1113 **Successful Treatment of a Heterogeneous SFA CTO Using IVUS-Guided Assessment and Lesion-Specific Device Selection**

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[Background] Chronic total occlusion (CTO) lesions often present with heterogeneous morphologies such as fibrotic and calcified plaques, which can make wire passage challenging. Appropriate device selection and strategic approaches tailored to each lesion characteristic are key to procedural success. We report a case of superficial femoral artery (SFA) CTO with mixed lesion morphology that was successfully treated by wire crossing under IVUS guidance and lesion-specific device selection. [Case] An 82-year-old male on hemodialysis with a history of coronary artery bypass grafting presented with bilateral intermittent claudication. His ABI was decreased to 0.73/0.61. CT angiography revealed CTO lesions in both SFAs. Four months earlier, the left SFA had been treated, and two months prior, a stenotic lesion in the right iliac artery had been managed. He was admitted for endovascular therapy (EVT) of the untreated CTO in the right SFA. [Procedure] A 7Fr guiding sheath was inserted via ipsilateral antegrade puncture of the right common femoral artery. The chronic total occlusion extended from the SFA ostium to the distal SFA, with a total occlusion lesion length of approximately 300 mm. The lesion included segments with severe calcification, classified as PACCS grade 4 in part. A 4Fr angled catheter was used to select the proximal cap of the CTO, and an initial attempt was made using Ichibanyari and Jupiter S6 wires. IVUS (AnteOwl) revealed that the wire had passed through a subintimal route, likely due to the hardness of the lesion caused by dense fibrotic plaque. Therefore, IVUS-guided rewiring using an Astato 9-40 wire was attempted, but the wire easily exited the vessel due to its stiffness. Subsequently, a subintimal route was created using Jupiter S6, which enabled IVUS visualization of the CTO segment. Based on torquability considerations, Ichibanyari and Crosslead were selected for IVUS-guided wiring, resulting in successful passage into the distal true lumen. However, the wire route passed through an extremely hard lesion that could not be crossed with a microcatheter. Lesion modification was therefore performed using the Wingman 35, advancing its bevel tip in a rotational manner. After confirming intraplaque wiring by IVUS, Jetstream atherectomy was selectively applied to the heavily calcified segment. Stepwise balloon dilations were performed, but significant recoil of the fibrotic plaque at the SFA ostium resulted in flow limitation. Therefore, a drug-eluting stent (DES) was deployed from the SFA ostium to the proximal segment. The mid-to-distal SFA, previously treated with Jetstream, was subsequently managed with drug-coated balloon (DCB) angioplasty. Final angiography revealed no distal embolization or slow flow, and demonstrated favorable perfusion. [Conclusion] This case demonstrated that even in CTO lesions with mixed morphologies, IVUS-guided assessment and lesion-specific device selection enabled successful revascularization. In heterogeneous CTOs, such as this case, combining intravascular imaging with morphology-driven treatment strategies may provide a reproducible and practical approach applicable to real-world clinical settings.