The GORE® VIABAHN® Endoprosthesis for Recurrent In-Stent Restenosis

BY PETER A. SOUKAS, MD, FACC, FSVM, FSCAI, FACP, RPVI

A 62-year-old man was transferred to our hospital from one of our sister institutions with unstable angina and a positive troponin test. He was a former smoker with a history of hypertension, hyperlipidemia, and coronary artery disease, and had undergone percutaneous coronary intervention with a drug-eluting stent for an 80% stenosis of the mid-left circumflex artery.

He was referred for cardiac rehabilitation 1 month after the intervention, but was unable to adequately exercise due to disabling claudication. Upon assessment in the cath lab, he was found to have a high-grade superficial femoral artery (SFA) lesion (Figure 1).

The patient was still working and active, so he refused surgery and was referred for peripheral vascular intervention in September 2004. He underwent standard balloon angioplasty and was treated with overlapping self-expanding nitinol stents with a good acute angiographic result (Figure 2).

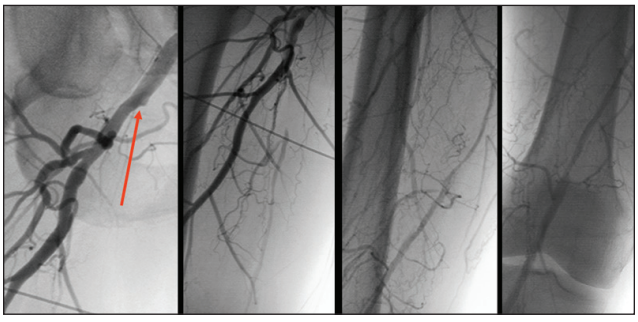

Figure 1. Baseline angiograms showing a high-grade lesion. The SFA origin (arrow) is shown in the left panel.

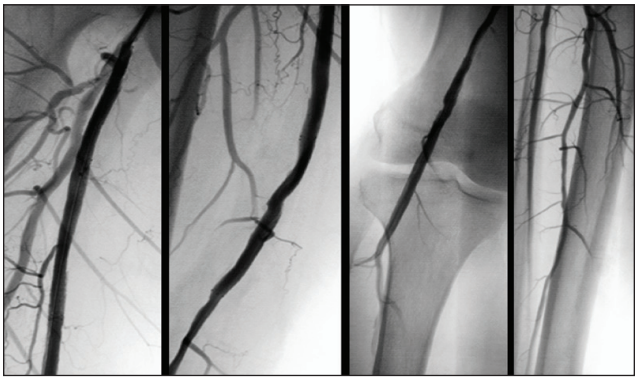

Figure 2. Final angiograms after the patient underwent PTA and received bare-metal stents.

PROCEDURAL DESCRIPTION

Unfortunately, the patient required four reinterventions over the following 2 years due to recurrent in-stent restenosis. First, in May 2005 he underwent cutting balloon angioplasty and cryoplasty. Seven months later, in December 2005, he returned and underwent repeat cutting-balloon angioplasty and cryoplasty. Another 7 months later, in June 2006, we performed laser atherectomy and cryoplasty, but the restenosis returned.

Finally, in November 2006 (Figure 3), he was treated with a cutting balloon and three 6-mm-diameter GORE VIABAHN Devices (Figure 4). Completion angiography showed a patent SFA with < 10% residual stenosis (Figure 5). He was treated with 81 mg aspirin and 75 mg clopidogrel daily.

RESULTS

The patient has remained asymptomatic with normal resting bilateral ankle-brachial indexes of 1.0, triphasic waveforms on duplex ultrasound, and no claudication since the index procedure. I saw this patient again in May 2015 and the GORE VIABAHN Devices are still patent, even more than 8 years after they were implanted.

DISCUSSION

The last several years have seen a burgeoning number of randomized trials proving the superiority of endolumi-

SEPTEMBER 2004:
Referred for peripheral vascular intervention. Underwent standard balloon angioplasty and received nitinol stents.

MAY 2005:
Underwent cutting balloon angioplasty and cryoplasty.

DECEMBER 2005:
Underwent repeat cutting balloon angioplasty and cryoplasty.

JUNE 2006:
Underwent laser atherectomy and croplasty.

NOVEMBER 2006:
Underwent cutting balloon angioplasty and received three GORE VIABAHN Devices.

MAY 2015:
Patient remains asymptomatic with no claudication.

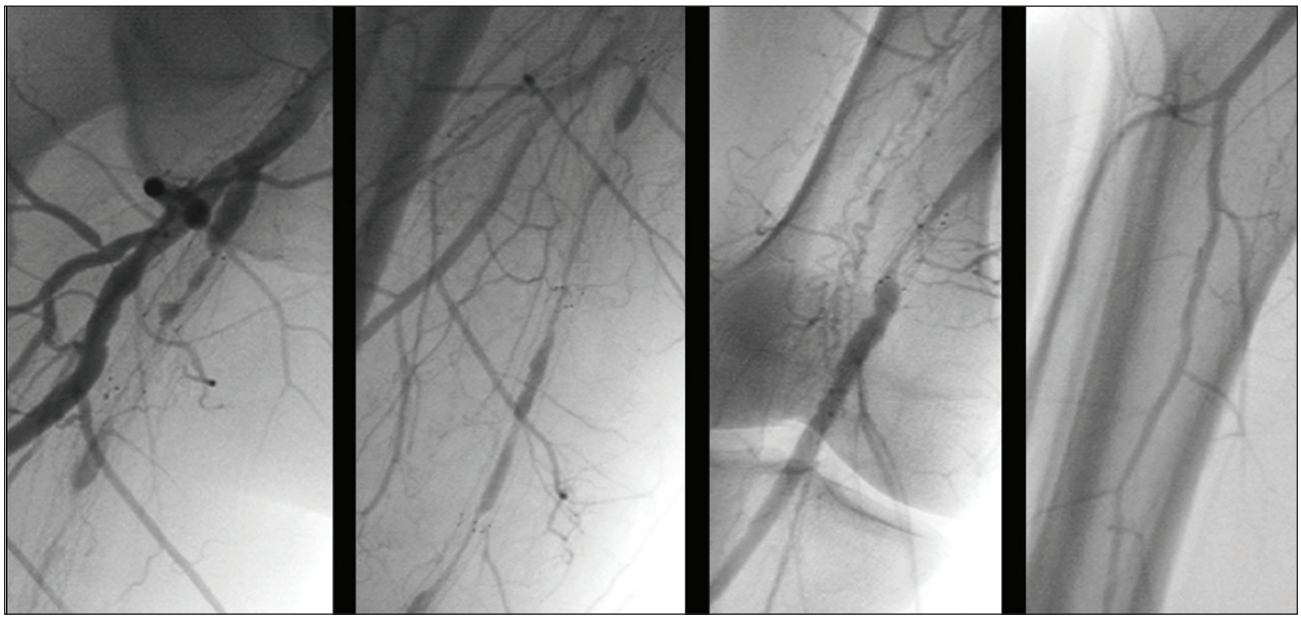

Figure 3. Baseline angiograms in November 2006 before treatment with covered stents.

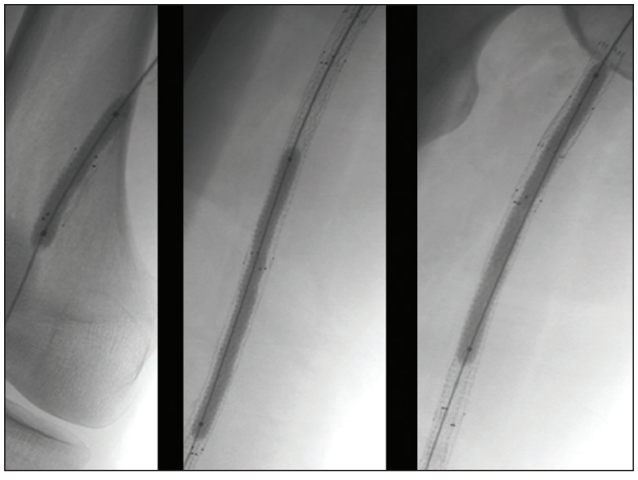

Figure 4. The patient underwent PTA with cutting balloons and stent-grafting with GORE VIABAHN Devices.

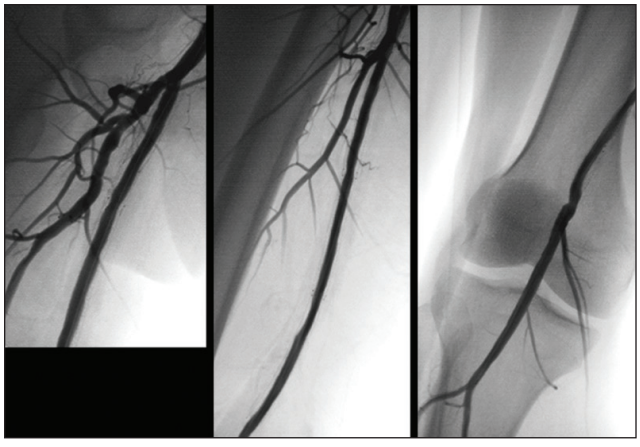

Figure 5. Completion angiograms showing a patent SFA.

"We have witnessed superior outcomes with the GORE VIABAHN Device for treatment of in-stent restenosis, as illustrated by the greater than 8-year patency observed in this case.

nal stenting over balloon angioplasty. Although stenting overcomes the immediate limitations of arterial dissection and elastic recoil, it comes at the price of potential in-stent restenosis. We have witnessed superior outcomes with the GORE VIABAHN Device for treatment of in-stent restenosis, as illustrated by the greater than 8-year patency observed in this case. ■

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