1141 **Successful Percutaneous Recanalization of a Chronic Total Occlusion in an Anomalous Right Coronary Artery Arising from the Left Coronary Cusp**

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We present a complex case of chronic total occlusion (CTO) in an anomalous right coronary artery (RCA) originating from the left coronary cusp (LCC), referred to our center following a failed PCI attempt at another institution.

A 53-year-old man with a history of acute coronary syndrome had previously undergone primary PCI with drug-eluting stent (DES) implantation at the stenosis site proximal to CTO. The stented segment subsequently progressed to total occlusion.

Cardiac CT confirmed the anomalous origin of the RCA from the LCC and revealed continuous long CTO including the stent. PCI was initiated via the right femoral artery, but selective engagement of the RCA was difficult. After failure with JL4.0 and JL3.5 guide catheters, an IL3.5 guide enabled successful engagement. The initial wire advanced into the right ventricular (RV) branch, prompting the use of a 3.0 mm balloon anchor technique to improve guide catheter support. A Corsair Pro microcatheter and Miracle NEO3 wire were used for antegrade crossing, but subintimal passage was observed. A parallel wire technique using a Crusade catheter and Gaia Next 3 was attempted, but intimal tracking was unsuccessful because of the vessel course was unclear due to the lack of calcification.

The strategy was then switched to a retrograde approach via the left radial artery using a 7Fr JL3.5 guide catheter. The Zizai microcatheter and SION wire were used to select an appropriate ventricular septal channel, and wiring to the distal segment was performed using the SUOH03. Although a misty collateral was observed at the tip injection, retrograde passage to the posterior descending artery (PDA) was successfully achieved using the XT-R. The retrograde wire was escalated to Ultimate Bros 3, and the antegrade wire was exchanged to Gladius EX, Because the vessel course was extremely curved, the wire was carefully advanced in both directions, little by little, to bring the wires closer together. Finally, successful reverse CART and wire externalization were completed.

Revascularization was completed with DES implantation from the posterolateral ventricular (PLV) branch to the proximal stented segment, and drug-coated balloon (DCB) angioplasty within the in-stent segment. The procedure was completed successfully without complications.