

Coronary physiology in the Catheterization Laboratory

Enough theory: a clinical case

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I know what to do ...

- CS (FAME II pt.)
 - 62 yo male
 - Hy:
 - HT, HLP, obesity,
 - LAD PCI (2000),
 - NSTEMI (2011): Cx PCI + LAD & RCA disease
 - Feb. 2011.: randomized in FAME II study: PCI
-



Angiographic plan

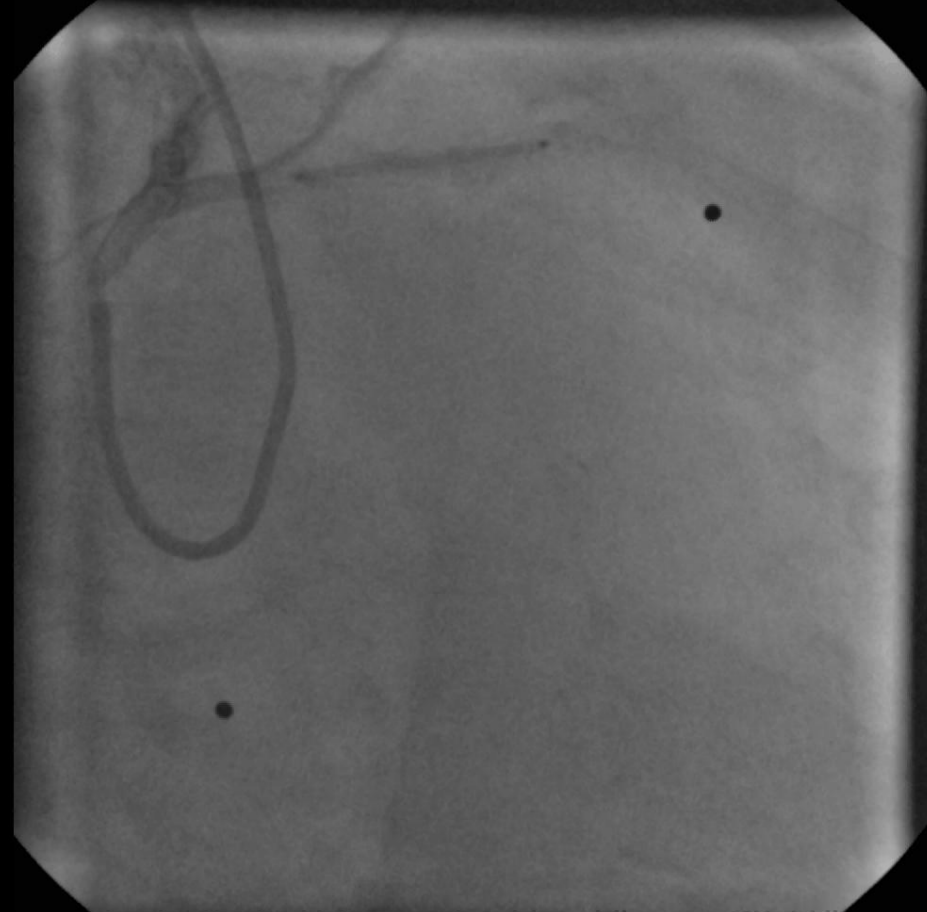
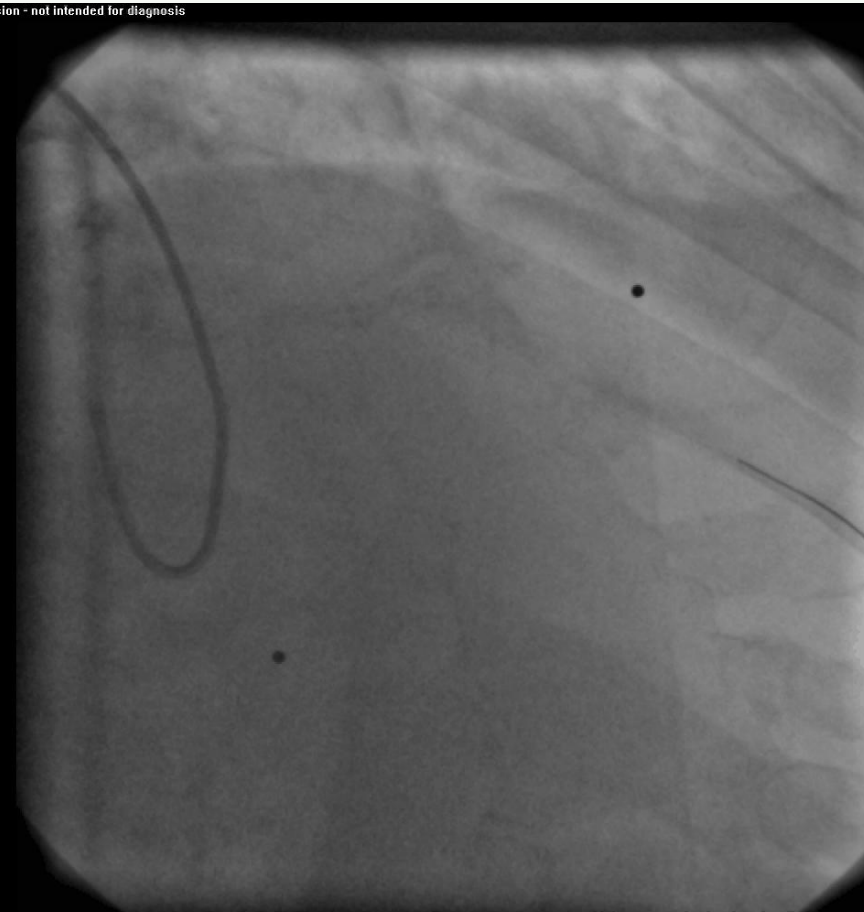
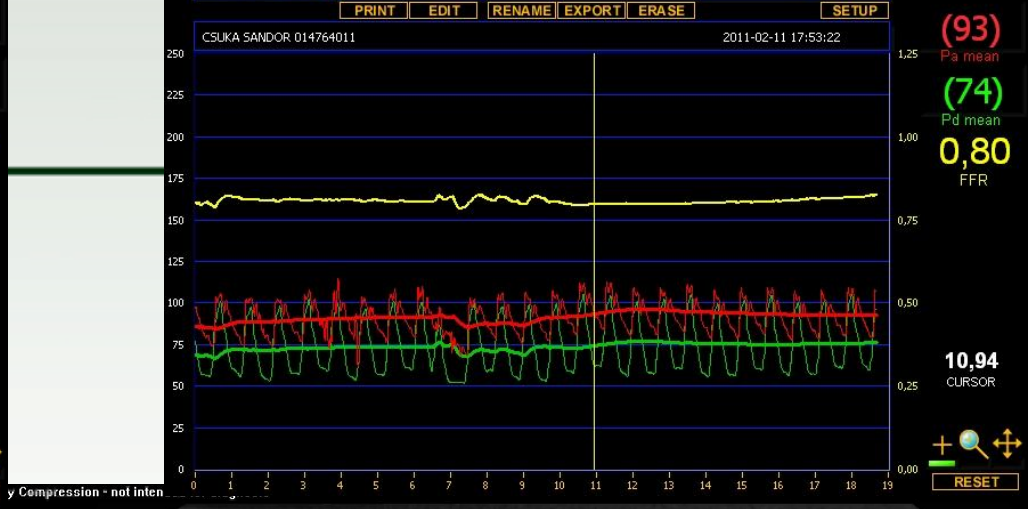
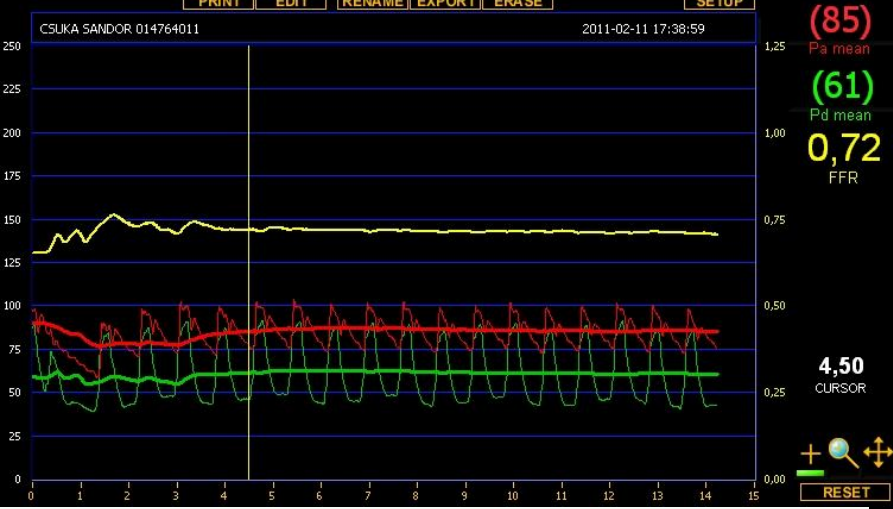
1 long stent in LAD, 2/3 stents in RCA w/ bifurcation tx

ion - not intended for diagnosis



Lossy Compression - not intended for diagnosis

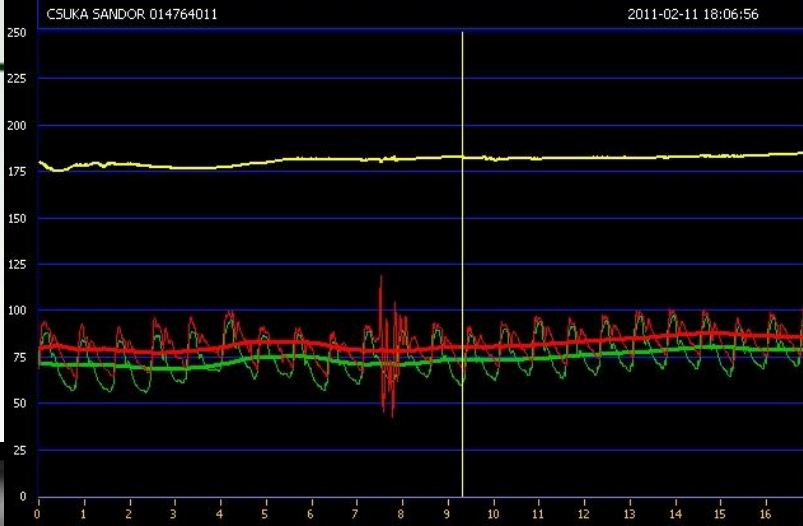




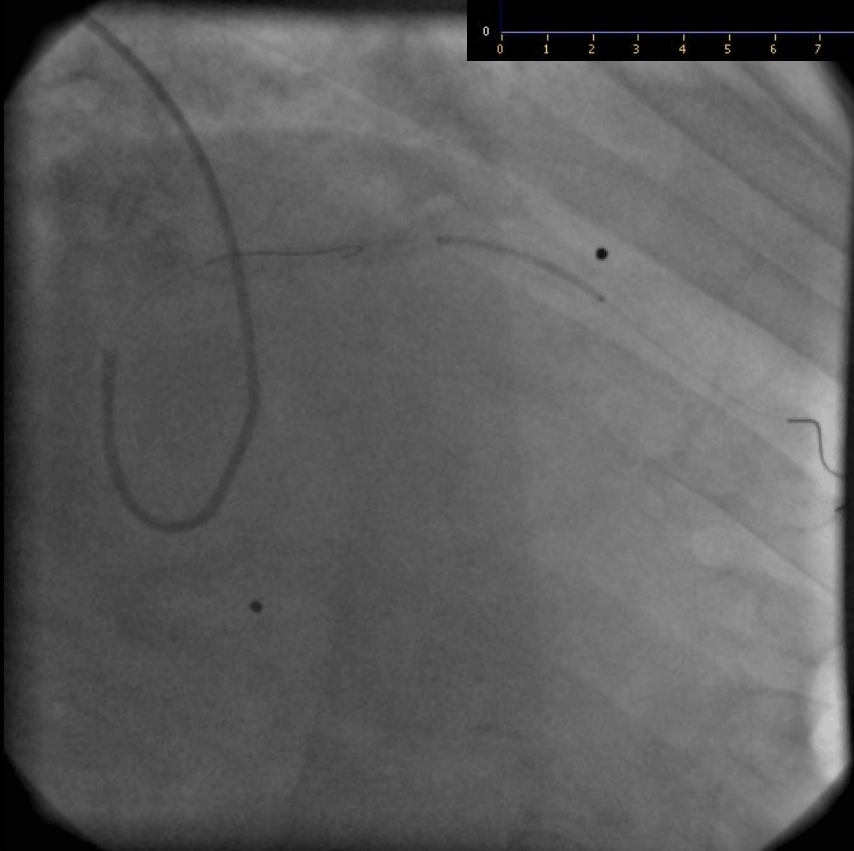


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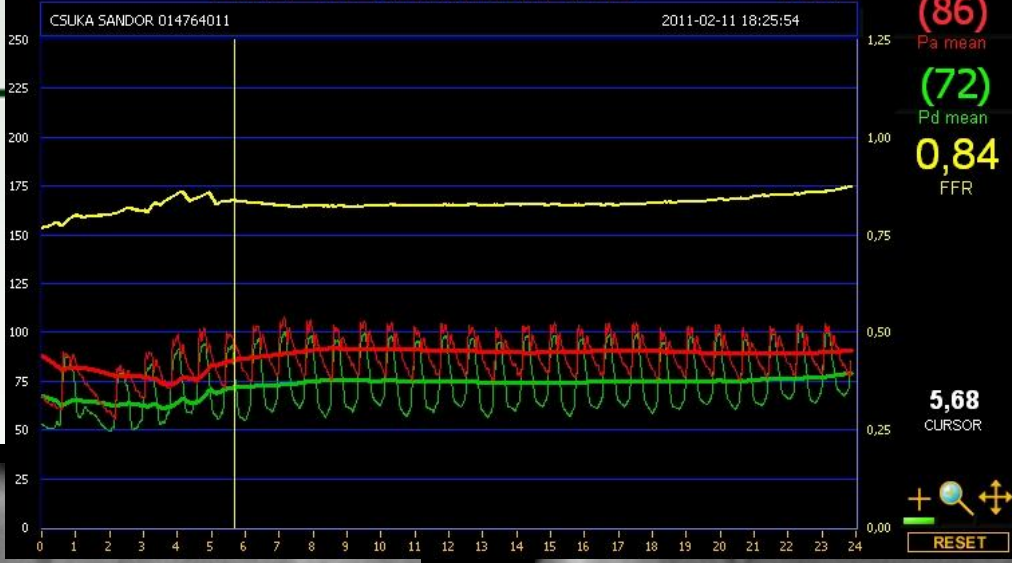
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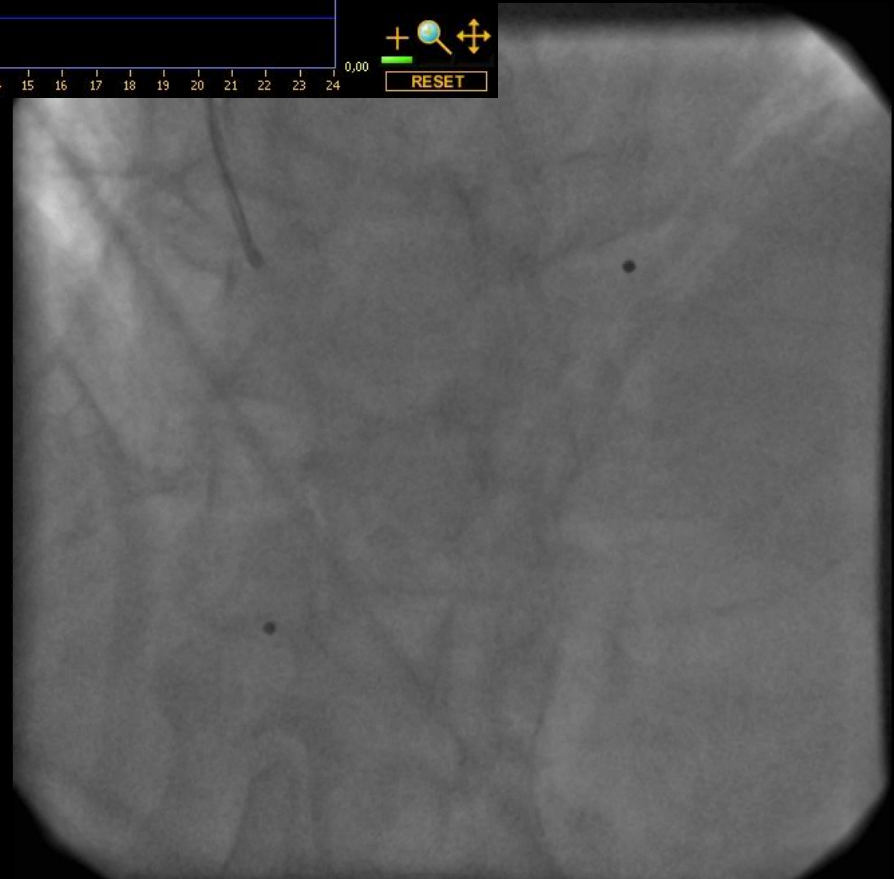


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Impression - not intended for diagnosis





Unnecessary FFR measurement?

- Implanting 1 DES in LAD would have left the pt ischemic
 - Implanting (multiple) DES in RCA would have made no sense:
 - No benefit to the pt
 - Risk of ST and ISR considerably elevated
 - Incurred costs
 - What other diagnostic algorithm could be of the same help?
-



FFR in critical anatomy

- ZI (Mrs. Tough MI Pt)
 - 53-year-old lady
 - Hx: hypertension, type II diabetes mellitus, s/p nephrectomy
 - March 4, 2006: anterior STEMI (3 hrs)
 - Coronary angiography
 - Echo: LVH, good LVEF, anterior akinesis w/o thinning
-

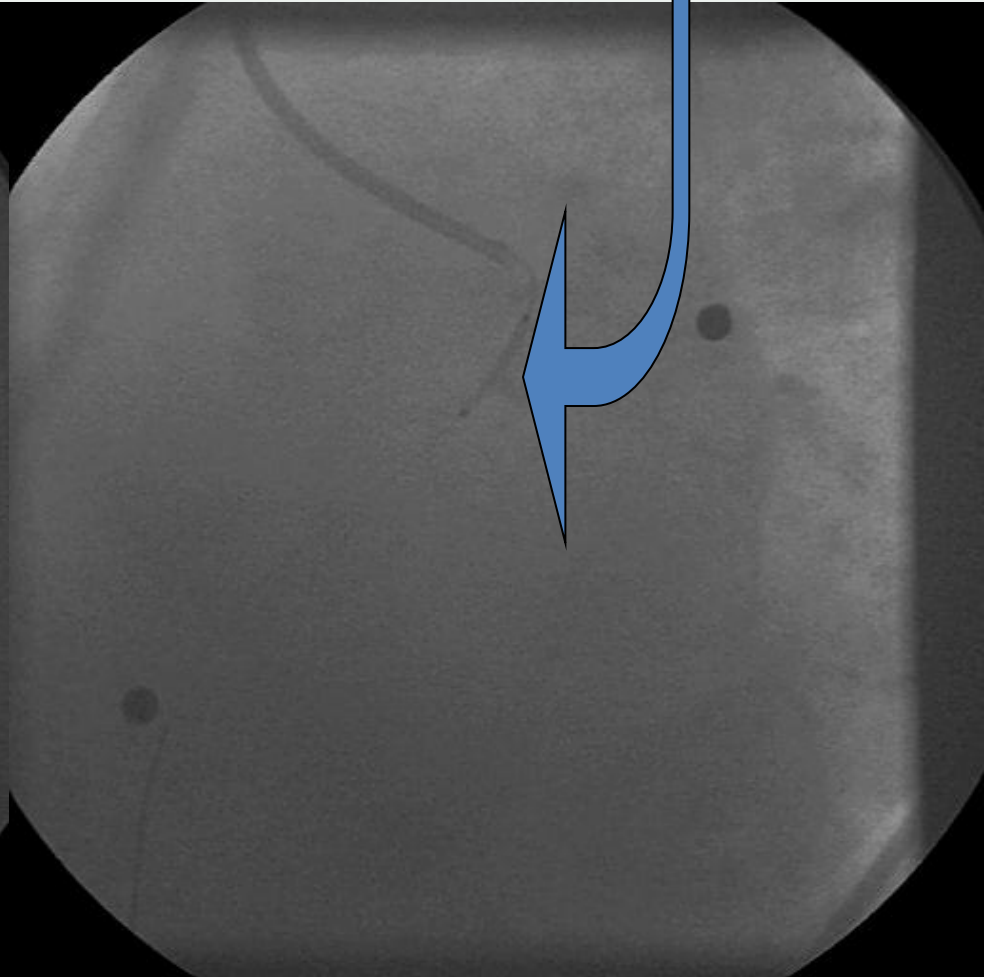


ZI

Tecnic 3,0x15 mm



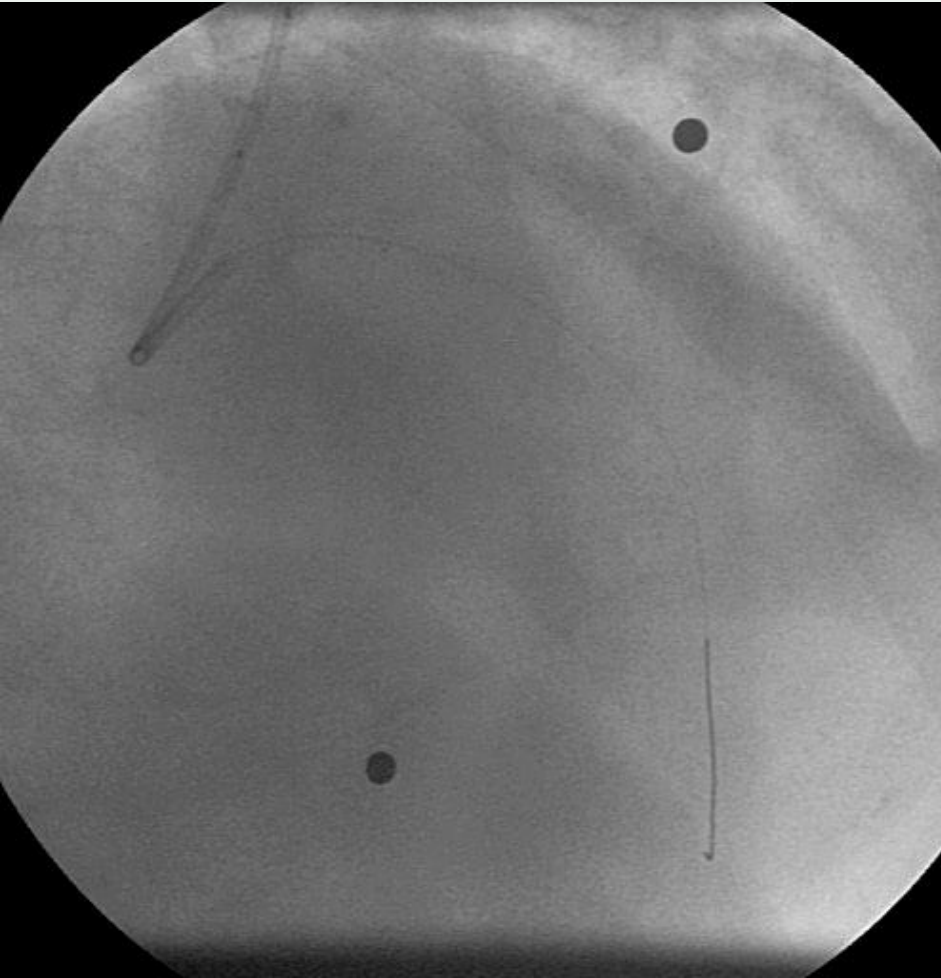
RCA



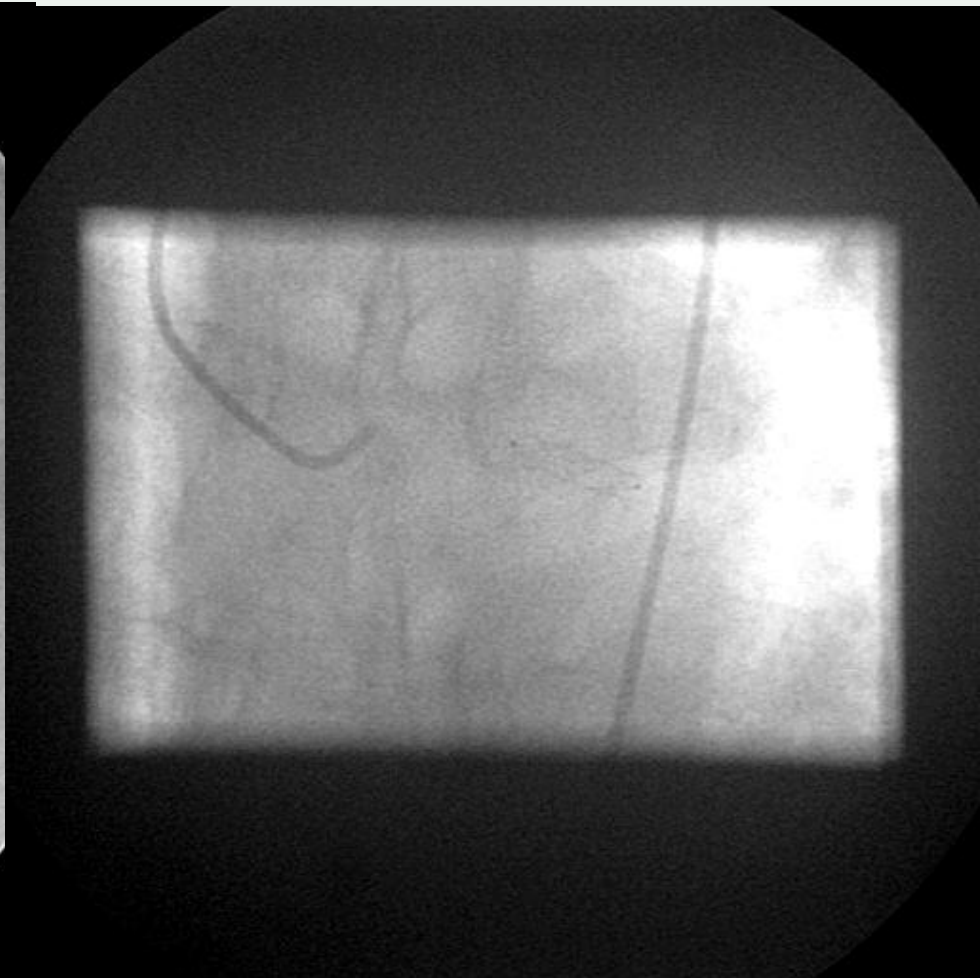
PCI of the LAD



ZI



RAO cranial



AP



And now what?

❖ How to treat the patient?

- a) OMT
- b) LM PCI
- c) RCA PCI
- d) LM + RCA PCI
- e) CABG

❖ How to decide?

- a) Ergometry
 - b) MPS
 - c) DSE
 - d) FFR
-



ZI: Left coronary artery



140 $\mu\text{g}/\text{kg}/\text{min}$ iv adenosine



ZI: Right coronary artery



140 $\mu\text{g}/\text{kg}/\text{min}$ iv adenosine



ZI

- No further treatment
 - Pt continues to be symptom-free
-



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*
 - ❖ MVD cases are sometime challenging for non invasive diagnostic work-up → *FFR is ready-to-use when decisions are being taken as to revascularization*
 - ❖ MVD cases are deceiving: severe looking, complex lesions may not be ischemia producing → *keep low threshold for applying FFR measurement in MVD*
 - ❖ *Post-PCI FFR measurement is a good tool for quality ctrl*
 - ❖ *Functionally complete revascularization confers most benefit to the patient*
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Thank you
