

C-15 Hydrodynamic Contrast Recanalization Facilitates Low-Contrast CTO PCI in an Elderly
Patient With Advanced CKD

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An 85-year-old man with diabetic nephropathy (creatinine 4.0 mg/dL) and severely reduced left ventricular function (ejection fraction 25%) presented with recurrent exertional angina. Myocardial scintigraphy showed redistribution in the inferoposterior wall, and coronary angiography revealed a chronic total occlusion (CTO) in the proximal right coronary artery (RCA #1). Given his symptoms and ischemia burden, PCI for RCA CTO was planned to achieve complete revascularization with minimal contrast use. A 7 Fr Hyperion AL 1.0 ST guiding catheter was used for engagement. The proximal cap was hard and could not be penetrated with a Miracle neo 3; therefore, a Conquest Pro 12 successfully entered the CTO. A Caravel microcatheter was advanced a few millimeters into the occlusion, and then gentle tip injections of a very small amount of contrast were performed to modify the plaque architecture, a technique known as HydroDynamic contrast Recanalization (HDR). Although no clear intraplaque channel was visualized initially, XT-R wire allowed easy advancement. A second HDR injection was performed more distally, which outlined a linear intraplaque channel, enabling the XT-R to smoothly reach the distal true lumen. A drug-eluting stent was implanted with preservation of the side branch, and complete reperfusion was achieved in a short procedure time with a total contrast volume of only 35 mL. HDR, which consists of low-pressure, low-volume intraplaque contrast injection (<0.5 mL) to preferentially expand softer tissue and facilitate wire passage, was effective in this high-risk CTO patient and may be useful in selected cases with severe comorbidity and contrast limitation.