>131.7mm</td>
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</table>

<table>
<thead>
<tr>
<th>Lesion length</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Stent group</td>
<td>POBA</td>
</tr>
<tr>
<td>194.3mm</td>
<td>135.9mm</td>
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</table>

<table>
<thead>
<tr>
<th>Dissection</th>
<th>N ~ A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>48.8%</td>
<td>18.6%</td>
<td>11.6%</td>
<td>0%</td>
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</table>
To Obtain Optimal POBA

- Minimized dissection is necessary.

- Re-distribution of plaque at the beginning of equal balloon dilatation with minimum pressure is important.
Conclusion

For Leave Nothing Behind Concept...

SSI is one of the effective methods for lesion preparation.

in DCB era
More haste, Less speed!!

Thank you for your attention!!
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