

Laser atherectomy of LAD and ostial lesions with two wires in place

Operator and facility

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Case history

- 50-year-old male
- History: HCAD, diabetes, hypertriglyceridemia
- Current: patient presents with chest pain into arm and jaw

Angiography

- IVUS reveals diagonal to be 3.0 mm with a 90% ostial lesion (Figure 1)
- IVUS to proximal LAD shows a 60% lesion and a luminal area of 5.5 mm²
- IVUS to mid LAD measures 3.5 mm with significant plaque burden and luminal area of 4 mm²

Intervention

- Two BMW wires utilized to gain access to both LAD and diagonal
- 0.9 mm x 80 mm ELCA (Philips) was used to perform atherectomy to proximal LAD and diagonal (Figures 2 and 3)
 - Two passes to each artery at fluence of 45 and rate of 25 Hz and then 60/40
- 2.75 mm x 12 mm stent to ostium of the diagonal – deployed to 3.01 mm diameter
- AngioSculpt PTCA to mid and proximal LAD
- 3.5 mm x 12 mm stent to mid LAD – deployed to 4 mm diameter
- Angiography revealed TIMI 3 flow
 - IVUS revealed no dissection and 60% stenosis mid LAD and luminal area greater than 5 mm² - was felt not to be flow limiting

Results and conclusion

- Successful revascularization of the LAD and diagonal (Figures 4 and 5)
- No complications and the patient tolerated the procedure well

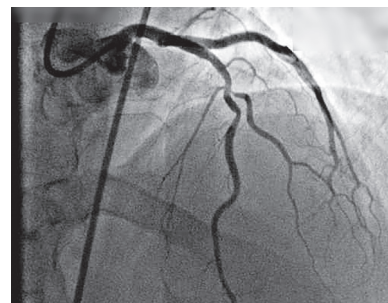


Figure 1: Mid LAD and ostial diagonal lesions



Figure 2: ELCA to diagonal

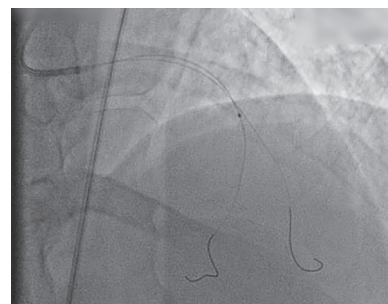


Figure 3: ELCA to LAD



Figure 4: Post-laser to LAD and diagonal



Figure 5: Final angiogram post ELCA and stents

“In a high grade ostial lesion, laser is ideal. Atherectomy can be performed with a second wire in place and plaque shifting is minimal.”

Jack Casas, MD, FACC

Dr. Casas has been compensated for his services in preparing this material for further use and distribution by Philips.

Devices

Access: Short 6F sheath, right femoral artery; 6F EBU-3.5 guide

Wire: 0.014 mm BMW guidewire x 2 (Abbott Vascular)

IVUS: 0.014 mm Eagle Eye Platinum digital IVUS catheter (Philips)

Lasers: 0.9 mm x 80 mm ELCA coronary laser atherectomy catheter (Philips)

Important safety information

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 the devices referenced on this data sheet to sale by or on the order of a physician.

The opinions and clinical experiences presented here in 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.

Images provided courtesy of Jack Casas, MD, FACC.

Balloons: 3.5 mm x 15 mm AngioSculpt scoring balloon catheter (Philips), 3.0 mm x 10 mm Quantum Apex (Boston Scientific)

Stents: 2.75 mm x 12 mm PROMUS (Boston Scientific), 3.5 mm x 12 mm PROMUS (Boston Scientific)

AngioSculpt PTCA important safety information

The AngioSculpt scoring balloon catheter is indicated for use in the treatment of hemodynamically significant coronary artery stenosis, including in-stent restenosis and complex type C lesions, for the purpose of improving myocardial perfusion.

The AngioSculpt catheter should not be used for coronary artery lesions unsuitable for treatment by percutaneous revascularization, and coronary artery spasm in the absence of a significant stenosis.

Possible adverse effects include, but are not limited to: death; heart attack (acute myocardial infarction); total occlusion of the treated artery; coronary artery dissection, perforation, rupture, or injury; pericardial tamponade; no/slow reflow of treated vessel; emergency coronary artery bypass (CABG); emergency percutaneous coronary intervention; CVA/stroke; pseudoaneurysm; restenosis of the dilated vessel; unstable chest pain (angina); thromboembolism or retained device components; irregular heart rhythm (arrhythmias, including life-threatening ventricular arrhythmias); severe low (hypotension)/high (hypertension) blood pressure; coronary artery spasm; hemorrhage or hematoma; need for blood transfusion; surgical repair or vascular access site; creation of a pathway for blood flow between the artery and the vein in the groin (arteriovenous fistula); drug reactions, allergic reactions to x-ray dye (contrast medium); and infection.

This information is not intended to replace a discussion with your healthcare provider on the benefits and risks of this procedure to you.

