

1058 **Successful Complete Revascularization for RCA Chronic Total Occlusion and Distal Left Main Disease in a Post-AVR Patient**

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Case Presentation

A man in his early 80s had undergone surgical aortic valve replacement (AVR) for severe aortic stenosis 5 years earlier. During catheter ablation for symptomatic atrial fibrillation, coronary angiography revealed multivessel coronary artery disease consisting of a chronic total occlusion (CTO) of the RCA (#2) with collateral flow from the LCA, 75% distal left main (LM) stenosis (Medina 1,1,0), and 75% stenosis of the proximal LAD (#6-7) with an FFR of 0.58.

Although the SYNTAX score was 33, suggesting CABG as the preferred revascularization strategy, redo sternotomy after previous AVR and an STS predicted operative mortality of 5.4% indicated an increased surgical risk. Following Heart Team discussion, PCI was selected to achieve complete revascularization.

PCI for the RCA CTO was performed first. Because the patient had concomitant left main disease, a retrograde approach was considered to carry a potential risk of hemodynamic compromise due to interruption of collateral flow. Therefore, an antegrade wiring strategy was selected. Successful true lumen crossing was achieved using a GAIA Next 1 guidewire, and complete revascularization of the RCA was accomplished using an antegrade-only approach.

An elective PCI was subsequently performed for the distal LM-LAD lesion. Conventional balloon angioplasty followed by crossover stenting was considered likely to cause carina shift and compromise the LCX. Therefore, directional coronary atherectomy (DCA) was performed for plaque debulking before crossover stenting. This strategy successfully preserved LCX flow while achieving optimal stent expansion, resulting in complete revascularization.

Discussion

This case demonstrates that PCI can be a reasonable alternative to CABG in selected patients with complex coronary artery disease after prior AVR, in whom redo surgery carries an increased operative risk. In addition, plaque debulking with DCA before crossover stenting may reduce the risk of carina shift in distal left main bifurcation lesions. Furthermore, in CTO patients with significant left main disease, careful selection of an antegrade strategy may provide a safer revascularization option than a retrograde approach.