

C027

Repeated tortuous retrograde channels tracking overcame a very long RCA CTO lesion

[Target]

A 69-year-old male with multiple risk factors consulted to our department due to angina pectoris. The stress 201Tl scintigram showed stress-induced ischemia on inferior and apical wall of his heart. CAG was performed and it revealed 2VD including mid-LAD lesion and proximal RCA CTO lesion. The RCA was fed by septal branches and very distal of the LCx, and the CAG could not elucidate the crux of RCA, meaning long CTO lesion. Hence, the mid-LAD and RCA CTO lesion were the targets on this session.

[Strategy and procedure]

We employed bi-directional approach from the beginning using bi-femoral puncture. The first target was mid-LAD lesion. A 2.5/15 mm-sized SES was simply implanted to the mid-LAD lesion. Then we performed balloon dilatation to the jailed 1st septal branch in order to use as a retrograde channel. For the next, we tried to advance SUOH03 with Corsair from LAD to the distal branch of the RCA through the 1st septal branch retrogradely. However, SUOH03 did not pass the tortuous septal channel and we changed SUOH03 to SION. Although the SION could follow the tortuous channel, tip injection revealed that no clear connection between the branch which we selected to use for retrograde approach and the main PDA. To make matters worse, any retrograde wires did not turn to the proximal direction due to an overhanging vessel shape. Therefore we gave up to use the septal channel. The next, we tried to advance SION with Corsair through LCx distal channel. Although the channel also had an angulated bend, again SION could follow the tough channel. Tip injection showed there was a severely calcified lesion in front of the Corsair and the target was very long tough CTO lesion. We managed to advance a wire, Ultimate bro3, and the retrograde Corsair as proximal as possible. However, the wire did not enter to the intra CTO mid-island of RCA. At this timing we started antegrade approach. The wire, miracle neo3, with Caravel advanced to the direction of the intra CTO mid-island and the retrograde wire also advanced to the direction of the intra CTO mid-island to achieve reverse CART. However, the Caravel did not follow the antegrade wire in spite of the backup of the anchor balloon technique and subsequently the antegrade system collapsed. We reconstruct the same system and resume the procedure using small sized balloon, but it also did not cross the severely calcified part. To get out of the deadlock we employed Tornus pro and it gradually advanced. So, we dilated the footprint of the Tornus pro by small sized balloons and consequently it facilitated to pass an IVUS. The IVUS demonstrated that the antegrade wire and the retrograde wire existed in the same sub-intimal space. Therefore, we dilated the space with 3.0mm sized balloon and carried out reverse CART. Then we achieved wire externalization and implanted three EES from the distal to the ostium of the RCA.

[Final result]

We tried to cross the wire, Ultimate bro3, for the residual occluded branch which we firstly selected to use retrograde approach, under the IVUS guiding, antegradely. However, we gave up revascularization for the small branch, because it seemed not feasible and the perfusion area was not so large. However, we achieved acceptable revascularization and the patient's symptom disappeared.