PHILIPS

Image Guided Therapy

Coronary Vascular

Excimer laser atherectomy for a long, diffusely diseased, moderately calcified right coronary artery

Operator and facility

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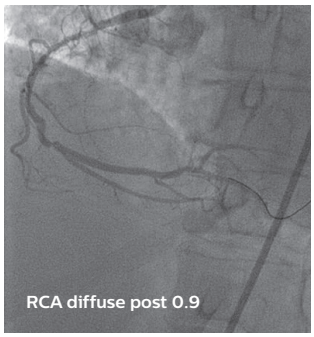
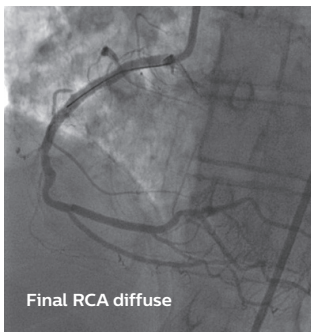
Case history

- 75-year-old male
- Dyslipidemia, insulin dependent diabetes, hypertension with a history of CAD positive stress test.

Angiography

- Subtotal occlusion
- RCA: Long diffuse disease, moderately calicifed
- LAD: Patent with minor luminal irregularities
- Circumflex: 50% stenosis in the mid portion


RCA diffuse post 0.9


Final RCA diffuse

Images courtesy of Dr. Pratsos

Intervention

- RCA was engaged with a 6F FR4 guide
- 0.014" Asahi guidewire was inserted into the RCA along with a .014 x 135 Quick-Cross support catheter to help cross the lesion
- 0.9 mm X80 ELCA catheter was used at 50 fluence/40Hz
- PTCA was then performed with a 2.5 mm Maverick at 14 ATMs
- Xience 3.0 x 28 stent was placed in the RCA deployed at 18 ATMS
- PTCA post stent deployment was performed with a 2.50 x 12 mm Quantum Maverick

Results and conclusion

- TIMI 3 Flow
- As demonstrated in this case, laser ablation was performed to treat a moderately calcified long lesion in the RCA
- 0.014 x 135 cm Quick-Cross was used to facilitate the wire crossing the calcified lesion
- The 0.9 mm X80 ELCA was used to treat the underlying calcium resulting in easy delivery of balloons & full apposition of the stent

Devices

Guide	6F FR4 guide catheter (Boston Scientific)
Wire(s)	0.014" Grandslam Wire (Asahi)
Support catheter	0.014" x 135 cm Quick-Cross (Philips)
Atherectomy	0.9 mm X80 ELCA (Philips)
Balloon	2.5 x 20 mm Maverick (Boston Scientific) 2.5 x 12 mm Quantum Maverick (Boston Scientific)
Stent	3.0 x 2.8 mm Xience (Abbott Vascular)
Anticoagulation	Angiomax (The Medicines Company)
Featured Philips products	ELCA coronary laser atherectomy catheter Quick-Cross support catheter

"The 0.9 mm X80 helped modify the calcium and improved vessel compliance allowing for easy delivery of balloons and stent."

– Antonis Pratsos, MD

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.

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