1100 Post-CABG LM CTO PCI in an elderly patient with NSTEMI

The patients is an 80-year-old woman with a history of type 2 diabetes, hypertension, cirrhosis and CAD (distal LM and proximal LAD stenosis, and LCx total occlusion). She received CABG in 2013 (LIMA to distal LAD; SVG to D1 and OM1 branches). She presented with acute onset chest pain and dyspnea for 2~3 days and was brought to the ER on 2019/5/27. ECG showed ST elevation at aVR and ST depression in precordial and inferior leads. Troponin I increased from 4 to 12 ng/mL. The patient was intubated for pulmonary edema at ER.

The CAG on 2010/5/28 revealed distal LM total occlusion; patent LIMA anastomosis at distal LAD and fair back flow to mid LAD and diagonal branches; occluded vein graft; and diffuse intermediate stenosis in proximal and mid RCA, which suppled collaterals to distal LCx and major OM branch. Because there was acute thrombotic lesion, bleeding tendency (cirrhosis) and recent tarry stool for 2~3 times one week before presentation, PCI was not performed at that time.

After admission to CCU, the echocardiography showed LV EF 25~30% with LV global hypokinesis and moderate MR. Pulmonary edema persisted and it was difficult to wean from mechanical ventilation. The CCU specialist suggested PCI.

The first intervention was attempted on 2019/6/4. Since proximal to mid RCA stenosis was considered moderate in severity and LAD was perfused by LIMA, the target was LM-LCx CTO. There seemed to be a small stump at distal LM, pointing to the direction of LCx. However, there's a 90 degree angle between LM and LCx, and LCx CTO is >20 mm and severely calcified, with collaterals from PLV branches to distal LCx and distal OM (J-CTO score 3). Initial antegrade attempt failed because of poor guiding support. Then we crossed the collateral channel from a PLV branch to a major OM branch with Sion. However, retrograde Finecross could only be advanced very distal part of OM because of poor retrograde guiding support (7Fr SAL1). We used several wires (Ultimate Bro 3, Gaia 2nd, Conquest Pro) to cross the CTO but no wires could pass into LM successfully.

After team discussion, we thought that RCA revascularization may provide better collateral flow to LCx and may be beneficial for the patient. 2nd PCI attempt was performed on 6/11. RCA was treated first. LM was engaged with 7Fr AL1, which provided better alignment with LCx. We put Fielder XT-R into a bridging collateral to stablize the antegrade system and used the XT-R to carry Crusade microcatheter. With the support of Crusade, Gaia 2nd with a secondary curve was used to cross the proximal cap to LM-LCx CTO. Gaia 2nd was changed to Conquest Pro and then Conquest Pro 8-20, and Crusade was also changed to a single-lumen microcatheter. However, Conquest Pro 8-20 got stuck at CTO body because of the angulation and heavy calcification. We used Carlino technique to create some dissection in the calcified CTO body, and knuckled down Fielder XT-R into atrial branch. Despite POBA from proximal LCx to the side branch, it was very difficult to antegradely wire into distal LCx. We shifted to retrograde wiring and achieved reverse CART at distal LCx. However, we created an Ellis III perforation at distal LCx during POBA. We were able to seal the perforation after depolying 2 DES from LM ostium to distal LCx.