『The Case of the successful PCI for the ostium CTO lesion of the RCA by the retrograde approach』

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Case Presentation 2011.4.28
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Case: 58y.o. Male
CC: CCS Ⅱ
Coronary Risk: HT, DM, HD (lt.upper limb shunt)

CAG: RCA seg.1) 100%(ostium)
LAD ⇒ septal ⇒ RCA seg.4PD collate +++
RCA ⇒ SN ⇒ collate++

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CAG: RCA seg.1) 100%  LAD $\Rightarrow$ septal $\Rightarrow$ seg.4
Lower limb angiography:
- Rt. F-P bypass (SFA total)
- Lt. CIA-EIA stenosis (PG = 40 mmHg)
Strategy-1

- We used two 7Fr sheaths because it was difficult to apply the reverse CART technique in the ostium-CTO lesion, also strong back up force from the guiding catheter is necessary.
- Since the patient had the access route for hemodialysis in the left upper limb and had been bypassed in the right femoral-popliteal for SFA total occlusion, **two 7Fr sheaths would be inserted into the left femoral artery**.
PPI: Lt.CIA-EIA 90% ⇒ Smart Control stent 7 × 100mm
The LCA was engaged with a 7Fr AL1.0 guiding catheter, and the RCA engaged with a 7Fr JR4.0 guiding catheter. Right coronary angiography and simultaneous left coronary angiography was performed.
**Strategy-2**

- **We choose the retrograde approach** because of unstable engagement of the guiding catheter in the RCA and hard to advance the guidewire to the distal part of the CTO with calcified hard plaques.

- **As good septal channel** was confirmed in the RAO30° and RAO30° -CAU30° view, therefore, we advanced a 0.014 Suoh guidewire with a Corsair micro-catheter to the CTO from the channel.

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① tip injection, ② retorograde guidewire advanced
Suoh and Wizard 3g guidewires failed to cross. Finally, Conquest Pro 12 guidewire passed the CTO lesion. Corsair was also crossed after confirming the position of Conguest Pro 12 by the IVUS. We exchanged the guidewire to a 3m Fielder FC, and pulled it by the goose-neck snare wire.
But, the 3m Filder FC guidewire broke in the antegrade 7Fr AL1.0 guiding catheter.

Fortunately, that guidewire reached the proximal part of the antegrade catheter shaft. I pushed it carefully, and pulled outside of the catheter through the antegrade sheath.

Then, we tried to advance another antegrade Corsair to the distal part of RCA over the 3m Filder FC, but failed because that wire was broken.

We cut the broken tip of the wire, but unable to advance it.
Then, after we dilated the CTO lesion by a 1.25mm monorail balloon, we tried using Crusade along the 3m Fielder FC and advanced the Suoh guidewire. So, it was possible to perform PCI as usual by antegrade guidewire.
We confirmed there is no complication in the septal channel tracking by the retrograde wire.
POBA (Scoreflex 2.5 × 15)
IVUS-① (Eagle Eye Gold)
POBA (Voyger NC 3.0 × 15, 8atm)
Xience V stents were put from ostium to mid part of RCA.
IVUS-② (Eagle Eye Gold)
POBA (Voyger NC 3.0 × 15, 20atm)
IVUS-③ (Eagle Eye Gold)
Final angiogram
Summary

• The reverse CART is not feasible to use for the ostial CTO lesion.
• It is difficult to advance the antegrade guidewire even though the CART was applied.
• In this case we were able to cross the ostial CTO lesion from retrograde wire to reach the aorta, then the wire was captured by snare wire to be successfully removed from the catheter.
• The Crusade catheter played a key role to exchange the broken retrograde wire with the antegrade wire with ease.