The GORE® VIABAHN® Endoprosthesis for In-Stent Restenosis in the Superficial Femoral Artery

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A 59-year-old African American woman was initially evaluated for limiting right calf claudication. Lower extremity Doppler exam revealed a resting ABI of 0.75 in the right leg. Her past medical history was notable for diabetes, hypertension, hyperlipidemia, and prior cigarette smoking. Medications included metformin, lisinopril, lovastatin, and aspirin. Initial peripheral angiography demonstrated a chronic total occlusion (CTO) spanning 10 cm of the middle segment of the right superficial femoral artery (SFA) (Figure 1A). Interventions at that time involved implantation of three bare-nitinol SFA stents measuring 5.5 X 100 mm, 5.5 X 60 mm, and 6 X 60 mm in the distal, mid, and proximal SFA, respectively (Figure 1B). The patient was initiated on clopidogrel. However, 6 months after her index procedure, she developed severe recurrent symptoms. Repeat right lower extremity Doppler exam revealed a resting ABI of 0.54, and an exercise ABI of 0.28. Repeat angiography demonstrated severe and diffuse in-stent restenosis throughout the entire stented segment of the right SFA (Figure 2A). Regarding the run-off vessels, there was a distal occlusion of the posterior tibial artery, but patent anterior tibial and peroneal arteries (Figure 2B).

PROCEDURAL DESCRIPTION

The patient underwent repeat endovascular intervention using the left common femoral approach. A 7-F sheath (Cook Medical) was advanced in a contralateral fashion to the right common femoral artery. A steerable 0.035-inch Versacore guidewire (Abbott Vascular) was used to traverse the right SFA. A Quick-Cross catheter (Spectranetics Corporation) was advanced over this wire into the right popliteal artery, and the wire was exchanged for a 5-mm-diameter SpiderFX distal embolic protection filter (Medtronic). The entire segment of the right SFA with in-stent restenosis was then treated using rotational...
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RESULTS
Completion angiography revealed a widely patent right SFA with brisk flow and no residual stenosis (Figure 4). There was also excellent distal flow into the pedal arch vasculature, with no evidence of distal tissue embolization. The patient was continued on clopidogrel and low-dose aspirin. She has remained asymptomatic, and follow-up Doppler exam performed 9 months after placement of the GORE VIABAHN Devices for in-stent restenosis confirmed improvement in the right leg resting ABI from 0.54 to 1.0.

DISCUSSION
The use of the GORE VIABAHN Device with Heparin Bioactive Surface provides an excellent treatment option for in-stent restenosis in the SFA, particularly when it involves a long stented segment. In this case, rotational atherectomy with embolic filter protection was used to initially debulk the restenotic tissue. With the subsequent use of both balloon pre- and postdilatation, placement of GORE VIABAHN Devices resulted in an angiographic result suggesting optimal expansion throughout the SFA containing the previously implanted stents (Figures 5A and 5B).

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