

1092 **A Case of Successful Revascularization Using IVUS-Guided Whole Intraplaque Tracking Restores Distal Runoff in a "No-BTK Runoff" Limb**

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Endovascular treatment for chronic limb-threatening ischemia (CLTI) with no visible below-the-knee runoff remains one of the greatest challenges because subintimal recanalization may sacrifice residual branch perfusion. To preserve every possible branch, we intentionally performed IVUS-guided whole intraplaque tracking from the popliteal artery to the plantar artery. A 75-year-old woman with recurrent CLTI presented with left foot discoloration and a heel ulcer after previous minor amputations, including a Lisfranc amputation. Angiography demonstrated popliteal artery occlusion extending to all below-the-knee arteries without visible tibial runoff. Initial wiring with a soft guidewire followed the presumed posterior tibial artery (PTA) course; however, IVUS revealed subintimal passage from the PTA ostium. The guidewire was redirected under IVUS guidance to achieve continuous intraplaque tracking into the plantar artery. Balloon angioplasty followed by selective vasodilator administration restored TIPI grade 3 flow.

One week later, staged revascularization of the anterior tibial artery (ATA) was performed. Duplex ultrasound identified a severely narrowed but patent dorsalis pedis artery (DPA). IVUS-guided intraplaque tracking successfully advanced the guidewire into the DPA true lumen. Although the DPA was too small for IVUS catheter passage, balloon angioplasty was performed to the distal ATA up to the confirmed intraplaque segment. Because distal runoff remained limited, selective vasodilator infusion through the ATA was administered, resulting in TIPI grade 3 runoff without direct DPA angioplasty.

This case demonstrates that IVUS-guided whole intraplaque tracking is not merely a crossing technique but a novel revascularization strategy that preserves native branch anatomy, recreates distal runoff, and expands the feasibility of endovascular treatment in CLTI previously considered unreconstructable.