

C-04      A case in which DCA was safely performed following pre-operative IVUS examination

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The patient was a 40's male with a history of diabetes and hypertension. He had undergone PCI for proximal LAD and mid-Cx lesions six years prior. He presented with recurrent exertional dyspnea. Coronary CT angiography (CTA) revealed severe stenosis in distal RCA and LAD ostium. Coronary angiography showed positive fractional flow reserve (FFR) in both lesions. Although coronary revascularization was recommended, the patient requested PCI. After PCI for distal RCA, we performed PCI for LAD ostium.

Considering his relatively young age, stent deployment involving Left Main Trunk (LMT) crossover was ideally avoided. We planned directional coronary atherectomy (DCA) followed by drug-coated balloon (DCB) angioplasty. However, coronary CTA suspected a previous stent from the high lateral branch (HL) might have protruded to LMT. Although, we checked intravascular ultrasound (IVUS) of the LAD during RCA PCI. As we thought, IVUS revealed that the HL stent struts protruded into the LMT. Fortunately, however, plaque distribution was mainly on the opposite site of carina.

To prevent cutter stuck or stent deformation during DCA, we cut the opposite side of the carina, and a protective wire was placed into the HL stent. After 20 sessions of DCA with progressive balloon inflation (1 to 3 atm), optimal lumen enlargement was achieved, followed by DCB. After DCA, the stent in the HL was partially compressed, resulting in reduced blood flow. However, this was promptly corrected using a small-diameter balloon.

We report a case in which DCA was safely performed following pre-operative IVUS examination.