

C008

A case of double CTO...focus on high takeoff RCA with ostial disease and RPL CTO

A 53-year-old woman with history of type II DM, and stable CAD CCS II-III for 7 months. She presented with acute severe chest pain 10 hours before emergency room visited. The electrocardiogram showed dynamic ST depression in V4-V6 anterior leads and raised troponin levels (98 ng/L). Echocardiography revealed anterior wall akinesis. (LVEF 45%).

A coronary angiogram was performed via the right radial artery using 5 Fr catheters. The diagnostic images revealed severe double vessel diseases with double CTO lesions at mid LAD and RPL. The patient refused CABG. So, PCI was needed.

1. Target : subtotal occlusion ostial LAD, and CTO mid LAD

Ad hoc PCI was continued via right radial artery with 6 Fr sheath

A 6 Fr EBU 3.0 coronary guide was used to engage the LM. A strategy of antegrade approach with wire escalation.

With FineCross microcatheter (Terumo, Tokyo, Japan), multiple wires were used; Fielder FC, Fielder XT. Finally, a Conquest Pro 12 wire (Asahi Intecc, Aichi, Japan) wiring was successful. Unfortunately, FineCross microcatheter (Terumo, Tokyo, Japan) couldn't cross CTO lesion. Then I changed to Caravel microcatheter (Asahi Intecc, Aichi, Japan). After proximal CTO stump punctured with Conquest Pro 12 wire, Fielder FC wire (Asahi Intecc, Aichi, Japan) was successfully cross to distal LAD. Thereafter, several predilatations with sequentially larger balloons were performed. The lesion was dilated with a 1.2x12 mm, 1.5x15 mm and a 2.5x20 mm balloon, respectively. Subsequently, a 3.0 x 33 mm with overlapped a 2.5x18 mm Xience Alpine drug-eluting stent (Abbott Vascular, IL, USA) were deployed from ostial to mid LAD. After deployment, the stent was post-dilated with a 3.0 x 20 mm non-compliant Sprinter balloon (Medtronic) to 20 atm and a 3.25 x 12 mm non-compliant Sprinter balloon (Medtronic) to 18 atm

2. Target: proximal RCA 95% stenosis with CTO RPL

difficult aspect 1) anterior high takeoff RCA with ostial disease. So guiding catheter selection was crucial and guide manipulation must be careful to avoid ostial RCA dissection. And finally, ostial stenting was challenging.

2) CTO RPL with blunt stump

Right radial artery was punctured. A 5 Fr JL 3.5 diagnostic catheter was used for contralateral injection.

Right femoral artery was punctured. I chose 6 Fr without side hole system because caution of ostial RCA injury. A 6 Fr AL 0.75 guiding catheter was used for antegrade approach.

First step, I had to fix ostial and proximal RCA. With Corsair microcatheter (Asahi Intecc, Aichi, Japan), successful wiring with a Fielder FC wire (Asahi Intecc, Aichi, Japan) passed into distal RPD. Then exchanged to BMW wire. Thereafter, several predilatations with sequentially larger balloons were performed. The lesion was dilated with a 1.5x15 mm and a 2.5x20 mm balloon, respectively. Multiple view were used to clarify ostial RCA. The best view was LAO 43, and CAU 19. With multiple contrast media testing and slightly pull back guiding catheter with cautiously. A 3.0 x 38 mm Resolute Onyx drug-eluting stent (Medtronic, Minneapolis, MN, USA) was deployed

from ostial to mid RCA. IVUS was inserted. The IVUS finding show full ostial RCA coverage without intraaortic stent protrusion. After deployment, the stent was post-dilated with a 3.5 × 20 mm non-compliant Sprinter balloon (Medtronic) to 18 atm and a 4.0 × 15 mm non-compliant Sprinter balloon (Medtronic) to 16 atm

Second step, CTO RPL PCI was needed. There was severe stenosis at RPD-RPL bifurcation. The lesion was dilated with a 2.5x20 mm balloon. A Corsair microcatheter (Asahi Intecc, Aichi, Japan) was used for selective contrast injection. RPL was blunt stump. Microchannel probing with multiple wires; Fielder XT, Pilot 50, and Whisper MS wire. Successful proximal cap puncture with a Whisper MS wire (Abbott Vascular, Santa Clara, CA, USA). Then exchanged to BMW wire. POBA with a 2.0 × 20 mm semi-compliant Sprinter balloon (Medtronic) and a 2.5 × 20 mm semi-compliant Sprinter balloon (Medtronic) to 12 atm. Final angiography revealed good result without complication