

Coronary physiology in the Catheterization Laboratory

Clinical case from Hungary

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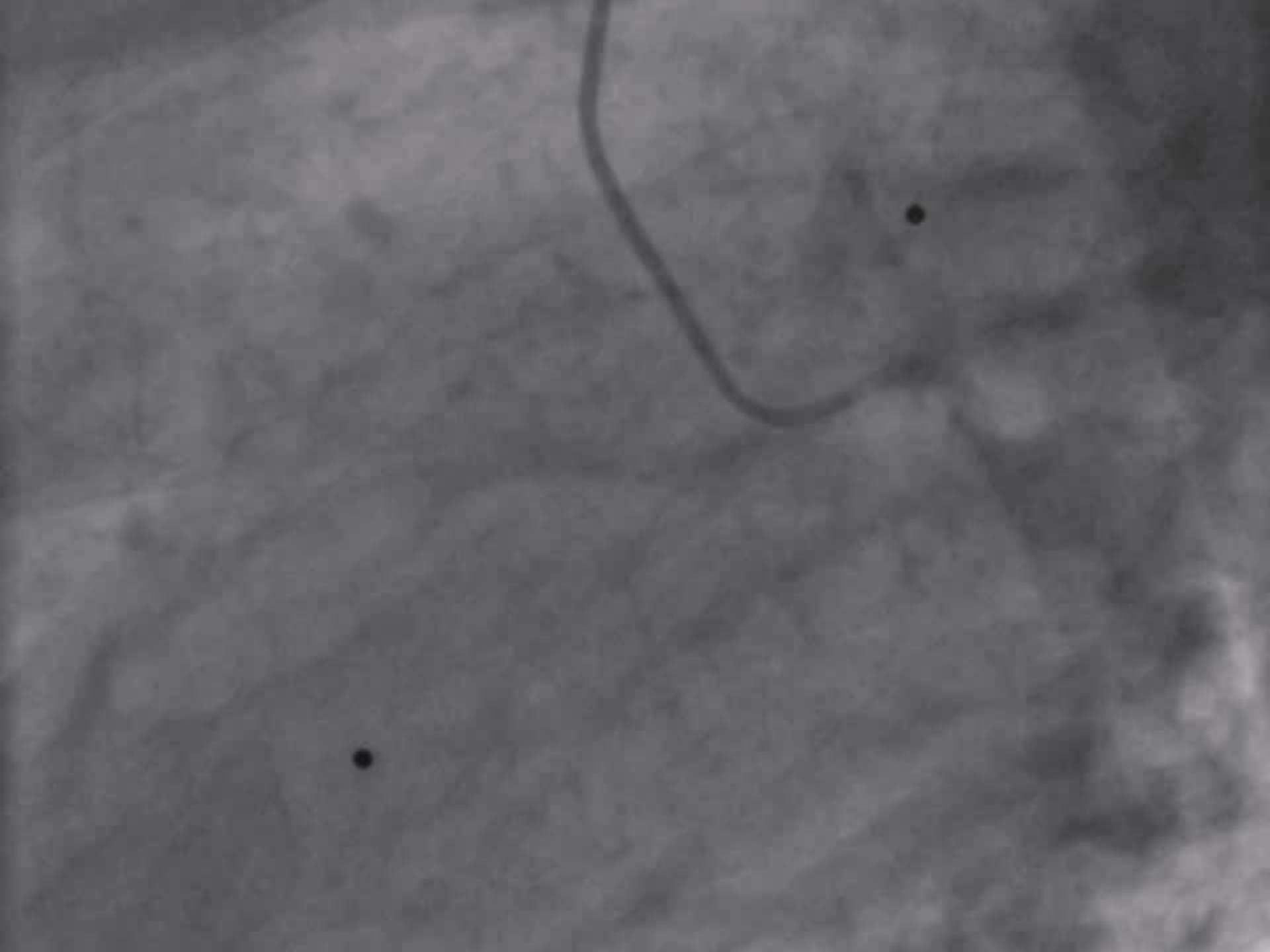
Medical history

- ❖ 59-year-old man
 - ❖ Hypertension known for 3 years (max. 170/?mmHg)
 - ❖ No diabetes
 - ❖ NO ANGINA EVER
 - ❖ Seen by cardiologist for hypertension, ECG: RBBB
 - ❖ Echocardiography: LVEF 30%, diffuse hypokinesia
 - ❖ Diagnostic coronary angiography indicated for LV dysfunction
 - ❖ *No non-invasive evaluation for ischemia*
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Relevant medical data

- ❖ **Obese** (180 cm, 115 kg, BMI 35,5)
 - ❖ RR: 130/90 mmHg HR: 73/min
 - ❖ Glucose: 5,8 mM, **cholesterol: 6,0 mM**, TG 1,8 mM
 - ❖ ECG: 73/min SR, PQ 0,20, RBBB
 - ❖ Chest XR: no sign of heart failure
 - ❖ Echocardiography: LVEDV: 273 ml, LVESV: 171 ml, **LVEF: 37%**, **diffuse hypokinesia** (inferior almost akinetic), no valve dysfunction, dilated atria
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Steps of revascularisation

1. Recanalisation of RCA

- ❖ 6F FR4,0 not enough support
- ❖ 6F AL1,0, Pilot-150 used,
- ❖ 1,25x10 mm Ryujin,
- ❖ 1,2x15 mm MiniTrek,
- ❖ 2,0x30 mm Apex balloons,
- ❖ 3,0x34 mm Resolute Integrity DES implanted,
- ❖ postdilated by 3,0x15 mm NC @ 20-22 atm

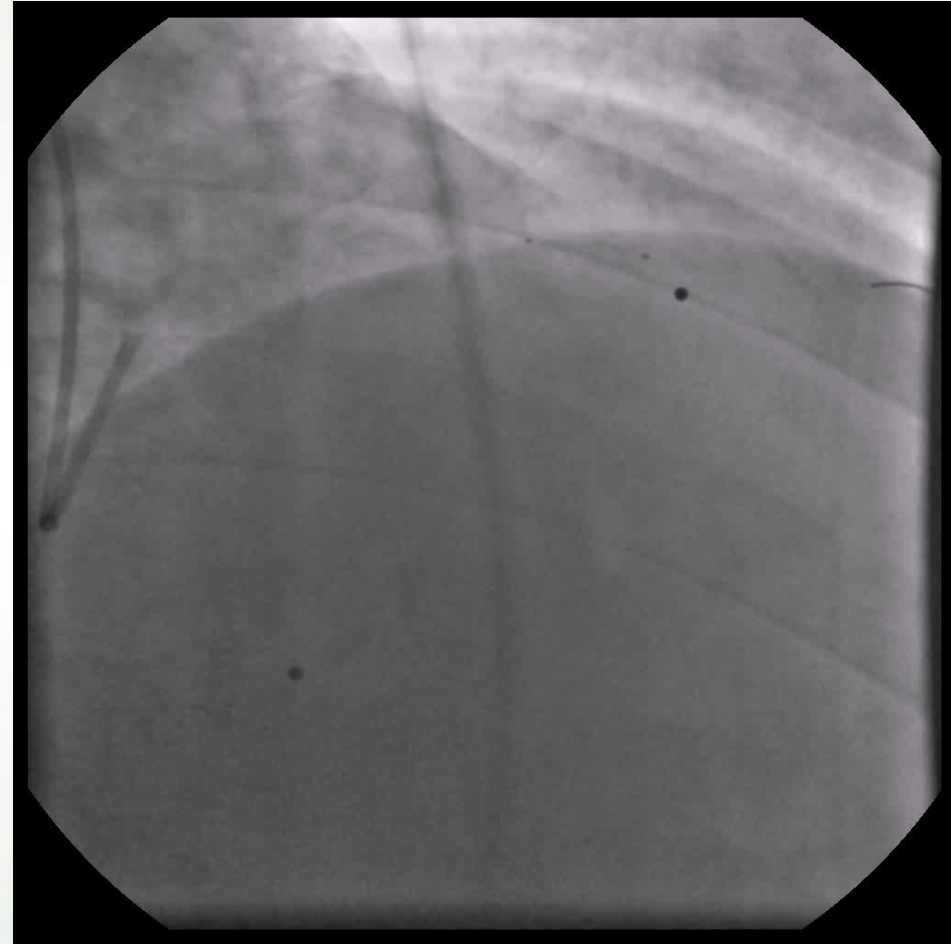




Steps of revascularisation

2. Deciding on the appropriateness of r. diag. PCI

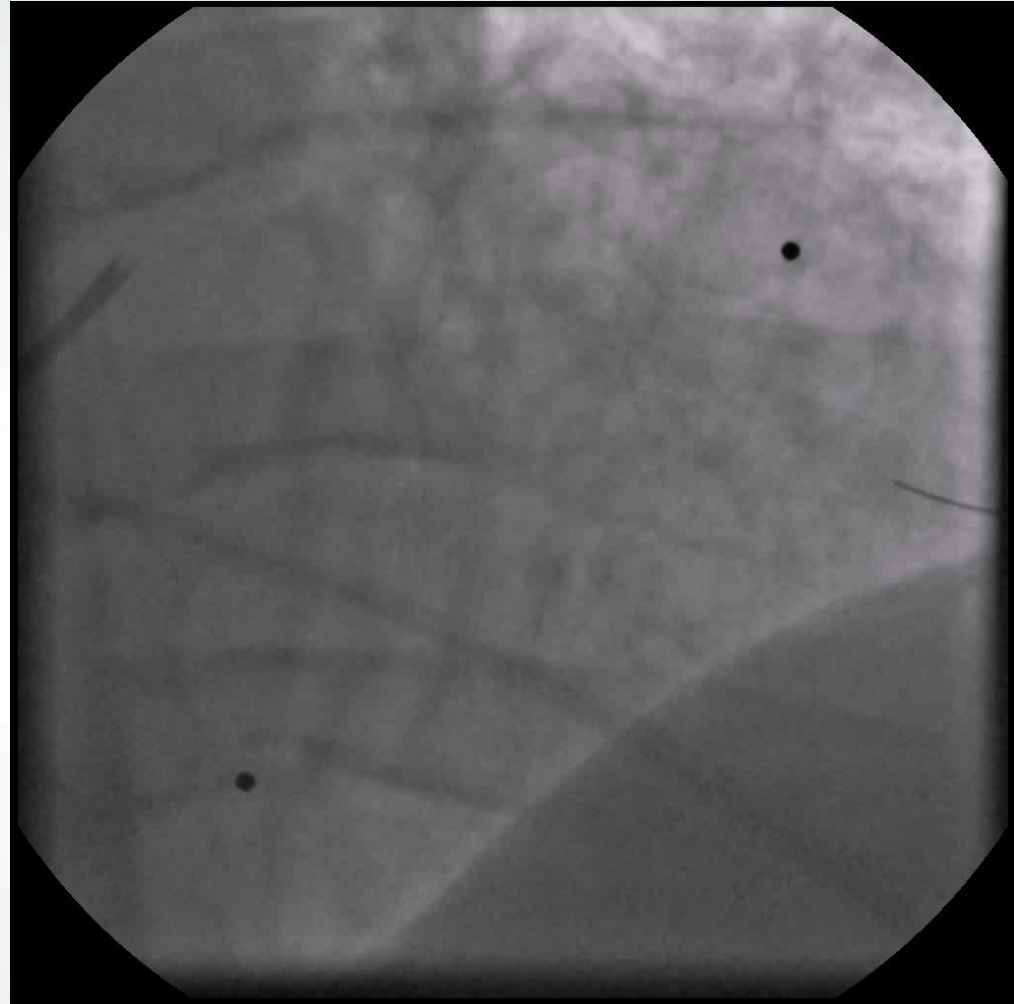
- ❖ No angina ever
- ❖ No non-invasive demonstr'n of ischaemia
- ❖ FFR applied
- ❖ 150 µg adenosine ic
- ❖ FFR: 0,33 (!!!)
- ❖ Predilatation followed by stenting (2,5x15 mm BMS)





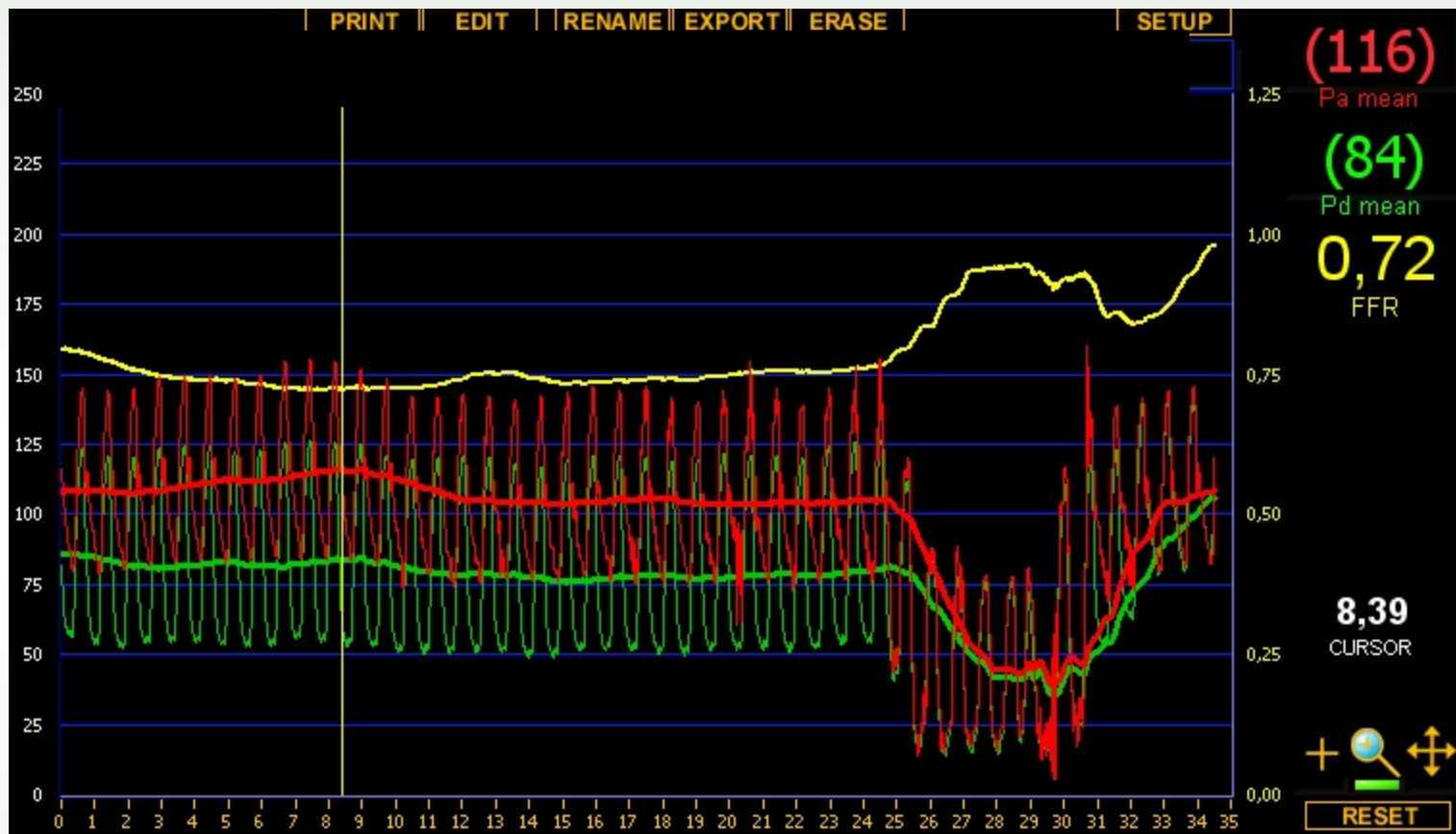
Evaluation of revascularisation

- ❖ PostPCI FFR measurement
- ❖ 150 μ g adenosine ic
- ❖ FFR 0,85, BUT when GC moved...





Evaluation of revascularisation



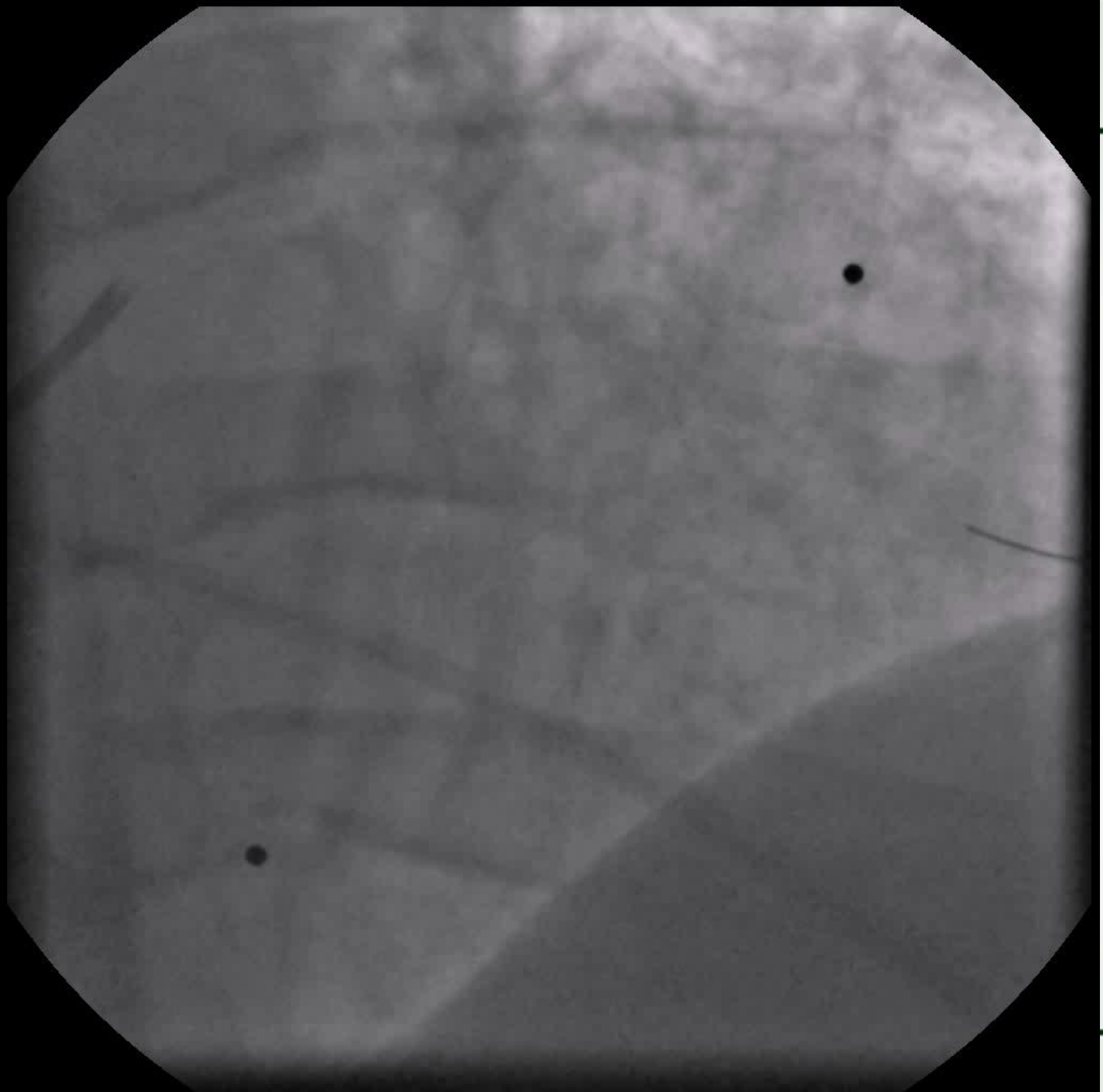


Evaluation of revascularisation



Unseating the GC

deep intubation of LM

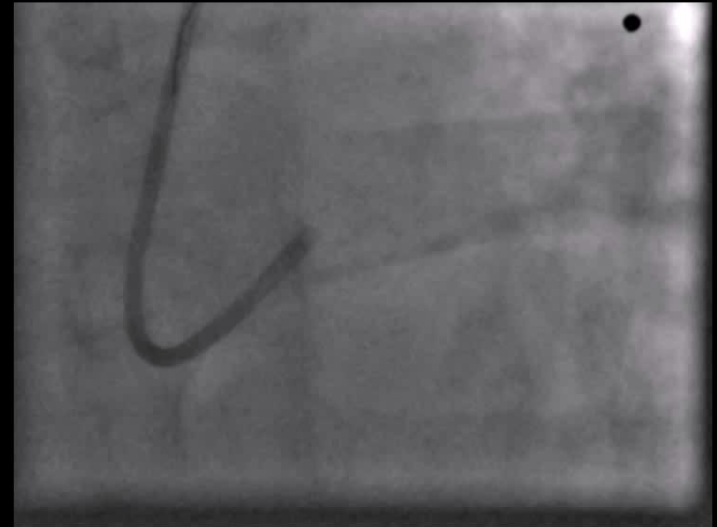




Steps of revascularisation

3. LM PCI

- ❖ 4,0x15 mm Xience V DES
- ❖ Postdilated by 4,5x15 mm NC @ 22 atm
- ❖ PostPCI FFR measured: 0,85
- ❖ (No IVUS eval'n performed)





Take home messages

- ❖ Diagnostic coronary angiography indicated w/o any non-invasive demonstration of ischemia (everyday practice) → *value of invasive demonstration of ischemia by FFR*
 - ❖ LM lesions are deceiving: mild looking ones may prove to be ischemia producing → *keep low threshold for applying FFR measurement in LM*
 - ❖ The most prognostically important lesion would have been missed → *PostPCI FFR measurement is a very valuable tool of quality control*
 - ❖ *Pull-back recording during steady-state hyperemia prevents most of the technical caveats of FFR measurement*
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Thank you
