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In calcified artery occlusions not only skills but hi-tec devices are needed.

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Medical history

Male: 72 years old

Heart failure with low ejection fraction
Atrial fibrillation
Stroke three months earlier treated with fibrinolysis
NSTEMI and PCI RCA two months earlier
Previous PCI of Cx

Coronary angiography showed multi-vessel disease

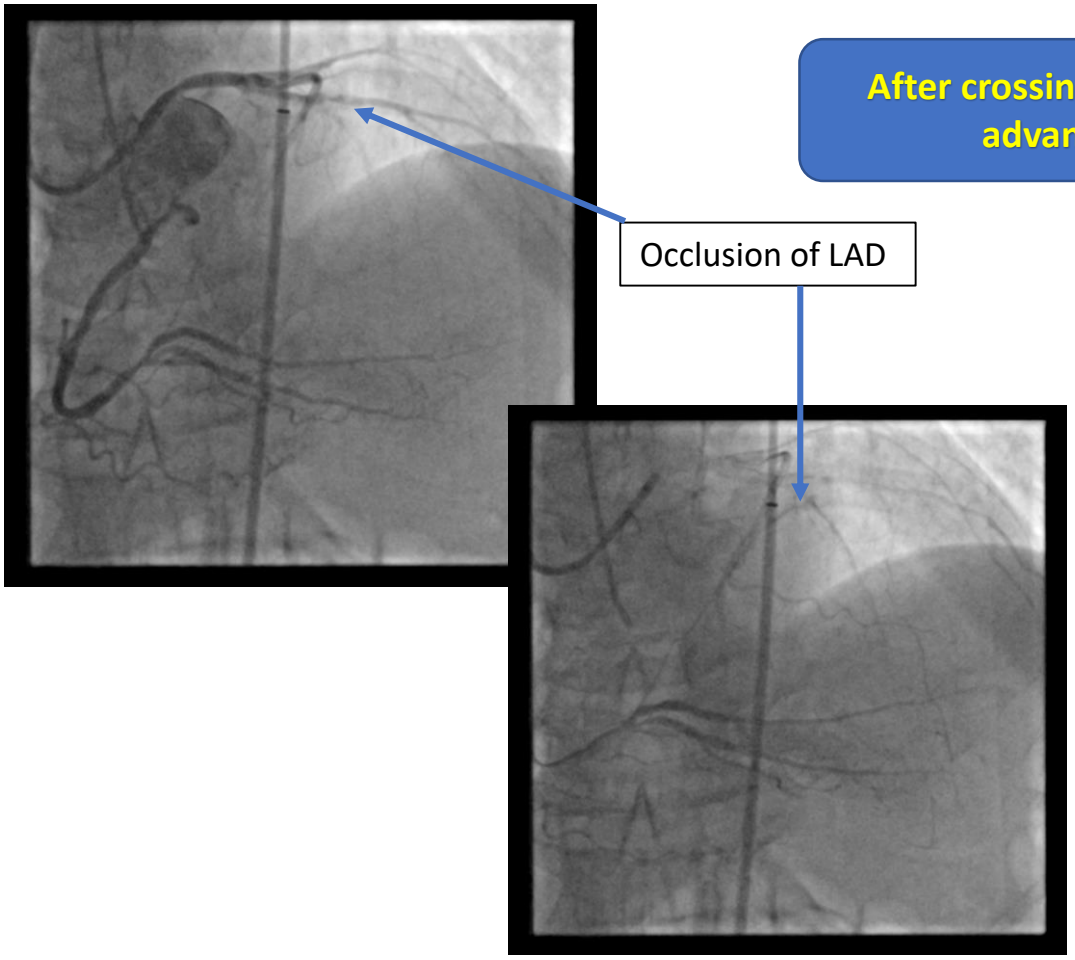
LAD – occlusion (calcification)
Cx – stenosis 70%
I Mg - 100%
RCA – distal stenosis 80%

Non – invasive assessment

ECG: atrial fibrillation, heart rate 100/min, left axis deviation, QS V1-V2
Echocardiography: left ventricle ejection fraction 20%;
LV 63/53 mm akinesia of lateral and anterior wall.

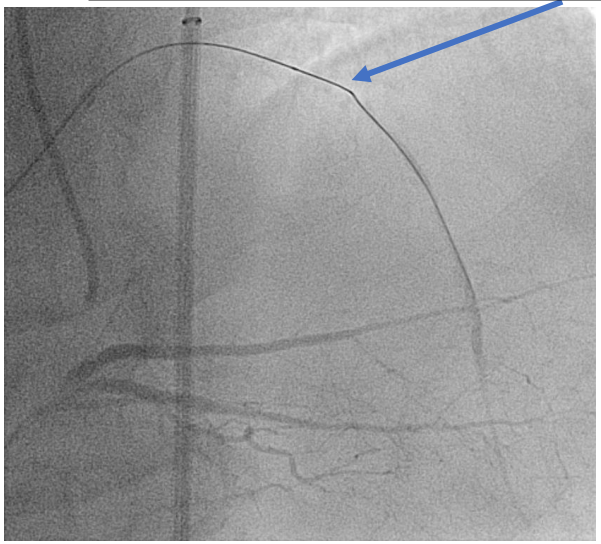
Viability of anterior wall was confirmed in dobutamine stress test

Two previous attempt of opening the occluded LAD was unsuccessful



After crossing occlusion with Gaia2 it was not possible to advance balloon due to severe calcification

Deflection of Gaia wire on calcium



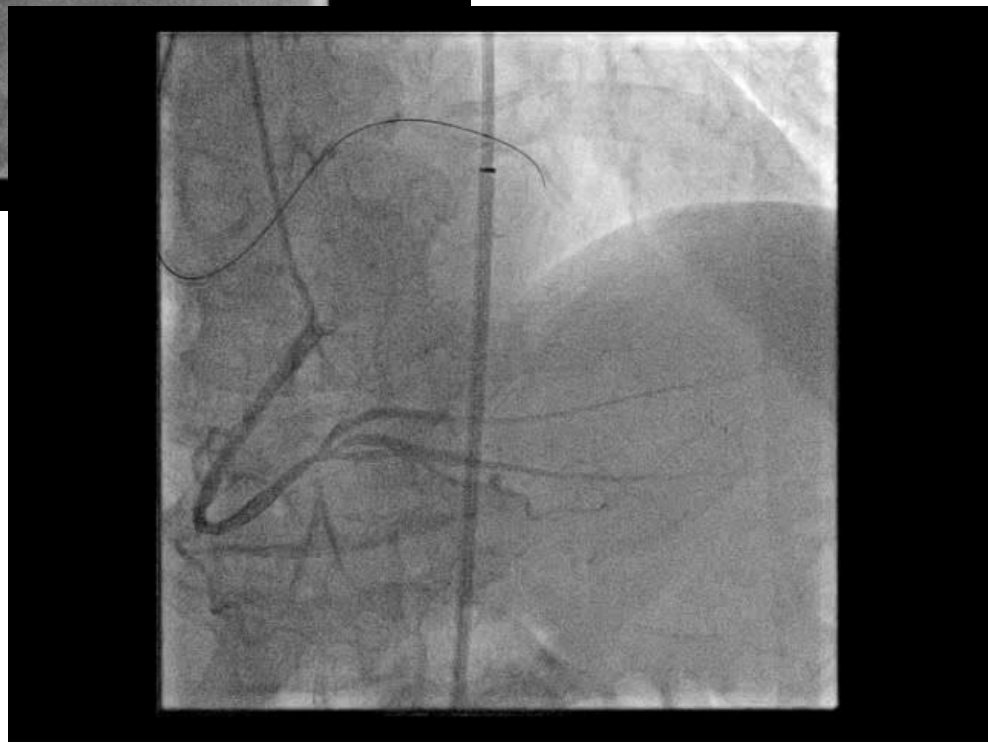
Patient was qualified for reopening of LAD in the reference center by the same operator.

Third attempt of PCI LAD

Equipment:

Antegrade (femoral access)
1. G. catheter EBU 3.75; 7F
2. BMW wire and over-the wire balloon to reach LAD
3. Exchange floppy wire for the stiffer wires (Gaia2; Confianza Pro 12) – successful crossing the lesion

Retrograde injection to RCA: guiding diagnostic catheter RJ 4.0 6F (radial access)

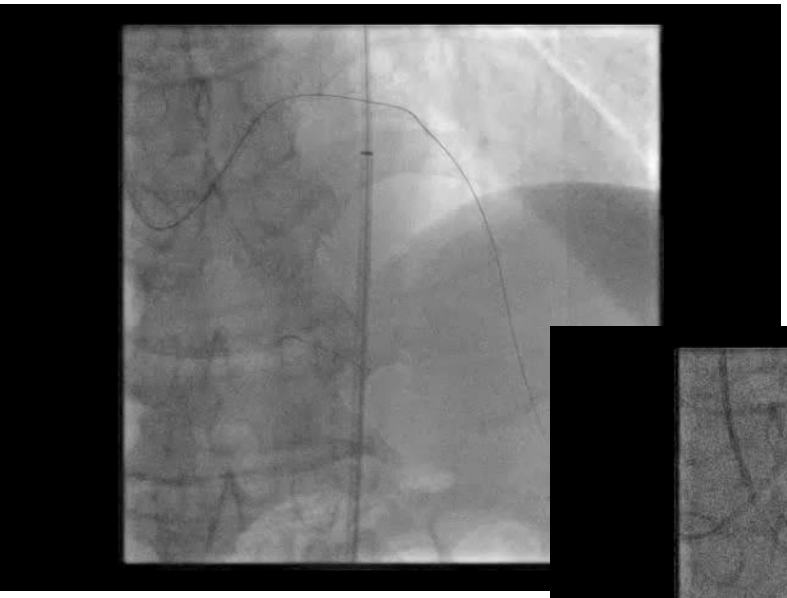


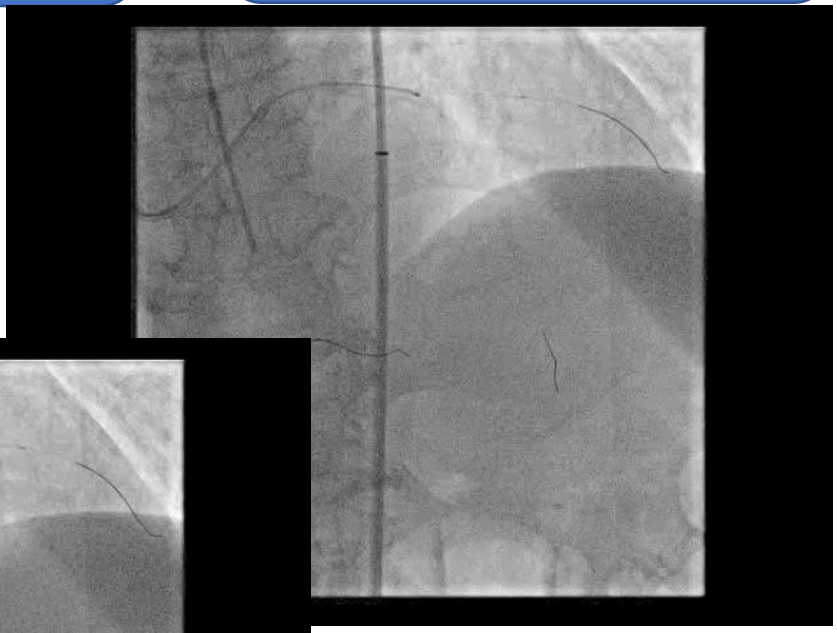
Next 3 steps of the procedure – using microcatheter Turnpike Gold (Teleflex – USA)

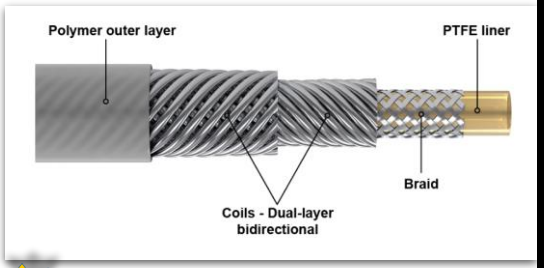
1.
Microcatheter was delivered as far as possible, but it stuck in the occlusion

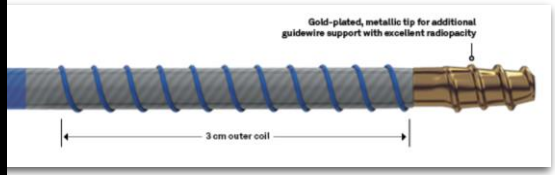
2.
Injection via microcatheter allowed to confirm position in true lumen

3.
With some problems floppy rota-wire was delivered to distal LAD

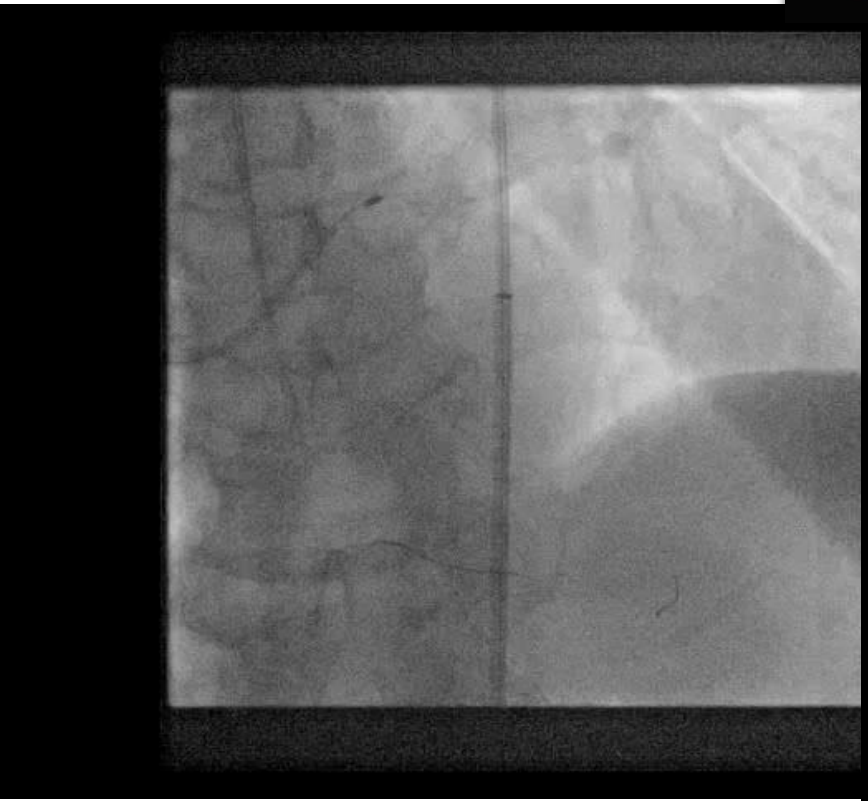


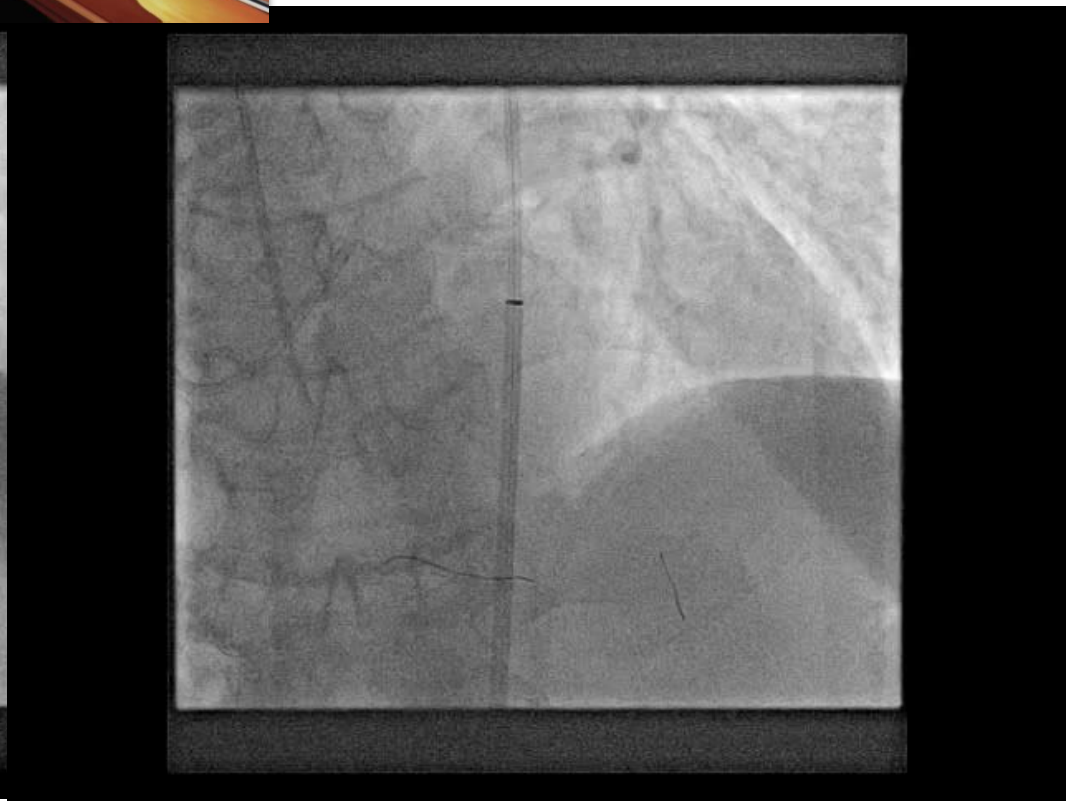






After reaching distal part with the floppy rotawire time for rotational atherectomy has come

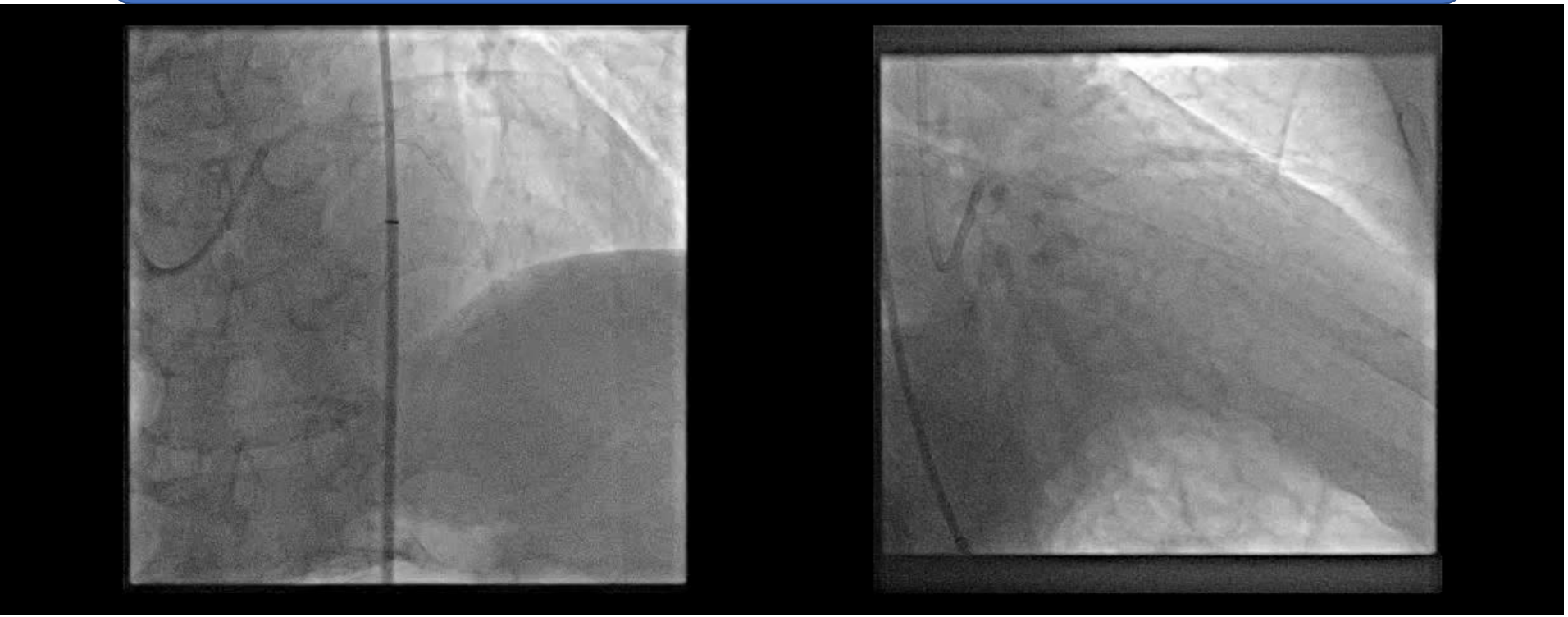




After rotablation pre-dilatation with NC ballon 2.5x20 mm and 3.0x15 mm was performed

Final result

Two DES stents implantation: XienceProA 3.0x48 and 2.75x18 mm.



Procedure time – 70 min., fluoroscopy – 33 min., dye 400 ml, radiation dose - 292 mGy

Conclusions:

- The skill to use modern devices as microcatheters and rotational atherectomy is crucial in some clinical situations. In calcified artery choice of microcatheter to allow delivery of rotawire is critical. Without these devices it is impossible to cross lesion and open the very calcified artery.

- Even long procedure can be performed with low dose radiation, thanks to implantation of all protection rules and ALARA (**A**s **L**ow **A**s **R**easonably **A**chieved) protocol.

Thank you for your attention