1136 **Step-by-Step Revascularization Using Directional Coronary Atherectomy in an Elderly Patient with Multi-Vessel Disease**

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An 85-year-old man with diabetes mellitus was admitted for ST-elevation myocardial infarction (Killip II). ECG showed ST elevation in leads II, III, and aVF. Echocardiography revealed severe left ventricular dysfunction (LVEF 34%). Emergency coronary angiography demonstrated mid-RCA occlusion, proximal LAD occlusion, and proximal LCX stenosis (Medina classification 0-1-1). Primary PCI with drug-eluting stent (DES) implantation was successfully performed for the RCA.

Due to the frailty, our heart team opted for staged PCI over CABG for the residual LAD and LCX lesions. For the LAD chronic total occlusion (CTO), a primary retrograde approach was chosen due to unclear distal visualization. The septal channel was crossed using SUOH03, followed by antegrade wiring with Gaia Next2 via the kissing wire technique. Since plaque extended to the proximal LAD (#6), directional coronary atherectomy (DCA) was performed to avoid complex stenting, reducing plaque area from 84% to 48%. A DES was then deployed proximally, sparing the left main trunk .

Three months later, PCI for the proximal LCX stenosis was performed. DCA reduced plaque area from 80% to 53%, followed by drug-coated balloon angioplasty. The patient had no further coronary events and showed favorable outcomes.

Conclusion: A step-by-step approach utilizing DCA can be a viable alternative to complex stenting or CABG in high-risk patients with multi-vessel disease and comorbidities.