

Spur[®] RST (Retrievable Scaffold Therapy) in Conjunction with a Drug-Coated Balloon (DCB)

CASE HISTORY

A 60-year-old male with a past medical history of tobacco abuse, hypertension and hyperlipidemia presented with second-ray cellulitis complicated by wet gangrene, necessitating surgical amputation. Pre-operative assessment revealed a significantly diminished ankle brachial index of 0.47 and a toe brachial index of 0.54, indicating severe peripheral arterial disease requiring treatment prior to toe amputation.



Figure 1. Baseline: Infected second toe with wet gangrene extending into the second ray

PROCEDURE

Angiography showed calcific disease (Figure 2A) throughout the lower extremity vessels with a focal stenosis of the distal superficial femoral artery (SFA) (Figure 2B), as well as 70–90% stenosis of approximately 60 mm of the tibioperoneal trunk (TPT) and peroneal (Figures 2C, 2D), the dominant artery to the foot.

The distal SFA stenosis was crossed with an 0.014" guidewire and treated successfully with percutaneous transluminal angioplasty followed by a drug-eluting stent.

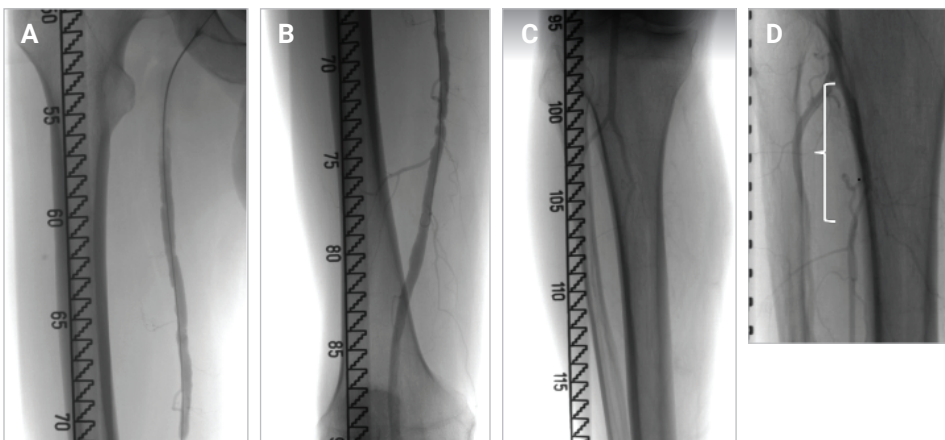
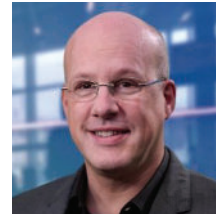


Figure 2. Calcific disease (A) with stenosis of the distal SFA (B) and 70–90% stenosis of approximately 60 mm of the tibial trunk and peroneal artery (C & D).

PHYSICIAN



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"Spur RST enables you to minimize vessel recoil while also enhancing drug uptake."

Michael Lichtenberg, MD, FESC is the Chief Medical Officer and Director of the Angiology Department and Vascular Center at the Arnsberg Clinic in Arnsberg, Germany. He received his medical degree from the Heinrich-Heine Medical University of Dusseldorf, and studied at the Tulane University School of Medicine in New Orleans, Louisiana and the Texas Heart Institute in Houston, Texas. Dr. Lichtenberg was elected to serve as Managing Director of the German Society for Angiology in 2017 and as its President in 2019. He is also the Section Editor of *Vascular and Endovascular Review Journal*.

PRODUCTS USED



PERIPHERAL RETRIEVABLE SCAFFOLD SYSTEM

Successful Crossing: Spur RST in Conjunction with DCB

The decision was made to recanalize the TPT and peroneal artery. The same 0.014" guidewire was used to cross the TPT lesion. Predilatation was performed using two sequential inflations with a 2 × 20 mm balloon (Figure 3A). This was followed by treatment with a 3 × 60 mm Spur Peripheral Retrievable Scaffold System (Figure 3B). Post-Spur RST, a 3 × 80 mm Stellarex DCB (Figure 3C) (Philips) was deployed across the treated segment. Post-intervention angiography demonstrated <10% residual stenosis with a brisk flow to the foot (Figure 3D). Transient vasospasm was observed, likely related to nicotine use, and was resolved with intravenous vasodilators.

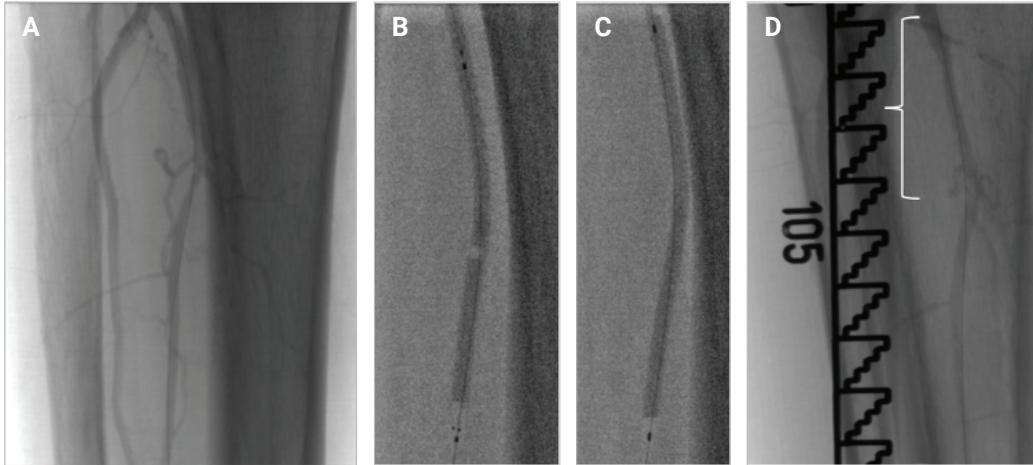


Figure 3. Predilatation with balloon (A) and Spur treatment (B) followed by deployment of Stellarex DCB (C). Residual stenosis of <10%, brisk flow to the foot (D).

12-MONTH RESULTS

Following resection of the infected second ray, the patient experienced progressive wound healing, preserved through 12 months follow-up. Duplex ultrasound confirmed sustained target vessel patency throughout this period (Figures 4, 5).

CASE DISCUSSION

Although DCB angioplasty alone may have been a potential treatment strategy, long-term patency of the dominant artery supplying the foot was critical to support healing of the second-ray resection. The use of Spur RST offered the option to minimize vessel recoil while simultaneously enhancing drug uptake.

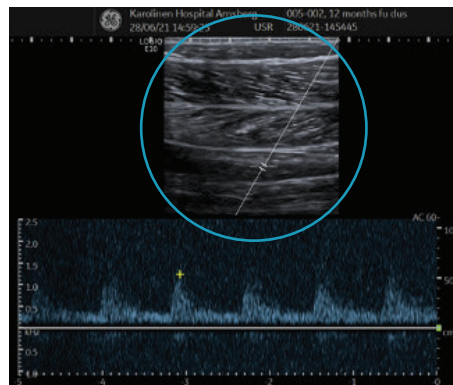


Figure 4. Duplex ultrasound

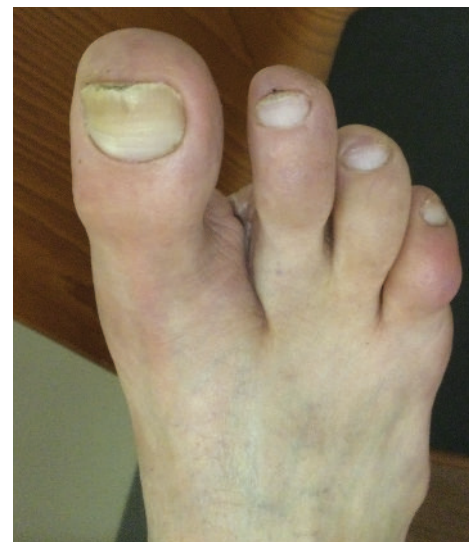


Figure 5. 12 months

Item	Baseline	30 days	90 days	6 months	1 year
Max DUS Velocity	NA	89 cm/s (Patent)	132 cm/s (Patent)	75 cm/s (Patent)	81 cm/s (Patent)
Rutherford Classification	5	5	5	5	0