

Too Low FFR – IVUS, HELP!

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Presenter Disclosure Information

Presenter: Gillian Balbir Singh

Title: Too Low FFR – IVUS, HELP!

No relationships to disclose

No industry sponsorship

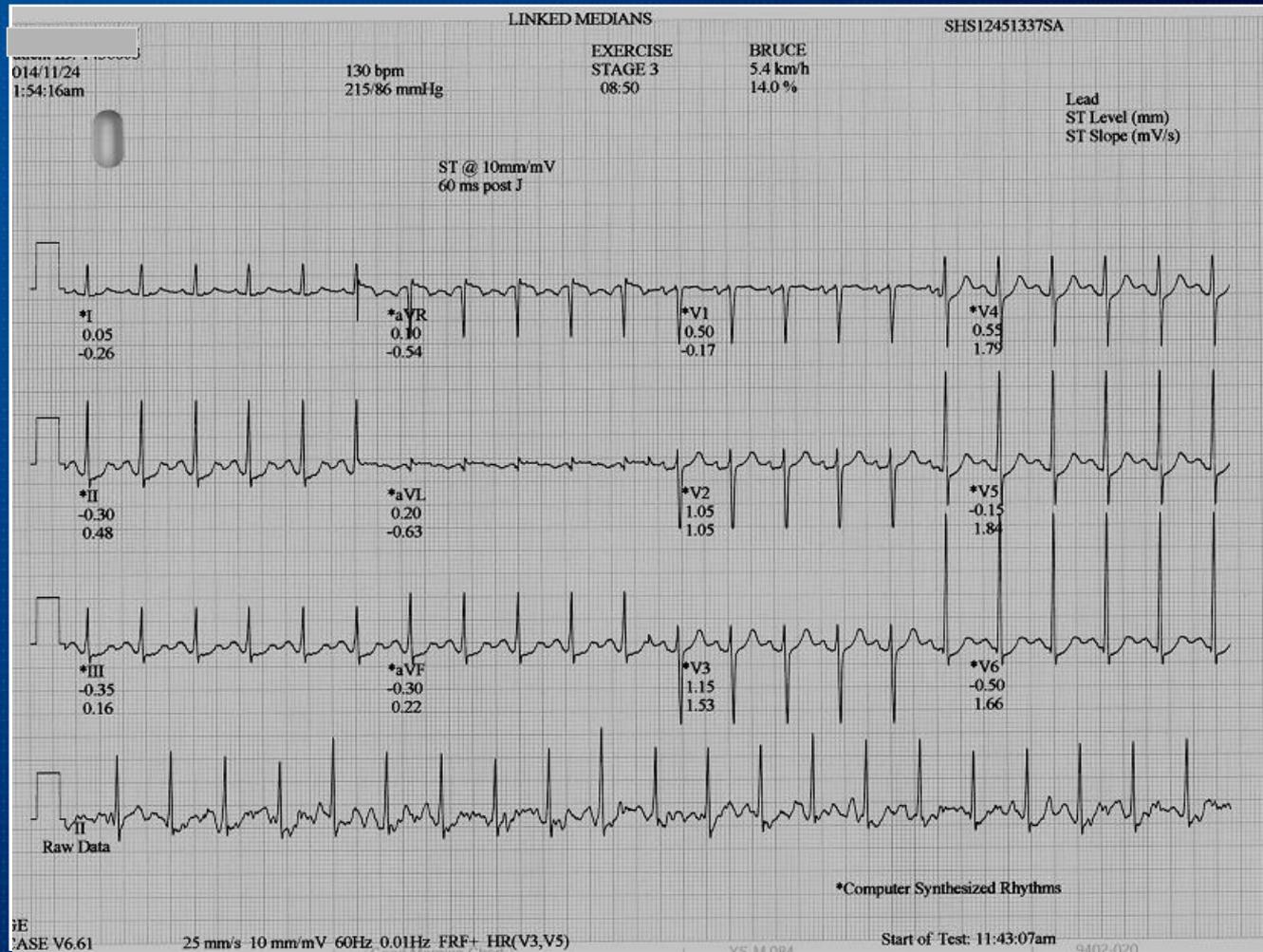
Case 1: M / 71

- C.C: Resting chest pain for 1 month
- Risk factors: hypertension, dyslipidemia
- Lipids:

Total cholesterol mg/dl	149
HDL	39
TG	145
LDL	95

- ECG: WNL
- EchoCG: WNL, EF= 65%

TMT: Negative



CAG

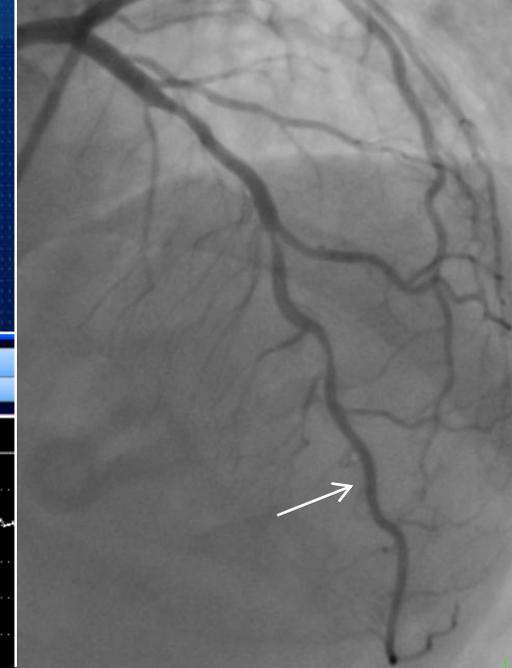
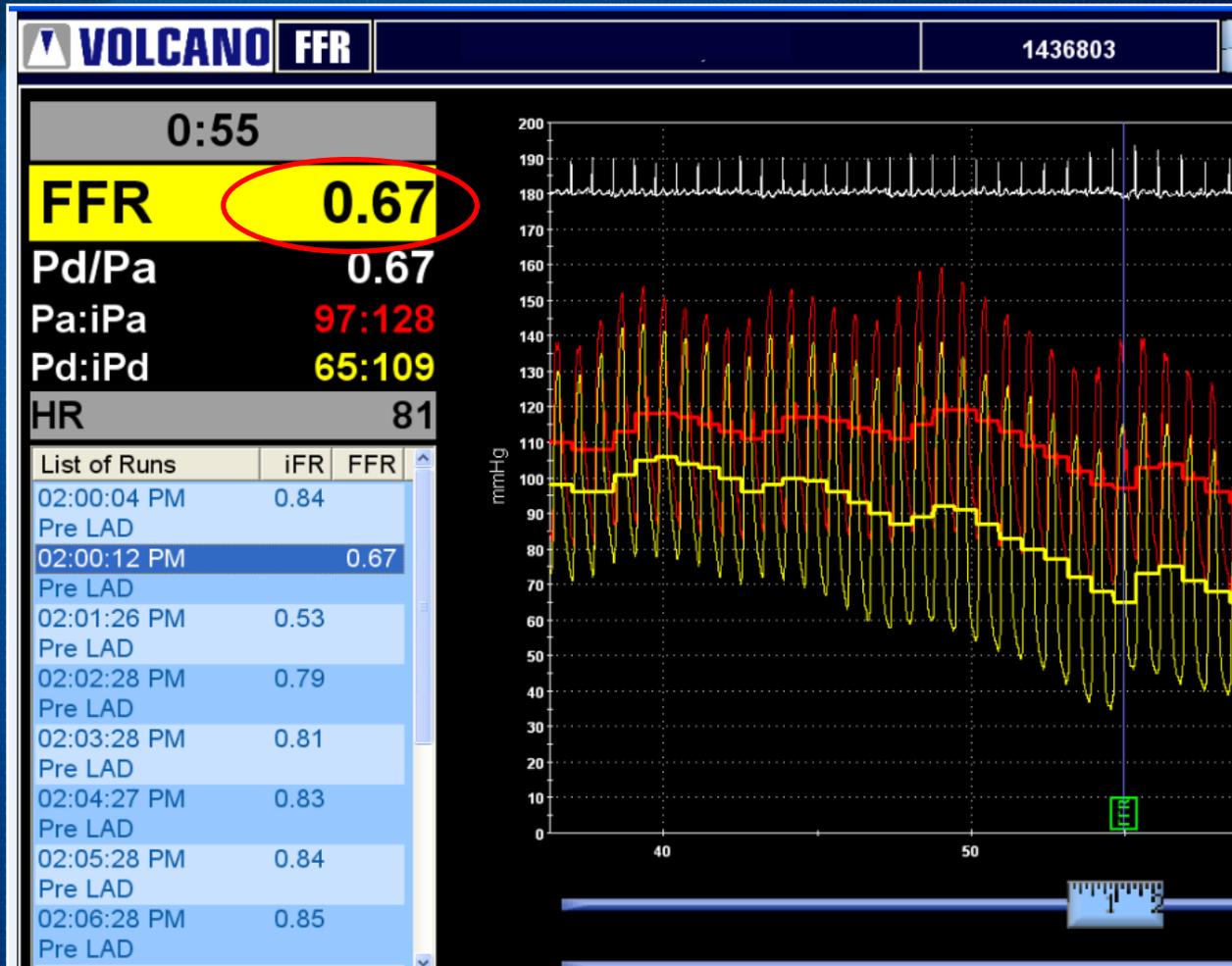
Right

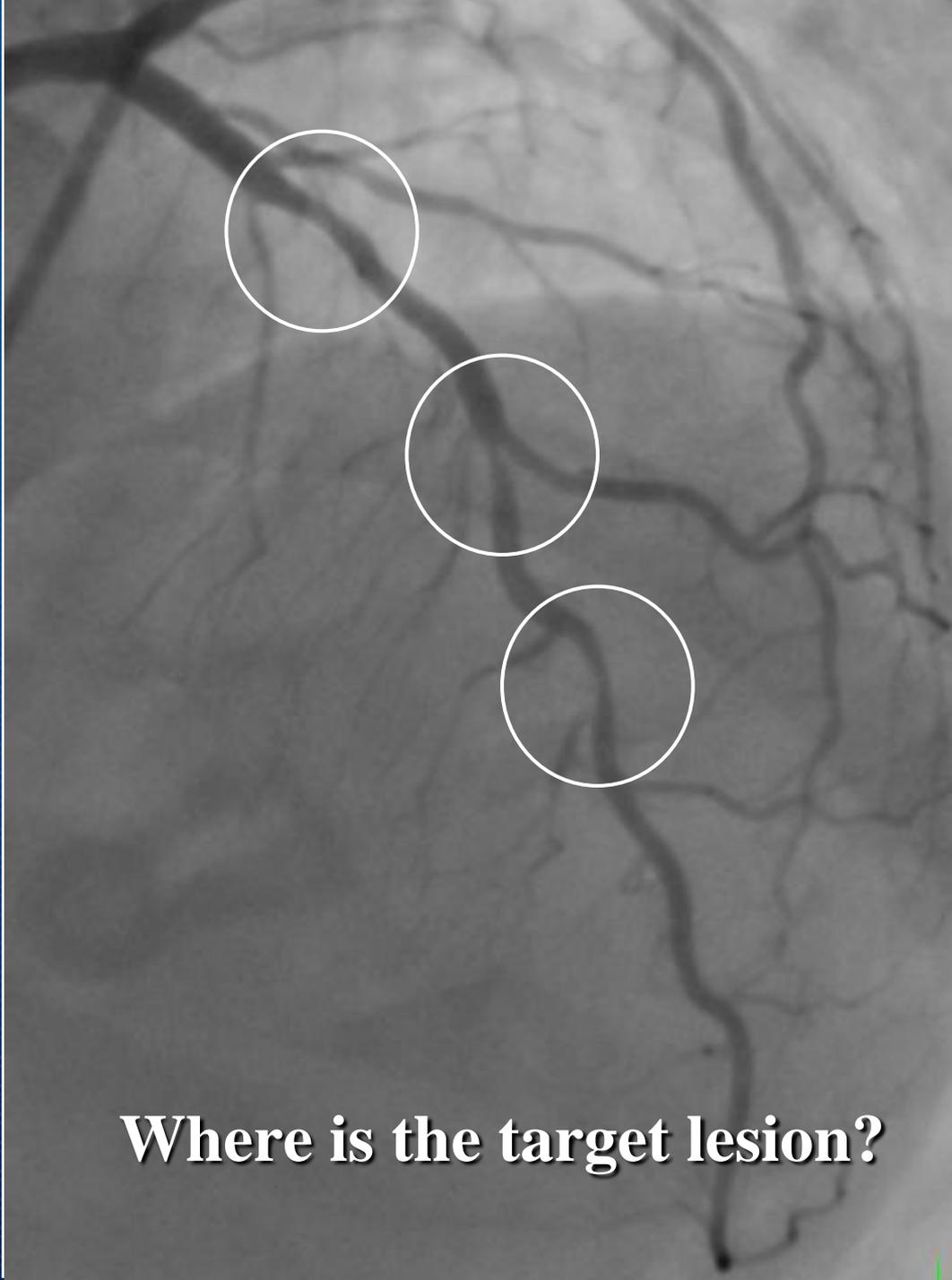


Left



FFR





Where is the target lesion?

FFR



0.97

0.89

0.84

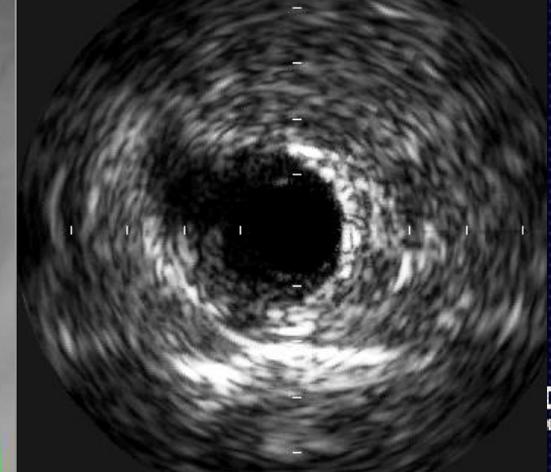
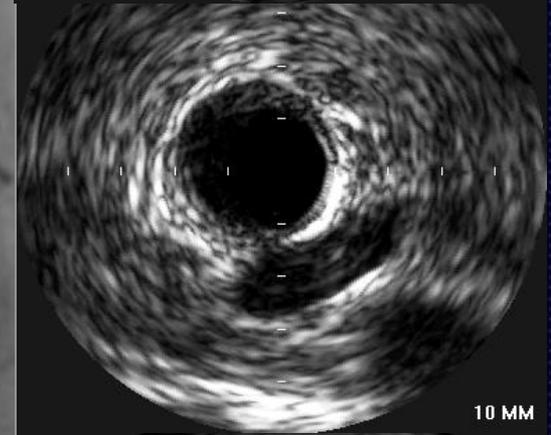
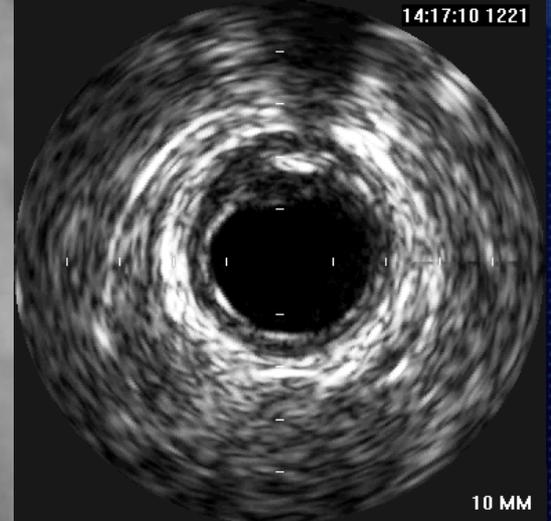
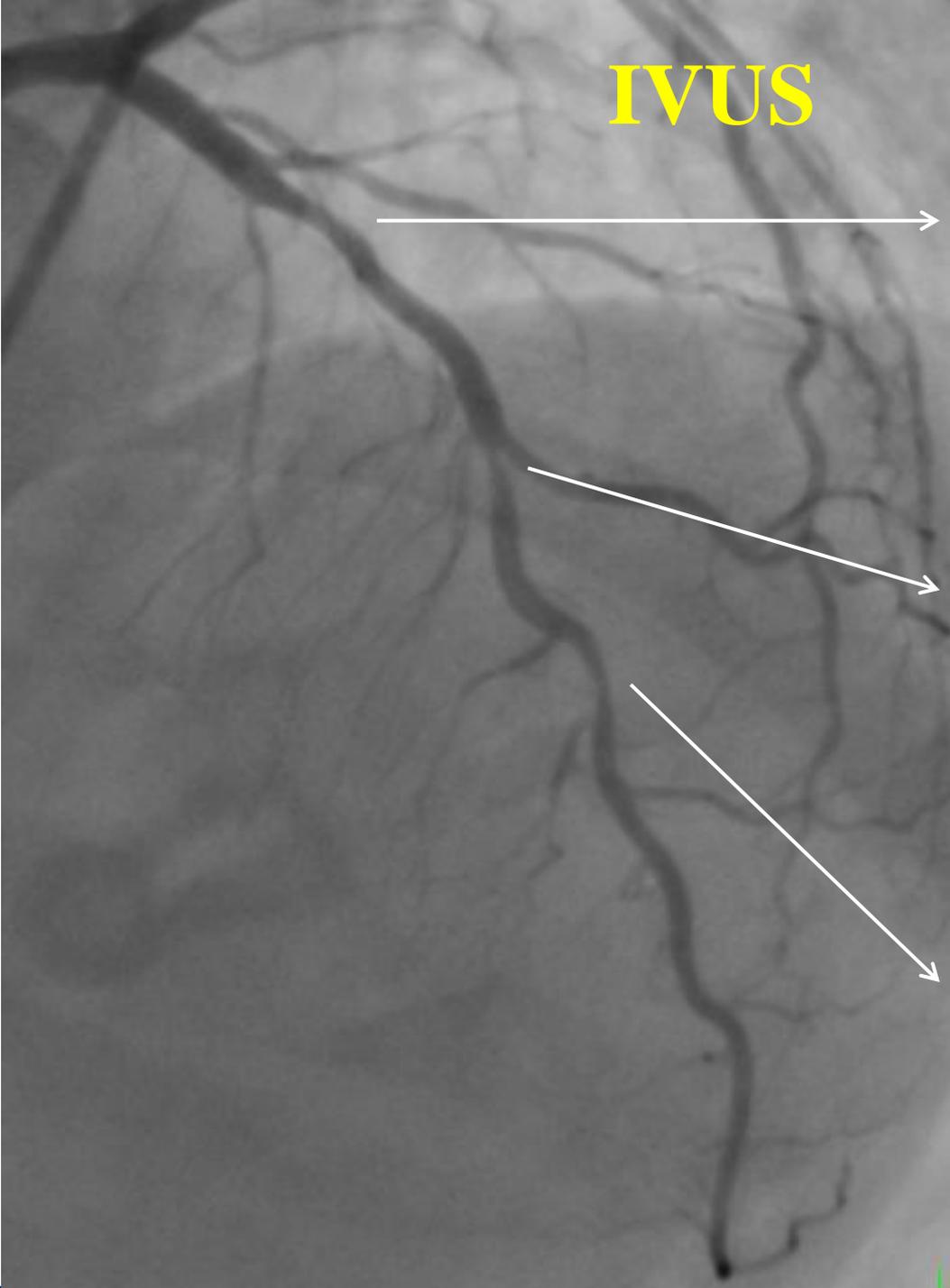
0.67

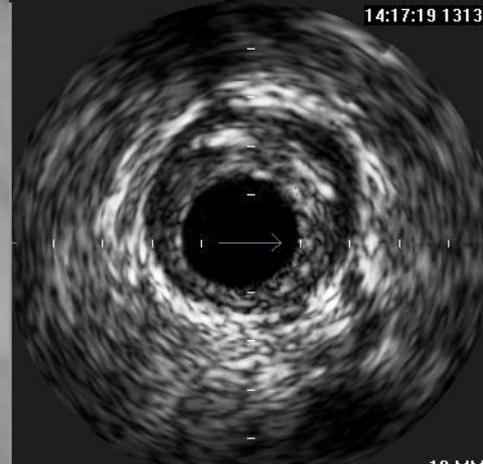
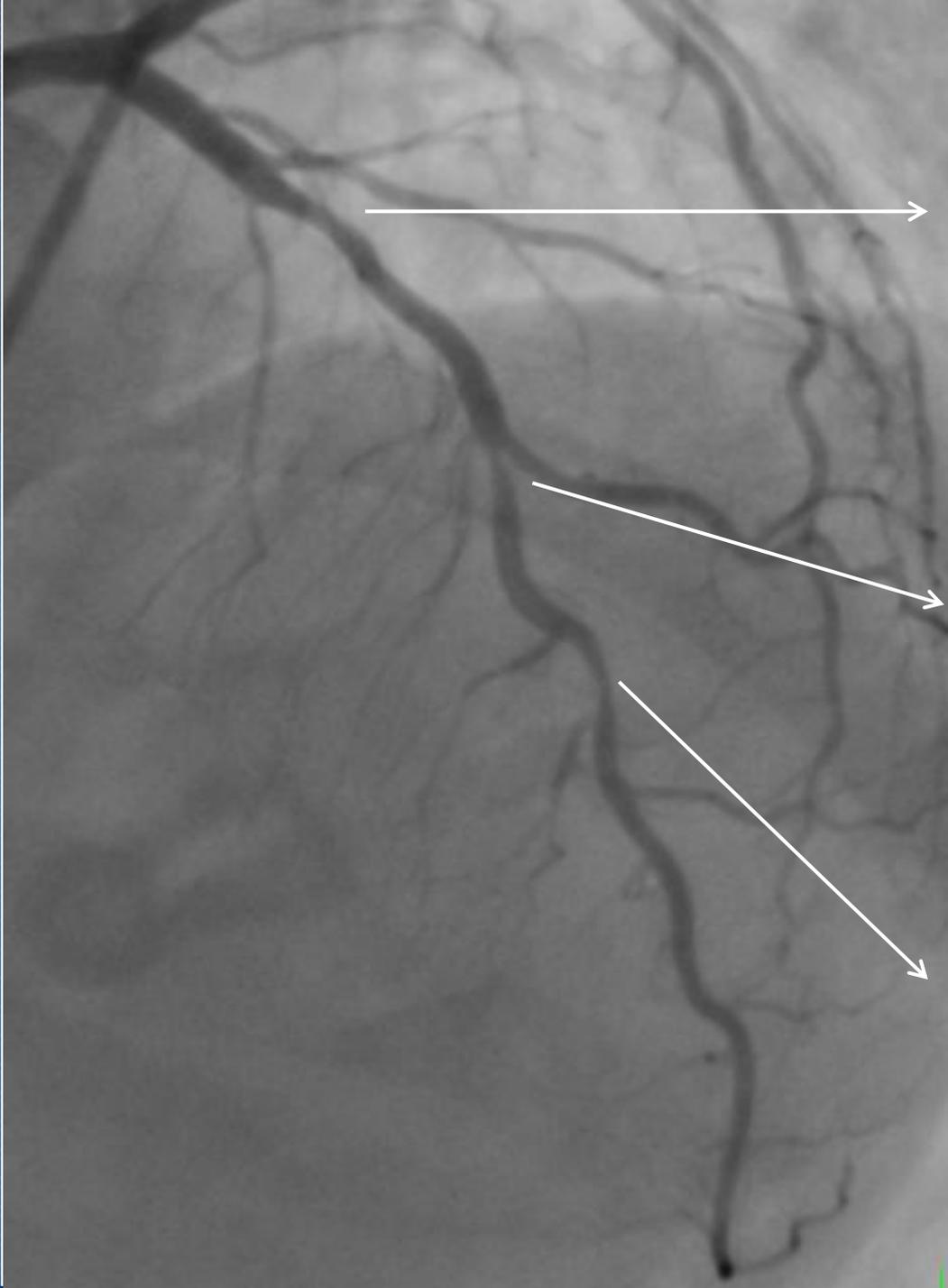
Δ 0.08

Δ 0.05

Δ 0.17

IVUS

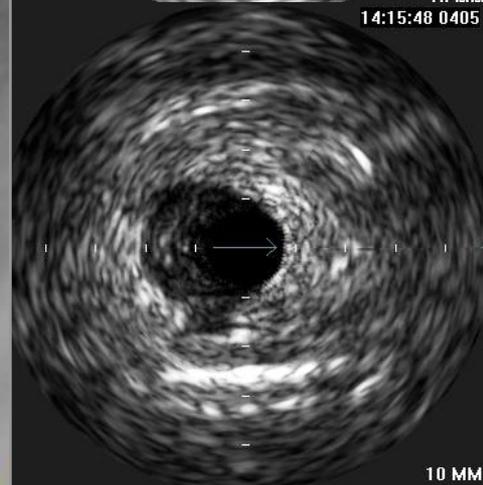




VA:13.6mm²
LA:4.2mm²
PB:51%

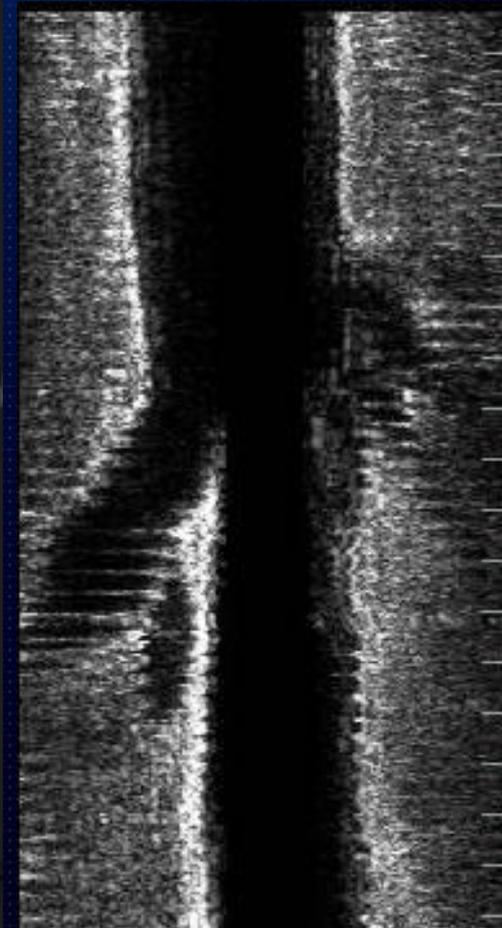
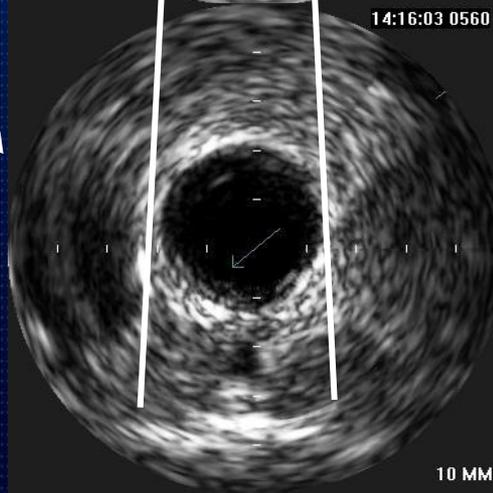
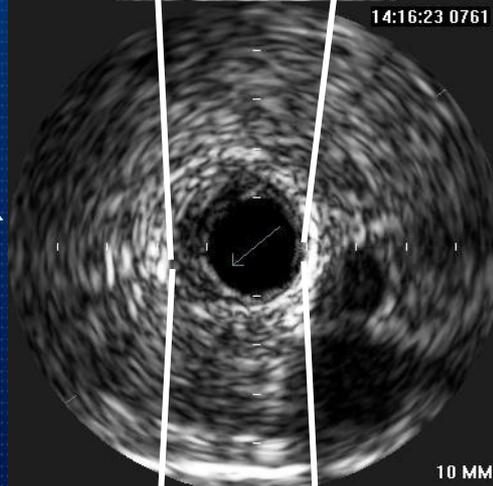
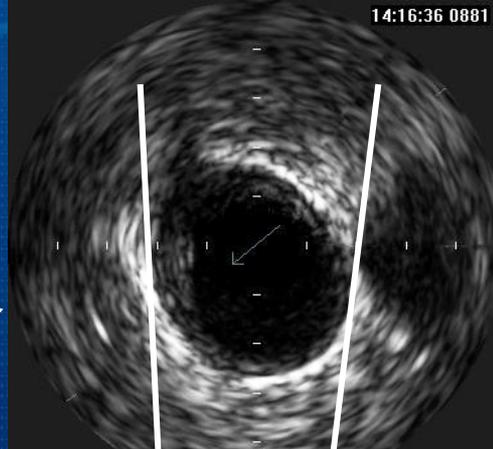


VA:6.1mm²
LA:3.5mm²
PB:43%



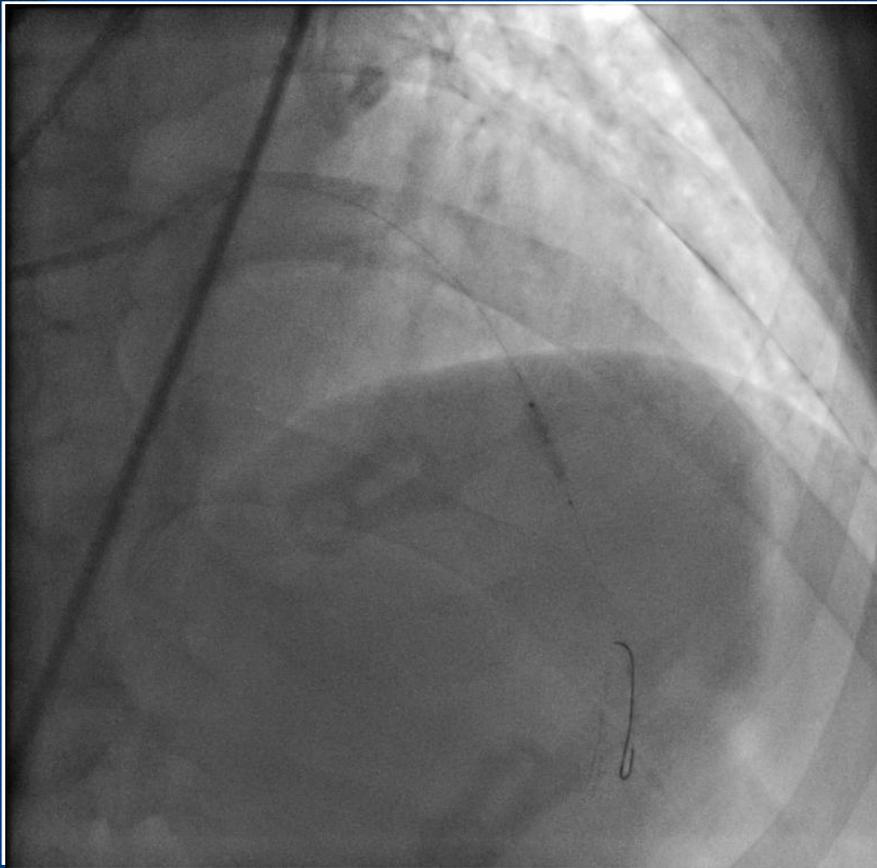
VA:5.8mm²
LA:2.9mm²
PB:51%

Negative remodeling

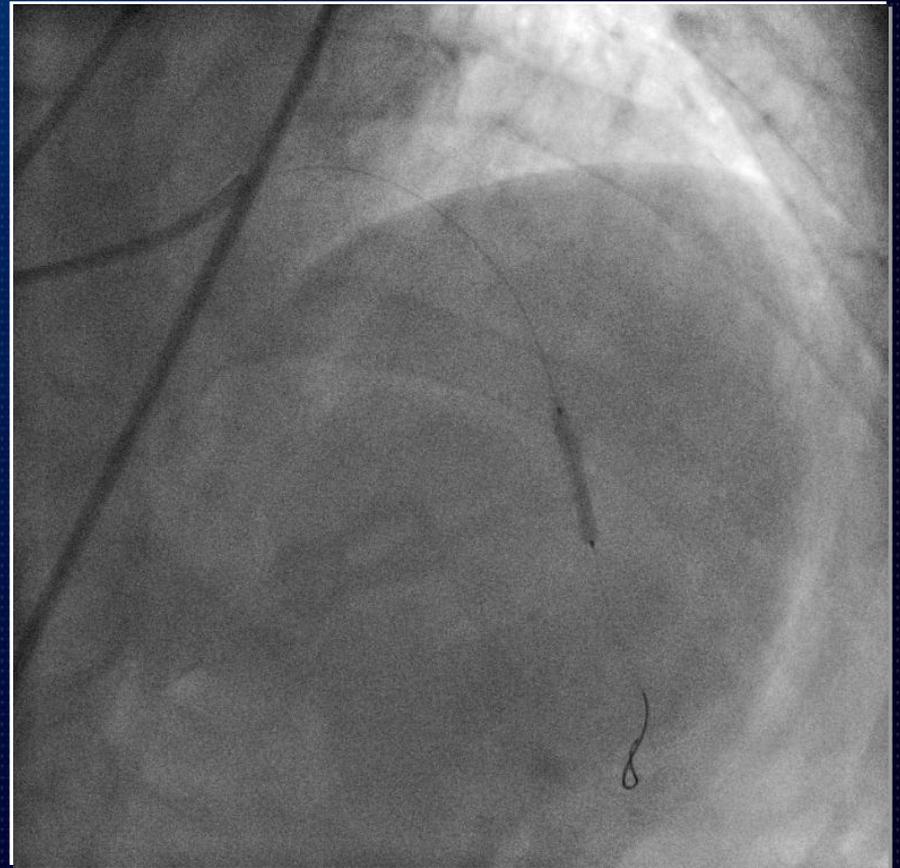


Stenting at dLAD

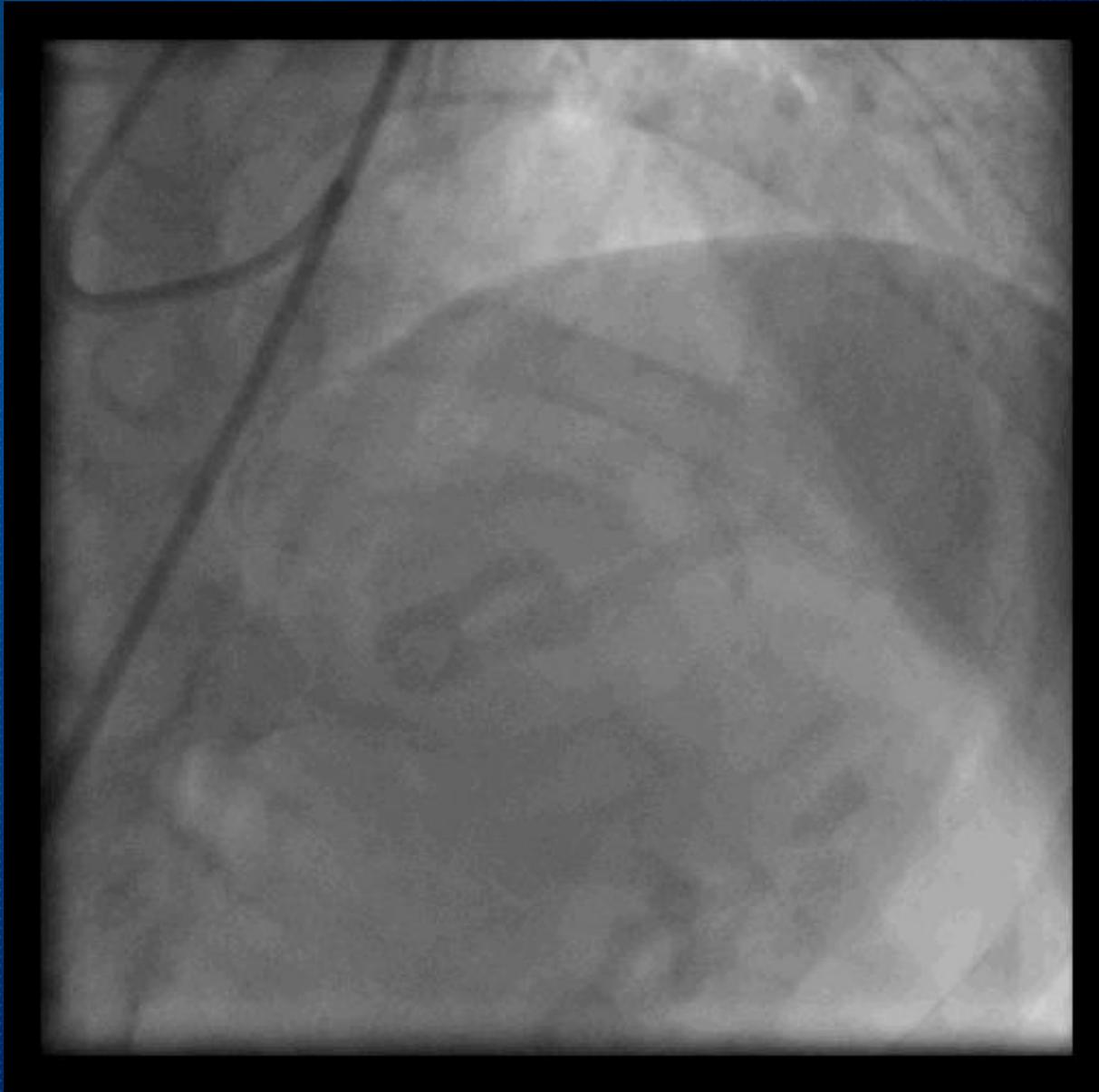
Balloon



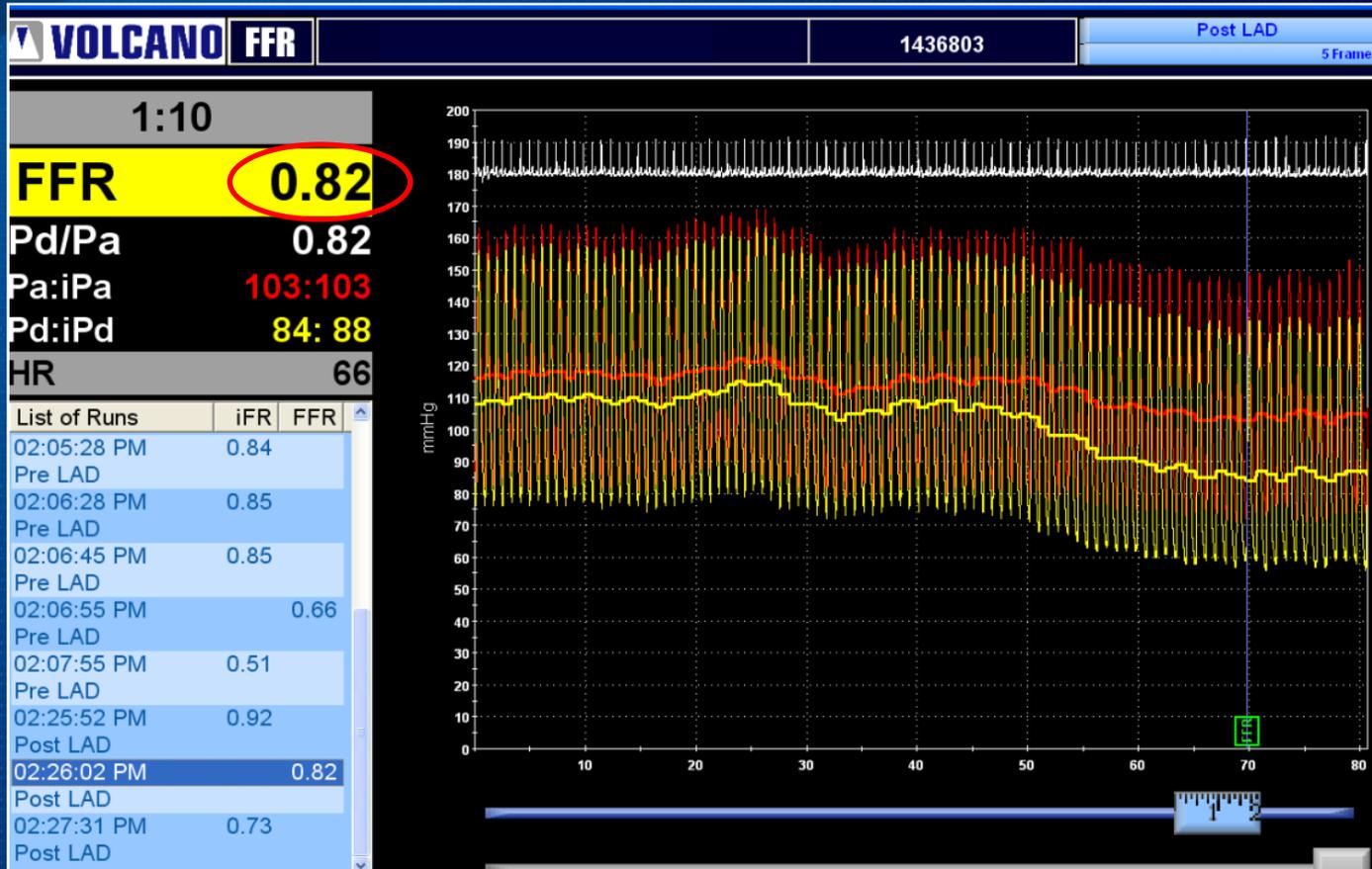
DES 2.5 x 18 mm



After stenting at dLAD



Final FFR



Case 2: M / 78

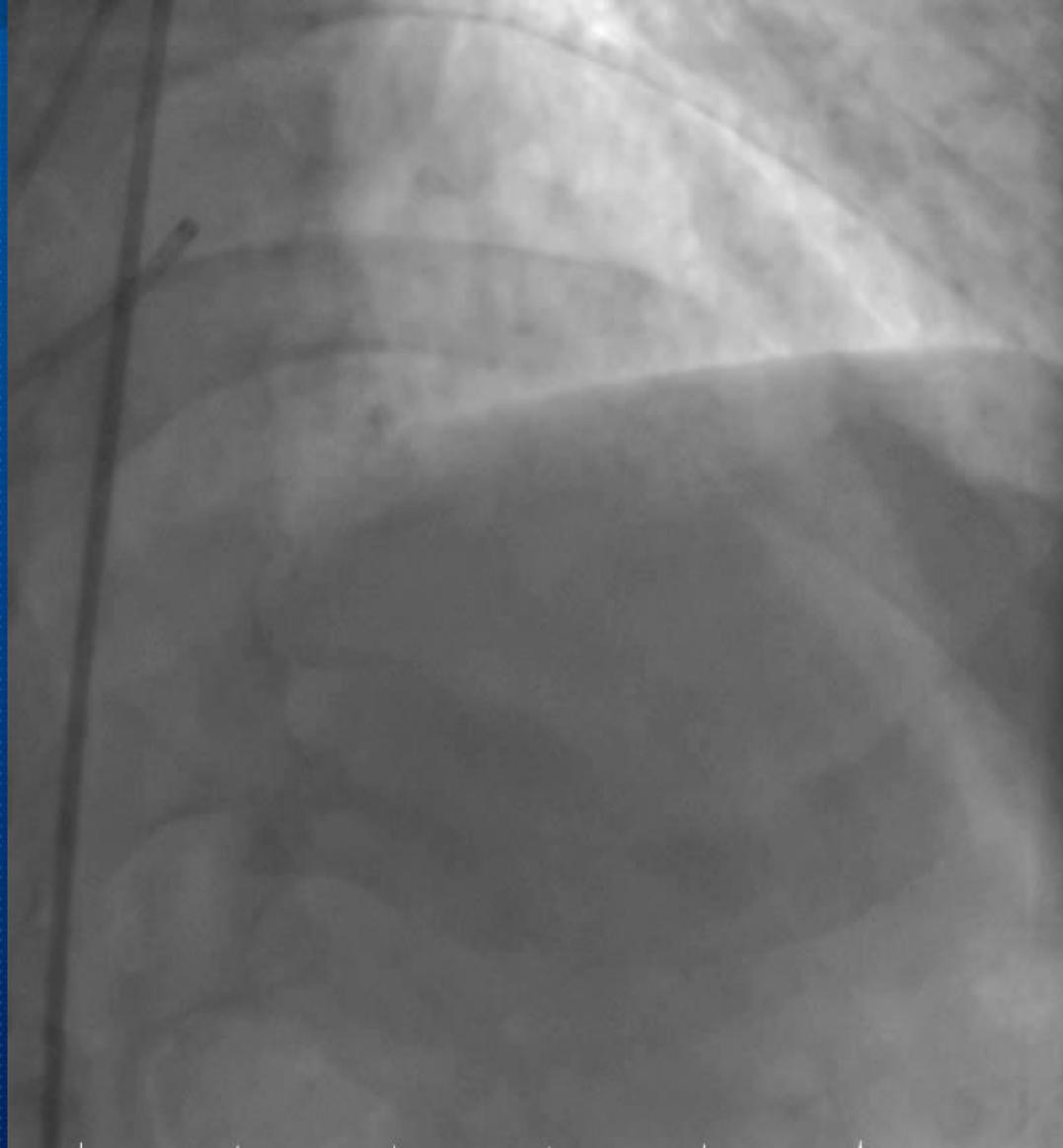
- C.C: chest pain on exertion 1 week ago
- Risk factors: hypertension, dyslipidemia

- Lipids:

Total cholesterol mg/dl	141
HDL	48
TG	96
LDL	83

- ECG: Non-specific ST change
- EchoCG: EF=63%
- TMT: positive

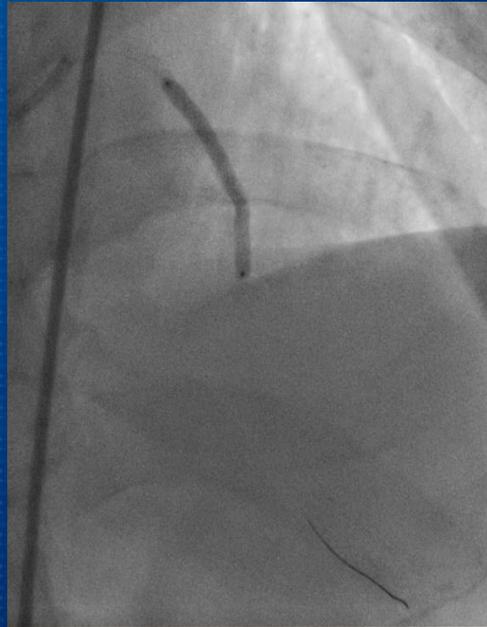
CAG



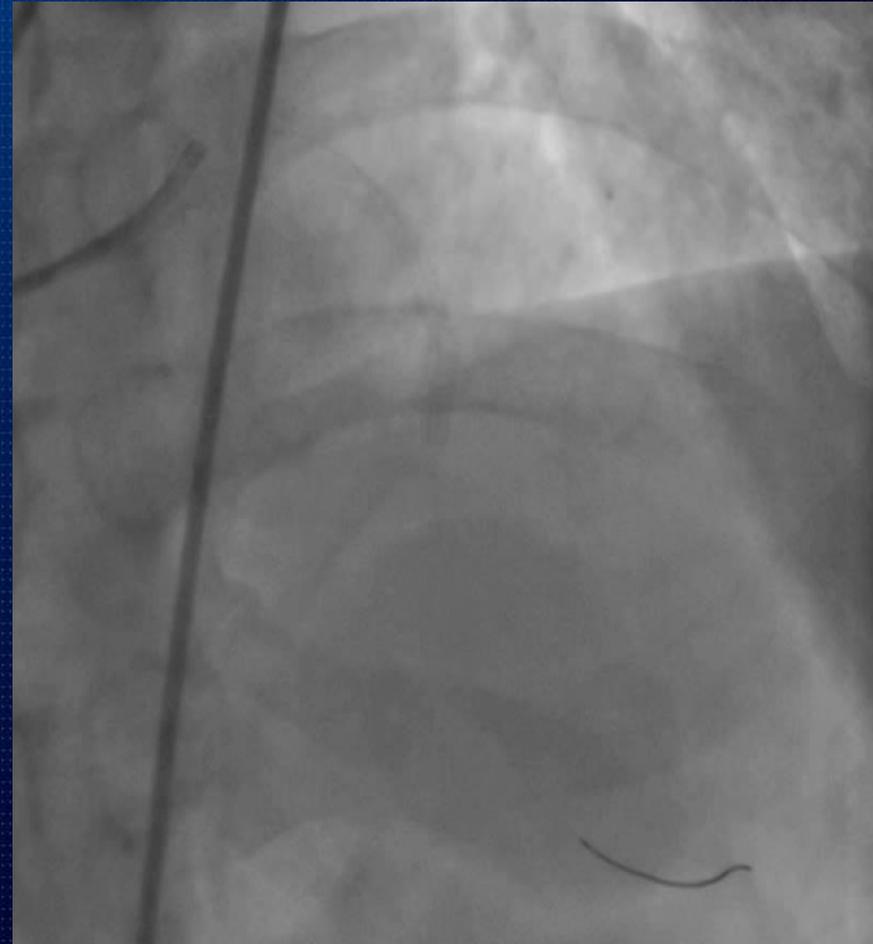
Stenting at LAD



Balloon

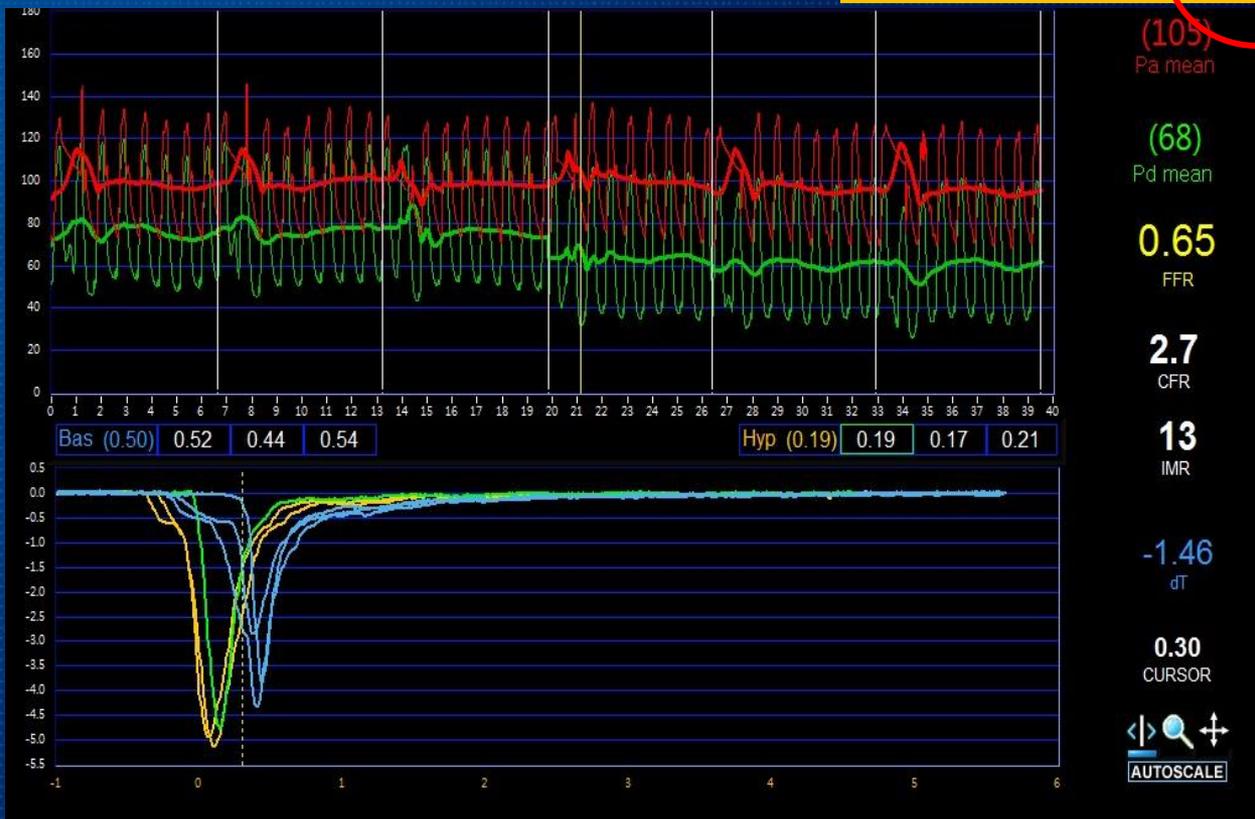


Stenting
DES 3.0 x 38 mm

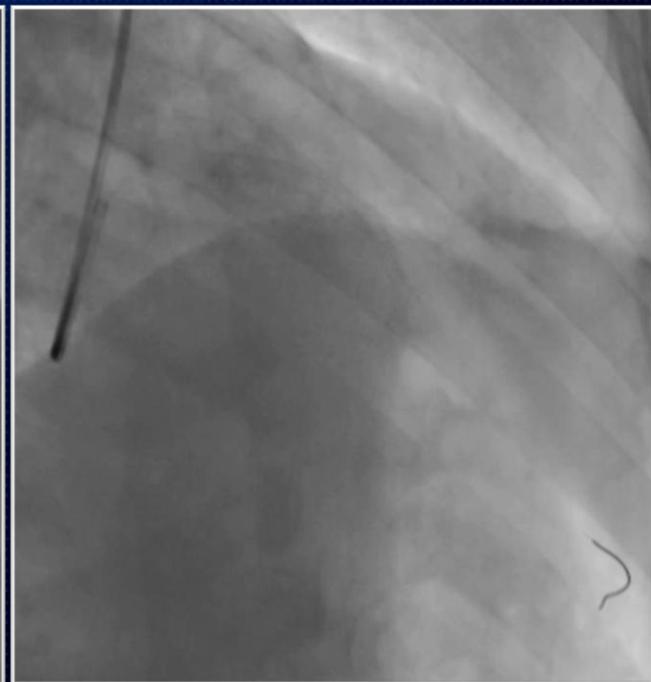
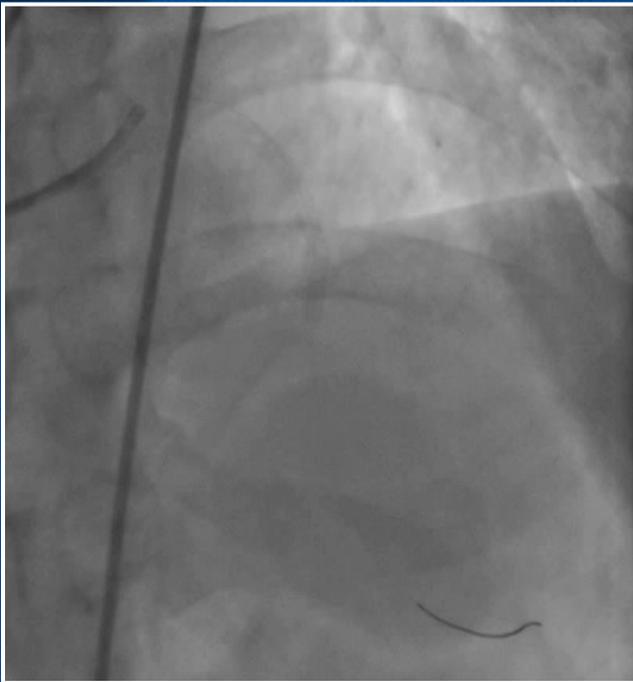


FFR in LAD

FFR: 0.8 → 0.65



Angiography Review



What happened?

Spasm

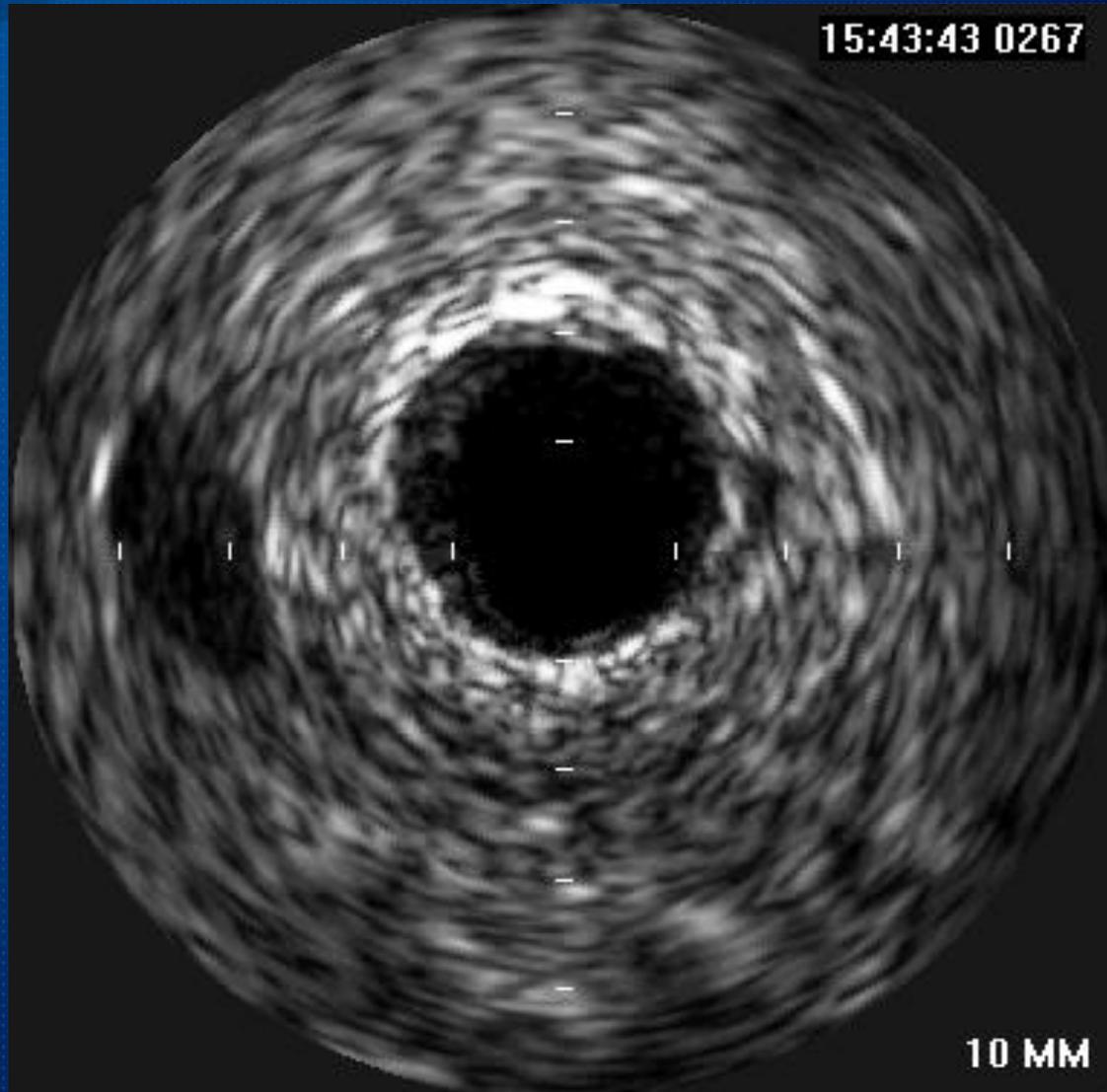
**Edge
dissection**

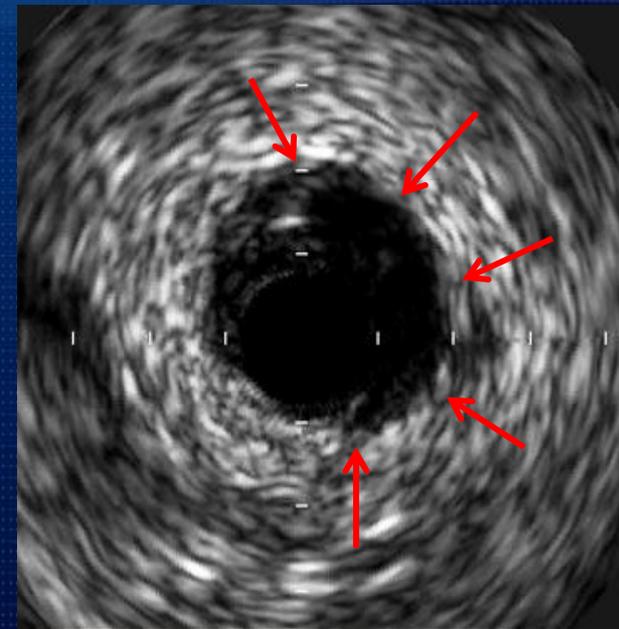
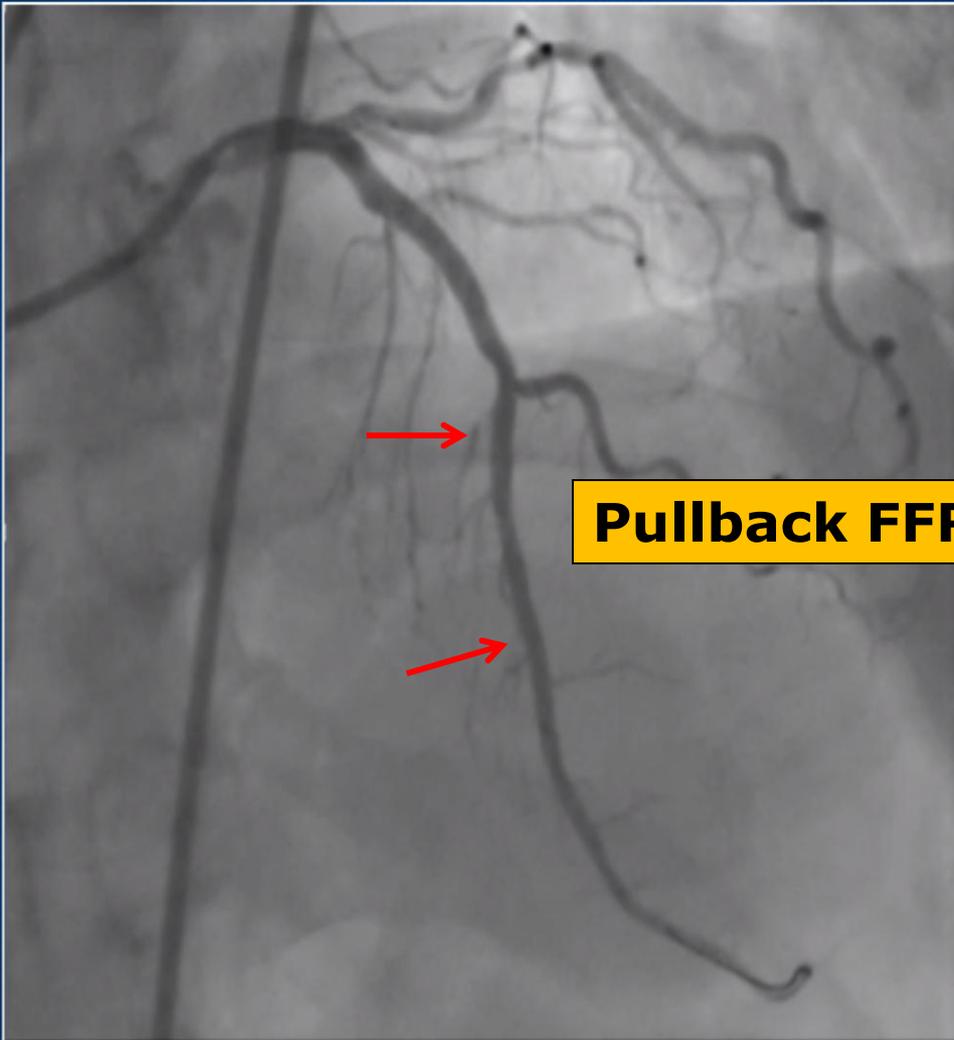
**Error in FFR
measurement**



**Stent
thrombosis**

Post-stent IVUS

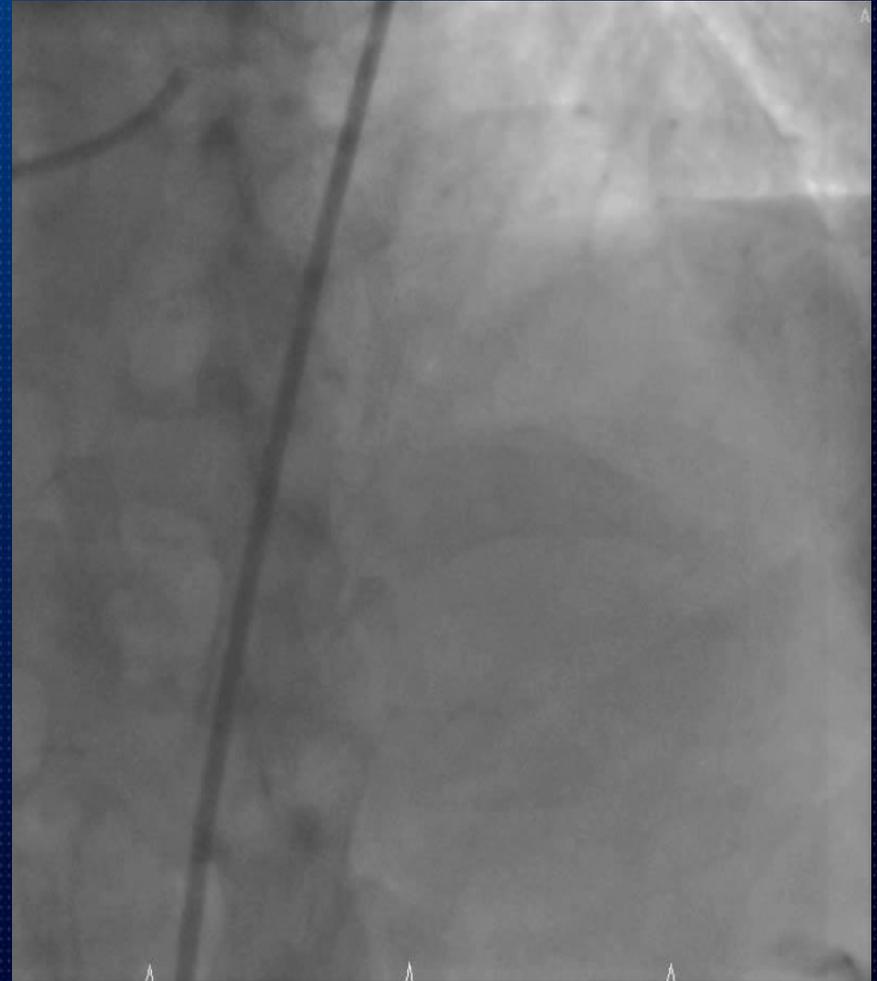
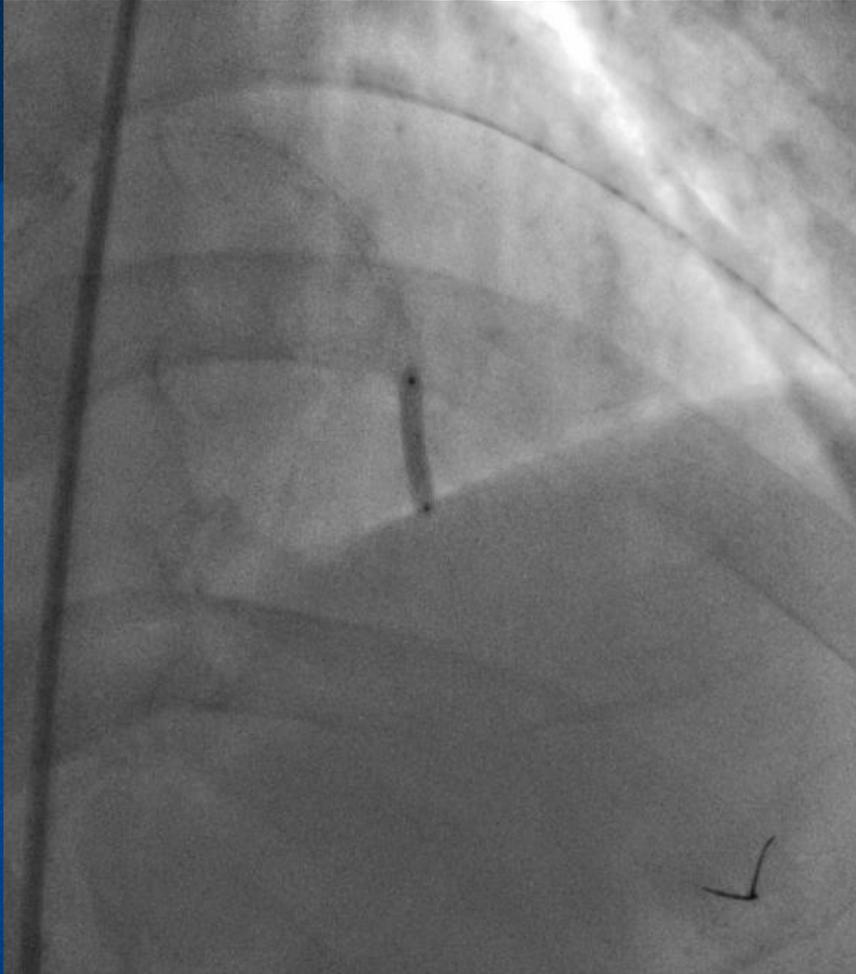




Pullback FFR: 0.65 → 0.89

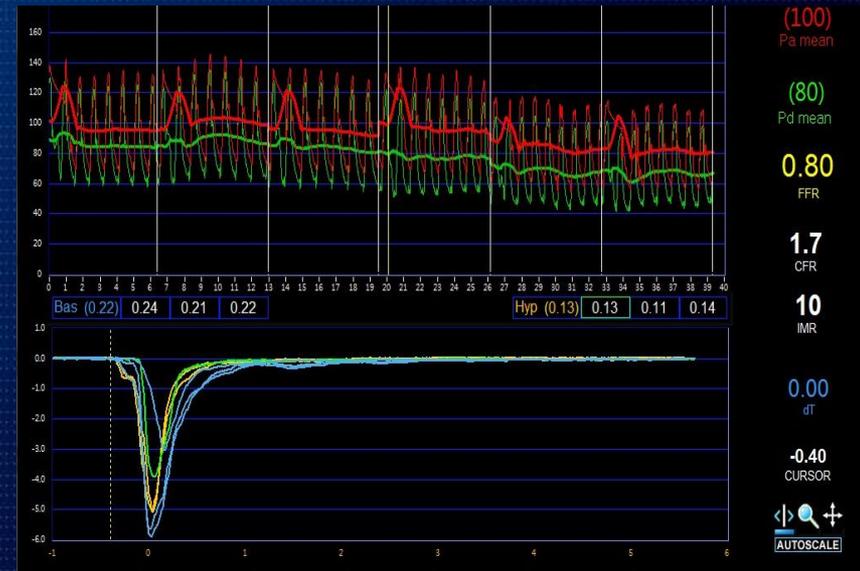
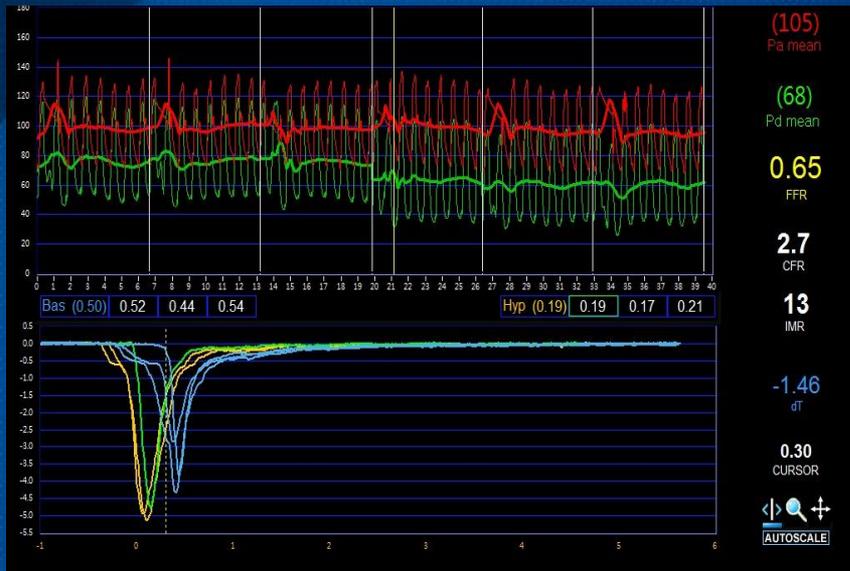
Δ FFR 0.24

Additional Stenting at LAD



DES 2.75 x 14 mm

FFR after additional stenting



FFR: 0.80 → 0.65

FFR: 0.90 → 0.80

Take Home Messages

- The angiogram is frequently misleading and QCA is no longer the gold standard for lesion severity, especially in intermediate lesions.
- FFR is presently the optimal method to decide if intervention is needed in intermediate lesions and in complicated lesions even though it can not explain the reason of the complication
- IVUS contributes greatly to achieving technically an optimal PCI and can show PCI complications

Thank you for your attention!

