

Excimer laser coronary atherectomy for the treatment of a calcified lesion

Operator and facility

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Case history

- 89-year-old female
- History: Dyslipidemia and CAD, CABGx4, positive stress test, chest pain, family history of CAD.

Angiography

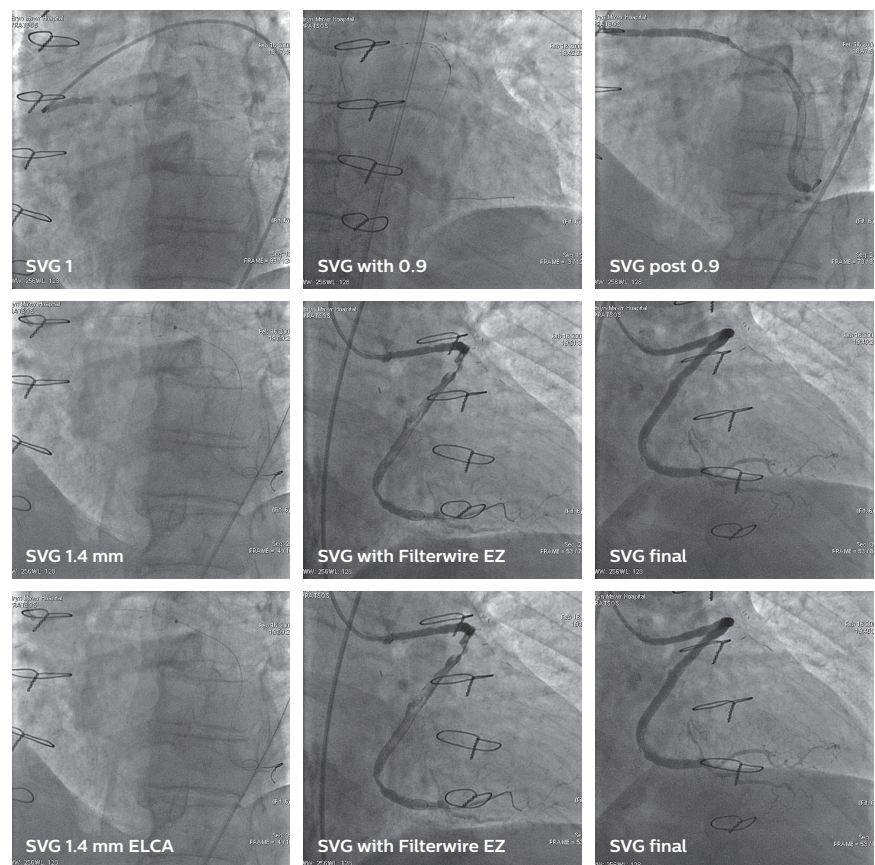
- RCA patent
- Occluded SVG to RCA
- LIMA to LAD patent
- SVG to OM1 minor luminal irregularities
- SVG to circumflex patent

Intervention

- SVG to RCA engaged with an 8F MP guide
- 0.014" BMW wire was inserted into the SVG to RCA
- 0.9 mm X80 catheter was used at 50 fluence and 40 Hz, post laser revealed TIMI 3 flow with residual stenosis and evidence of thrombus in distal SVG, therefore, a 1.4 mm ELCA was used at 60/40
- Post laser a Filterwire EZ was placed in the distal SVG
- PTCA was performed, with a 3 x 18 mm Quantum Maverick balloon at 16 ATM
- Stent deployment, 3.5 x 23 mm Xience was deployed in the Proximal SVG to RCA at 22 ATMS
- Post dilation with a 3 x 18 Maverick was performed at 24 ATMS

Results and conclusion

- The excimer laser was used to treat the occluded SVG, restoring flow to the RCA
- The excimer laser allowed for the placement of an embolic protection device in an occluded SVG, enabling distal protection for the remainder of the case
- Post excimer laser ablation TIMI 3 flow was restored
- Stent placement in the proximal SVG to RCA



"The use of excimer laser ablation in a occluded SVG restored flow and allowed for the delivery of a distal protection device resulting in a great outcome."

— Antonis Pratsos, MD

At the time of publication, Dr. Pratsos has a consulting agreement with Philips. The opinions and clinical experiences presented herein are for informational purposes only. Individual results may vary depending on a variety of patient-specific attributes and related factors. Results from this case study are not predictive of future results.

Devices

Guide	8F MP4 (Boston Scientific)
Wire(s)	0.014" Filterwire EZ (Boston Scientific) 0.014" BMW (Abbott Vascular)
Atherectomy	0.9 mm and 1.4 mm ELCA (Philips)
Balloon	3 x 18 mm Quantum Maverick (Boston Scientific) 3 x 18 mm Maverick (Boston Scientific)
Stent	3.5 x 23 mm Xience (Abbott Vascular)
Anticoagulation	Integrilin (Millennium Pharmaceuticals)
Featured Philips products	ELCA coronary laser atherectomy catheter

ELCA important safety information

Indications:

The laser catheters are intended for use either as a stand-alone modality or in conjunction with percutaneous transluminal coronary balloon angioplasty (PTCA) in patients who are acceptable candidates for coronary artery bypass graft (CABG) surgery. The following indications for use, contraindications and warnings have been established through multicenter clinical trials. The Philips CVX-300 Excimer laser system and the multi-fiber laser catheter models are safe and effective for the following indications: occluded saphenous vein bypass grafts, ostial lesions, long lesions (greater than 20mm in length), moderately calcified stenosis, total occlusions traversable by a guidewire, lesions which previously failed balloon angioplasty, restenosis in 316L stainless steel stents, prior to the administration of intravascular brachytherapy. These lesions must be traversable by a guidewire and composed of atherosclerotic plaque and/or calcified material. The lesions should be well defined by angiography.

Contraindications:

Lesion is in an unprotected left main artery. Lesion is beyond acute bends or is in a location within the coronary anatomy where the catheter cannot traverse. Guidewire cannot be passed through the lesion. Lesion is located within a bifurcation. Patient is not an acceptable candidate for bypass graft surgery.

Potential adverse events: Use of the Philips CVX-300 Excimer laser system may contribute to the following complications: dissection of the arterial wall, perforation, acute reclosure, embolization, aneurysm formation, spasm, coronary artery bypass graft surgery, thrombus, myocardial infarction, arrhythmia, filling defects, death. No long term adverse effects of ELCA are known at this time.

Risks:

The primary endpoint defined in the laser angioplasty of restenosis stents (LARS) randomized trial was the absence of major adverse cardiac events (MACE) at 6 months: Death; myocardial infarction; coronary artery bypass surgery. Procedural complications include: any dissection, acute thrombus, haziness, no reflow, arrhythmia, acute vessel closure, occlusion of side branch, occlusion non-target, coronary spasm, coronary embolism, coronary perforation, laser/stent damage, balloon/stent damage, and other serious complications.

Caution:

Federal law restricts this device to sale by or on the order of a physician.

