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THE PULSE OF MEDICAL INGENUITY

Treating a Long Lesion with a Single Spur® Stent System

CASE HISTORY

A 72-year-old male with a history of Type II diabetes, hypertension, hyperlipidemia, tobacco use, coronary artery disease, congestive heart failure, and a previous amputation presented as a Rutherford Class 4, with no wounds at the time of enrollment. Baseline Ankle Brachial Index (ABI) and Toe Brachial Index (TBI) were non-compressible.

PROCEDURE

Baseline angiography showed non-significant stenosis of the inflow vessels and significant disease in the below-the-knee vessels. A 40 mm long lesion (Figure 1) in the tibioperoneal trunk (TPT) and a 170 mm long lesion (Figure 2) in the posterior tibial (PT) artery were treated with the Spur Peripheral Retrievable Stent System after lesion predilatation.

Baseline Imaging

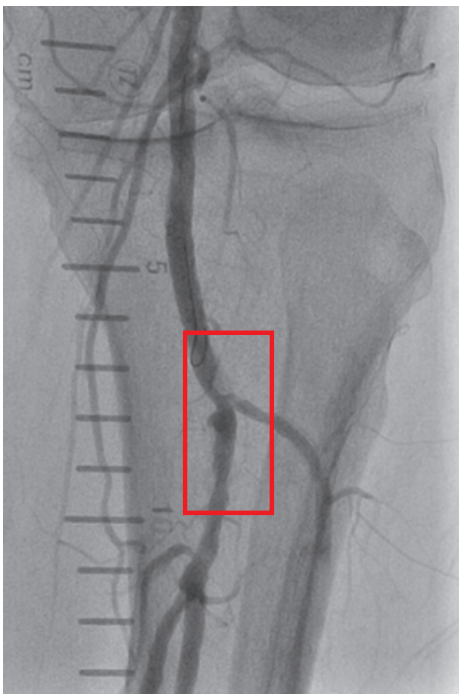

Figure 1

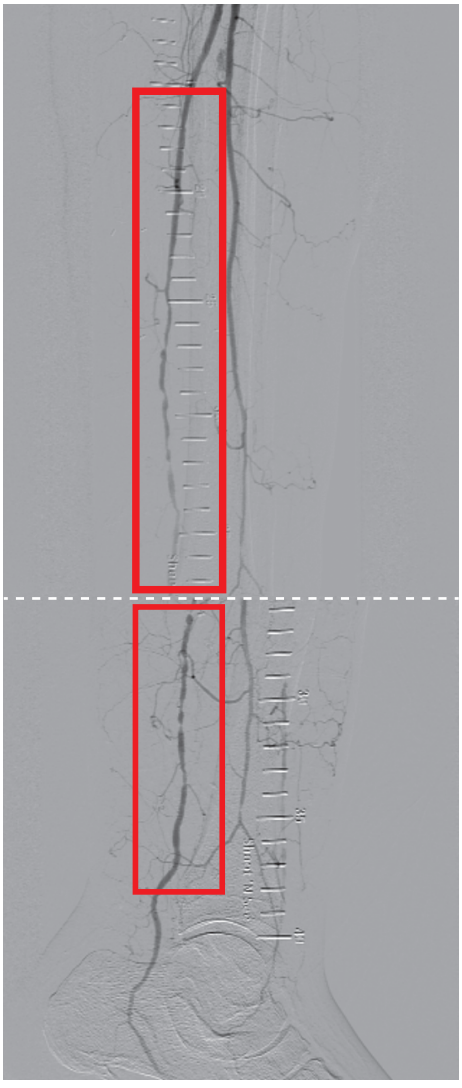

Figure 2

PHYSICIAN

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"The ability to treat a 170 mm lesion with a single Spur Stent System, with sustained patency at 12 months, while leaving nothing behind, is truly unique."

Dr. Ahmed attended medical school at the University of Khartoum, Sudan and completed his residency and cardiovascular fellowship at Pennsylvania State University in Hershey, PA. He finished his interventional cardiology fellowship at the University of Connecticut. Dr. Ahmed is board certified by the American Board of Internal Medicine.

PRODUCTS USED

Spur®

PERIPHERAL RETRIEVABLE STENT SYSTEM

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Quantitative vessel analysis (QVA) showed significant calcium in the TPT lesion caused by a 50% stenosis and revealed diffuse disease in the PT artery, with a 77% stenosis. The reference vessel diameters measured 4 mm and 3 mm respectively.

A .014" guidewire was advanced down the posterior tibial artery. For predilatation, a 4.0 × 60 mm balloon was inflated in the TPT with a waist (Figure 3A). With significant residual stenosis in the TPT (Figure 3B), an additional 4.0 × 20 mm non-compliant balloon was inflated.

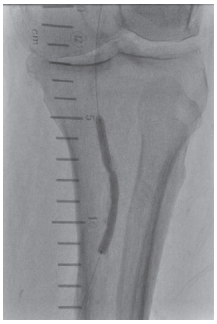

Figure 3A

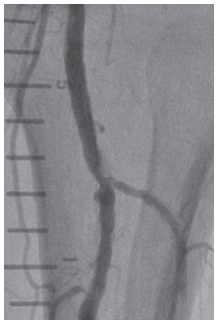

Figure 3B

A 3.0 × 150 mm balloon was used to predilate the 170 mm lesion in the posterior tibial. Post predilatation yielded <50% stenosis on angiogram (Figures 4A, 4B).

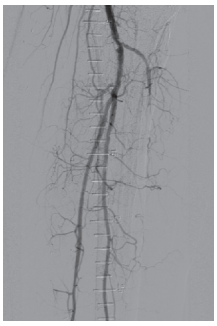

Figure 4A

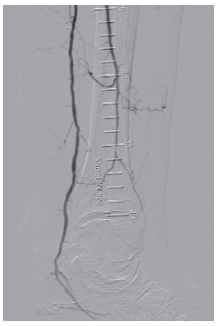

Figure 4B

To cover the 170 mm PT lesion extending from 35 cm distally to 17 cm proximally, a 3.0 × 65 mm Spur Stent System was successfully deployed 3 times using the 2-3-1 minute inflation protocol for the DEEPER REVEAL trial. The stent was deployed in a distal to proximal sequence ensuring optimal overlap at segment junctions (Figures 5A–5C). The same protocol was then used to deploy a 4.0 × 60 mm Spur Stent System in the TPT (Figure 6).

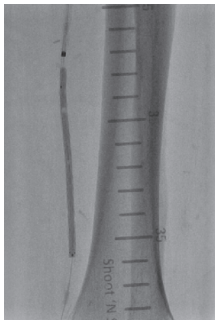

Figure 5A

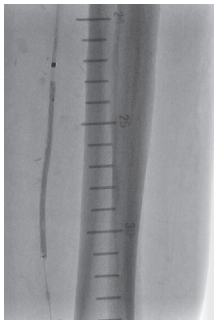

Figure 5B

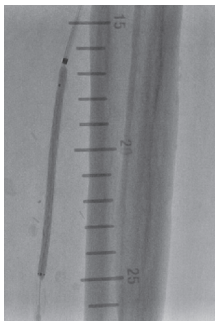

Figure 5C

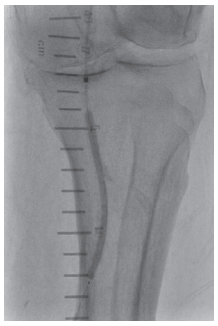

Figure 6

Final angiography of both lesions (Figures 7A, 7B) resulted in <30% stenosis by visual estimate on angiography. By QVA, a final residual stenosis of 23% was seen in the TPT and 12% in PT.

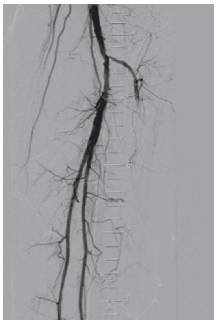

Figure 7A

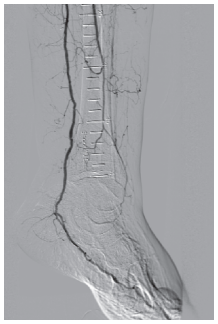

Figure 7B

CASE CONCLUSION

At 12 months, duplex ultrasound confirmed patency in both lesions. Subsequent evaluation revealed an ABI of 1.15 and a TBI of 0.91, both falling within normal limits.