OFDI showed Multiple Inter-strut Hollow 9 months after Very late stent thrombosis in EES in BMS site treated with DCB


Kakogawa East City Hospital, Department of Cardiology
Case: 69 years-old male

- **Chief complain:** chest pain
- **Present illness:** He was received bare-metal stent implantation for RCA #3 due to AMI ten years ago. Six years after PCI, Everolimus-eluted stent (Xience V 3.5x28mm) was deployed for RCA BMS-site ISR lesion. One year after final PCI, follow-up angiography showed no ISR. However, three years after final PCI, he was admitted our hospital for acute chest pain.
- **Risk factors:** hypertension and dyslipidemia
- **Medication:** aspirin, carvedilol, and rosuvastatin
CAG

Xience V 3.5x28mm in BMS
PCI

Rt femoral A approach: 7Fr
GC: 7Fr Hyperion JR4
GW: Route
7Fr Thrombuster
OFDI (After thrombectomy)

Distal  Xience V 3.5x28mm in BMS  Proximal
DCB

Sequent please 3.5x30mm
Final OFDI

⇐ Distal

Xience V 3.5x28mm in BMS

Proximal ⇒
9M f/u CAG
f/u OFDI

Distal

Xience V 3.5x28mm in BMS

Proximal

⇒
Summary

- CAG revealed that RCA stent site was totally occluded. After thrombectomy, Drug–coated balloon (SeQuent please 3.5x30mm) was performed. Finally TIMI–3 flow was obtained.

- Nine months after final PCI, follow–up angiography and OFDI was performed. CAG revealed no restenosis.

- OFDI showed Multiple inter–strut hollow in stent site. Multiple inter–strut hollow indicates localized hypersensitivity reaction of the arterial wall.
Discussion

- DEB–AMI trial

<table>
<thead>
<tr>
<th></th>
<th>BMS</th>
<th>DEB</th>
<th>DES</th>
<th>DEB vs. BMS</th>
<th>DEB vs. DES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follow-up</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Lesions</td>
<td>42</td>
<td>42</td>
<td>43</td>
<td></td>
<td></td>
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<tr>
<td>Minimal luminal diameter, mm</td>
<td>1.68 ± 0.75</td>
<td>1.86 ± 0.74</td>
<td>2.31 ± 0.42</td>
<td>0.25</td>
<td>&lt;0.01</td>
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<tr>
<td>Diameter stenosis, %</td>
<td>41.2 ± 23.5</td>
<td>35.7 ± 20.9</td>
<td>19.0 ± 11.6</td>
<td>0.26</td>
<td>&lt;0.01</td>
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<td>Late-luminal loss, mm</td>
<td></td>
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<tr>
<td>Proximal</td>
<td>0.22 ± 0.64</td>
<td>0.27 ± 0.45</td>
<td>0.16 ± 0.43</td>
<td>0.67</td>
<td>0.69</td>
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<tr>
<td>In-stent</td>
<td>0.74 ± 0.57</td>
<td>0.64 ± 0.56</td>
<td>0.21 ± 0.32</td>
<td>0.39</td>
<td>&lt;0.01</td>
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<tr>
<td>Distal</td>
<td>0.01 ± 0.50</td>
<td>0.12 ± 0.48</td>
<td>0.07 ± 0.44</td>
<td>0.30</td>
<td>0.74</td>
</tr>
<tr>
<td>In-segment</td>
<td>0.52 ± 0.66</td>
<td>0.44 ± 0.55</td>
<td>0.17 ± 0.35</td>
<td>0.51</td>
<td>0.02</td>
</tr>
<tr>
<td>Binary restenosis in-stent</td>
<td>10 (23.8)</td>
<td>12 (28.6)</td>
<td>2 (4.7)</td>
<td>0.67</td>
<td>0.01</td>
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<td>Binary restenosis in-segment</td>
<td>10 (23.8)</td>
<td>13 (31.0)</td>
<td>3 (7.0)</td>
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</tr>
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Belkacemi et al.; J Am Coll Cardiol 2012; 59:2327–37

Drug–coated balloon for thrombotic lesion: effective or not?
Discussion

The incidence of peri-stent contrast staining after PCI for in-stent restenosis lesions

- PCB: Paclitaxel-coated balloon dilatation
- SES: Sirolimus-eluting stent
- PES: Paclitaxel-eluting stent
- EES: Everolimus-eluting stent

Tada et al: J Am Coll Cardiol. 2014;63(12_S)
Conclusions

- OFDI showed Multiple inter-strut hollow in DCB site for VLST.

- DCB for ACS site may cause further progression of inflammation.