

# Intracoronary imaging guided-CTO

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# Disclosure

- I have no disclosure related to this lecture.

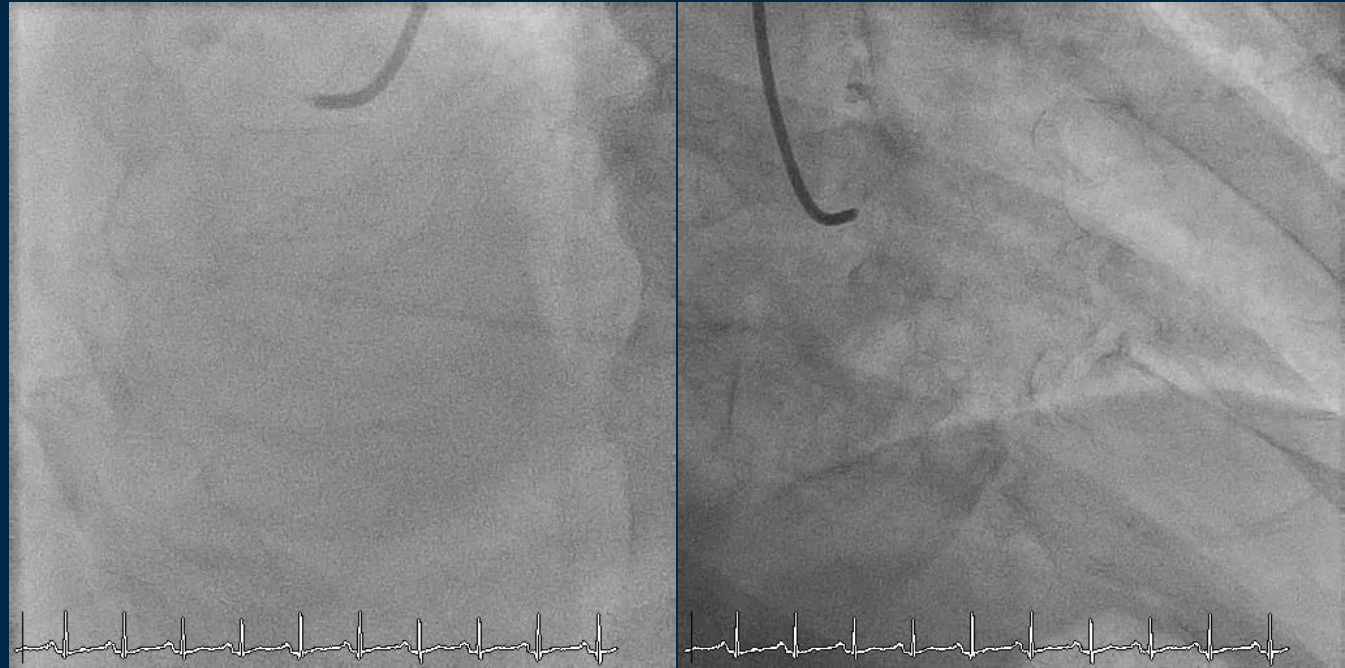
# Intracoronary imaging guided-CTO PCI

- Before crossing CTO: to guide wiring (IVUS)
- After crossing CTO
  - Identify guide wire position (IVUS)
  - Lesion preparation (IVUS and OCT)
  - Stent sizing (IVUS and OCT)
  - Post-PCI imaging (IVUS and OCT)

# Case presentation I

## *Heavily calcified RCA CTO*

- 68 year-old-man
- Comorbidity: type 2 DM, hypertension, dyslipidemia
- Presentation: peri-operative MI after cholecystectomy with heart failure
- ECG: dynamic ST depression in I, II, aVL, aVF, V5-V6
- Echocardiogram: LVEF 53%, moderate functional MR
- CAG showed 3-vessel CAD.
- The patient declined CABG.





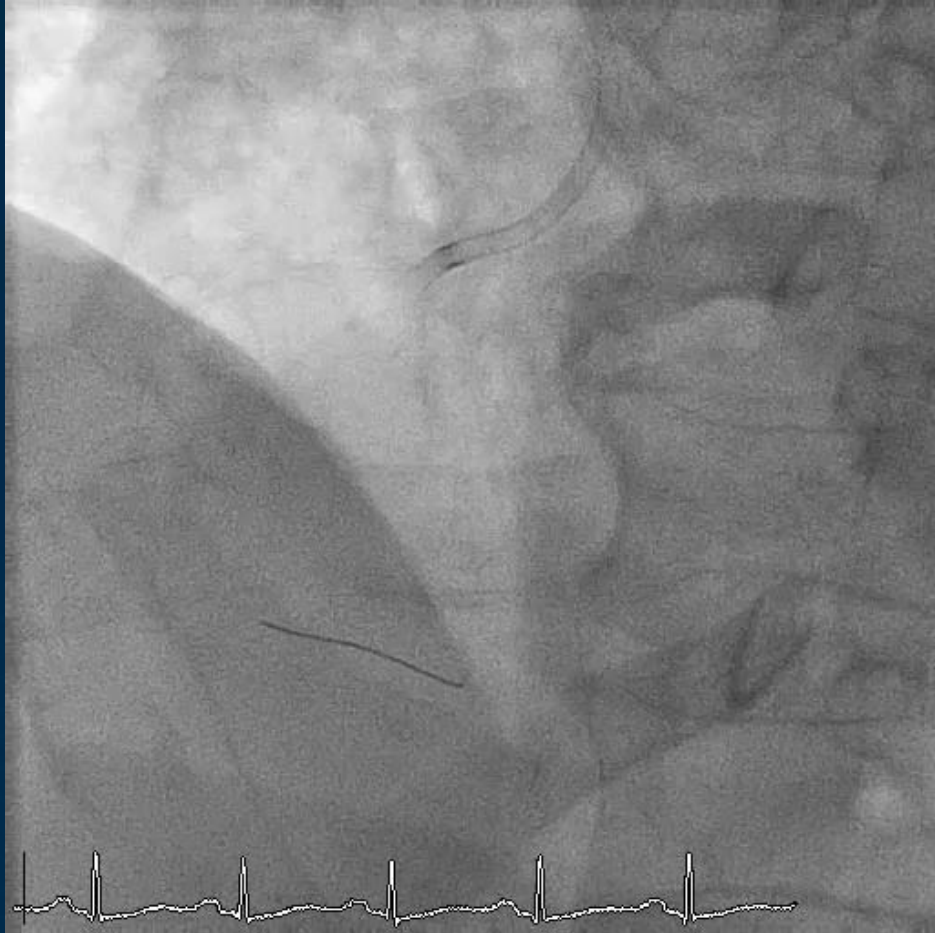


- Right radial approach: 7-Fr SAL 0.75 guide catheter
- Fielder XT-A guide wire was successfully navigated through microchannel.
- However, Corsair Pro microcatheter could not be advanced across CTO.
- 1.0 mm x 6 mm Ikazuchi Zero balloon could not be advanced across CTO due to heavy calcification in proximal RCA.



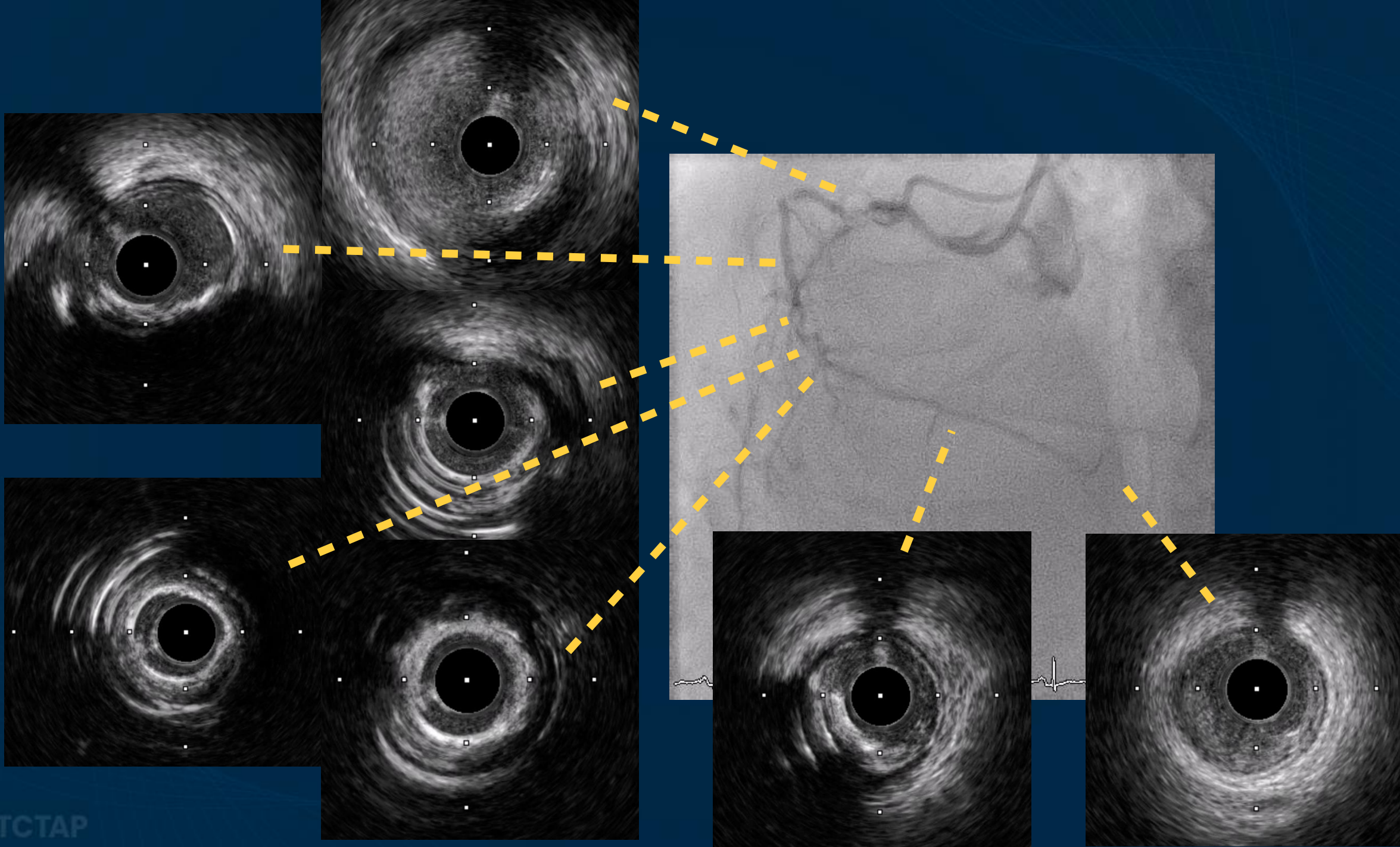


- Corsair Pro micro catheter was advanced into the proximal cap.
- RotaWire Drive Floppy guide wire was advanced across the CTO.
- Rotational atherectomy was done in proximal RCA using 1.25 mm burr.



- The guide wire was changed to Fielder XT-A guide wire.
- 1.0 mm x 6 mm Ikazuchi Zero balloon still could not be advanced across the lesion.
- Corsair Pro microcatheter was advanced into mid RCA.
- RotaWire Drive Floppy guide wire was advanced across the CTO.
- Rotational atherectomy was done from proximal to distal RCA using 1.25 mm burr.
- IVUS was done.







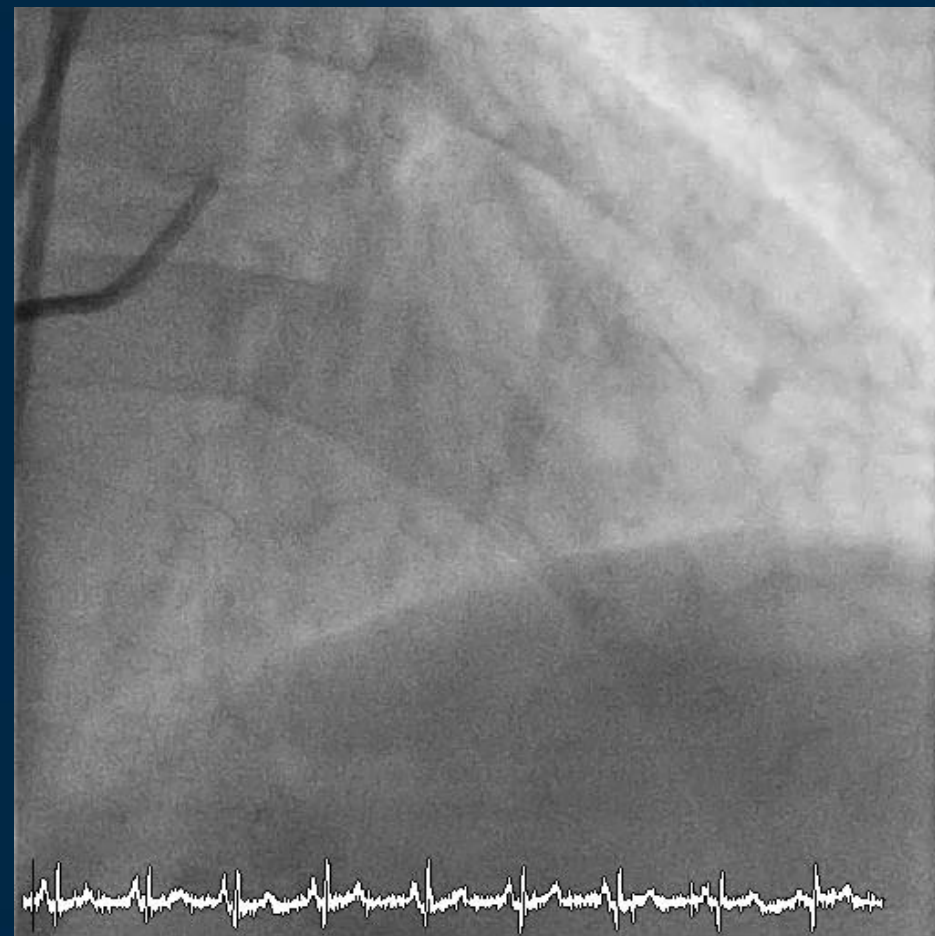


- Predilatation: 2.5 mm x 15 mm non-compliant balloon
- 2.5 mm x 31 mm, 30 mm x 38 mm, 3.5 mm x 26 and 3.5 mm x 31 sirolimus-eluting stents
- Postdilatation: 2.5 mm x 15 mm, 3.0 mm x 15 mm and 3.5 mm x 15 mm non-compliant balloons inflated at 22 atm.
- Final IVUS showed good stent expansion.

# Case presentation II

## *Short LAD CTO with wire in subintimal space*

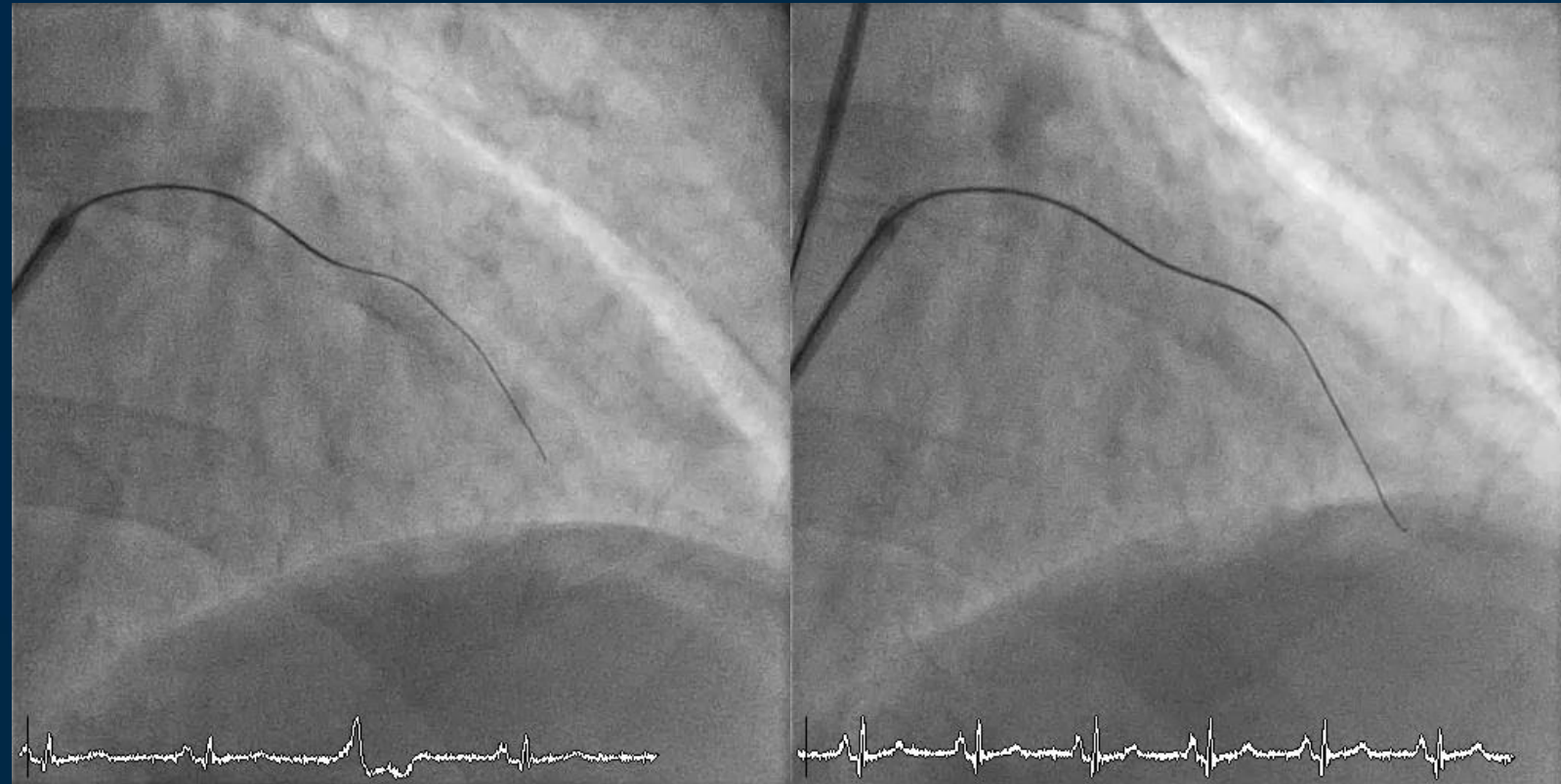
- A 56 year-old man
- Social history: smoking
- Presented with heart failure.
- Echo: LVEF 31%
- CAG: 3-vessel CAD, mid LAD CTO, mid LCX CTO and co-dominant RCA CTO
- Cardiac MR: viable 4/17 segments
- PCI was recommended.



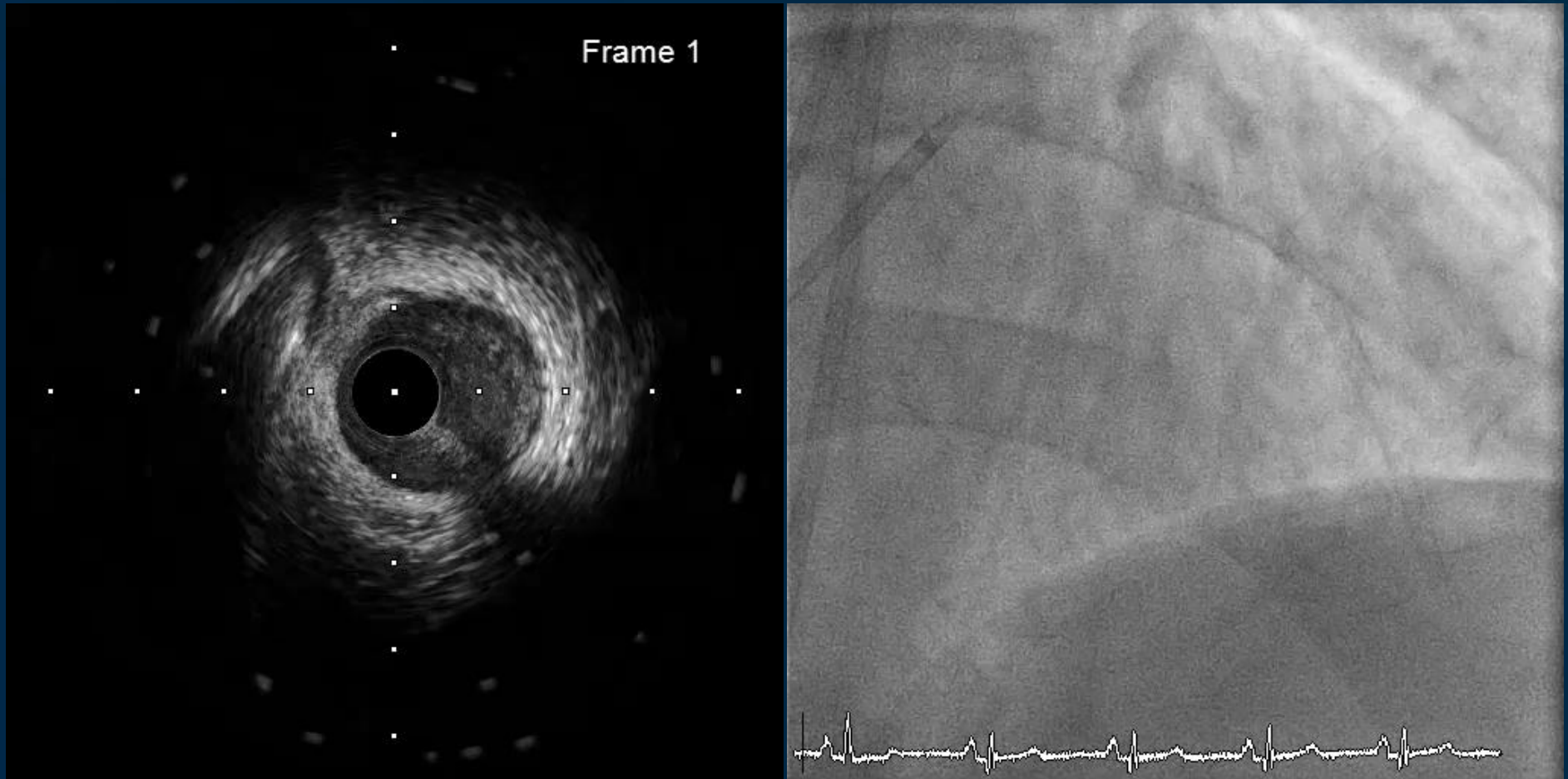
# Case presentation II

## *Short LAD CTO with wire in subintimal space*

- Right femoral approach
- 7-Fr EBU 3.5 guide catheter
- Fielder XT-A guide wire could not be advanced across CTO.
- The was exchanged to Gaia Second guide wire.
- Corsair Pro was advanced across the CTO, and the guide wire was exchanged to Rinato guide wire.





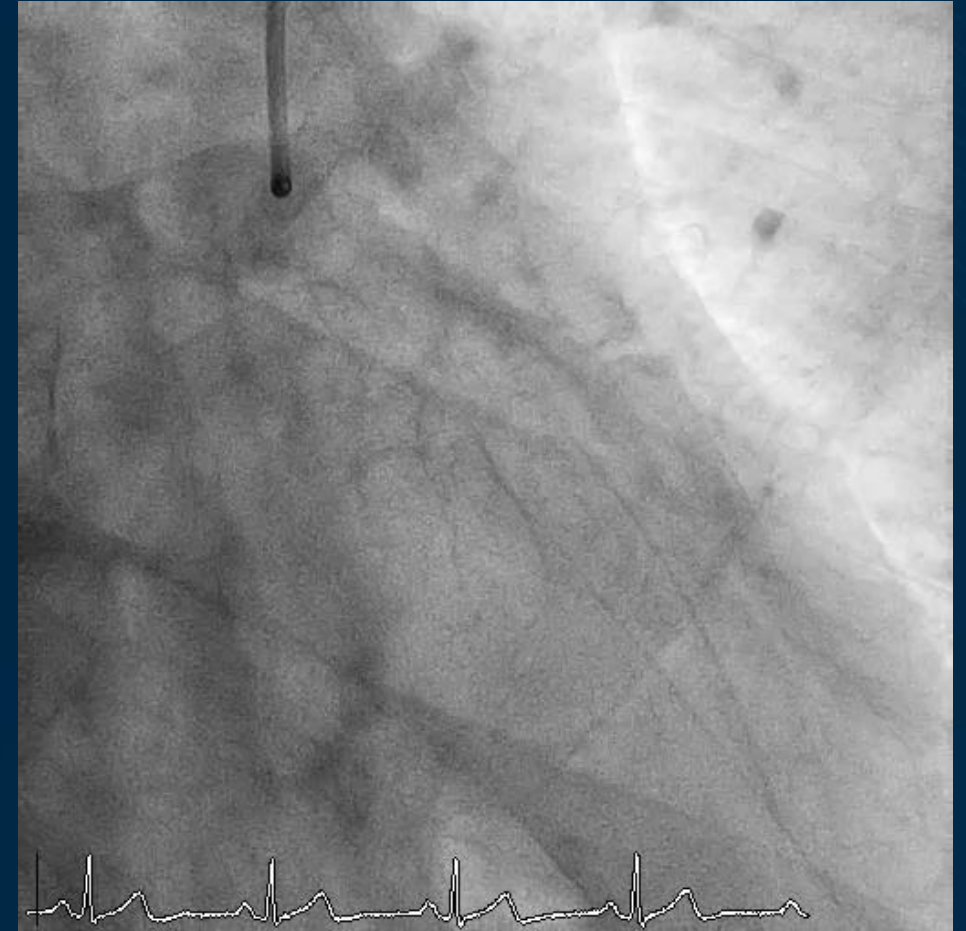


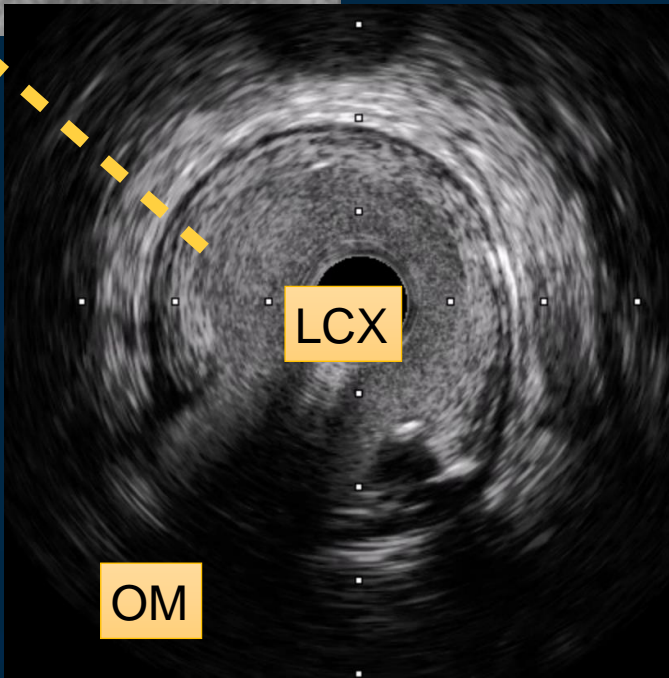
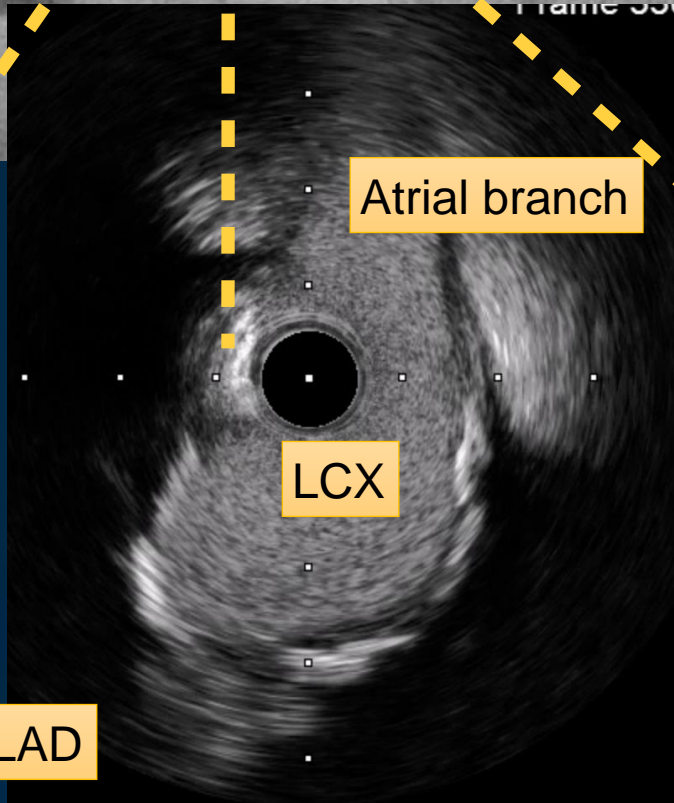
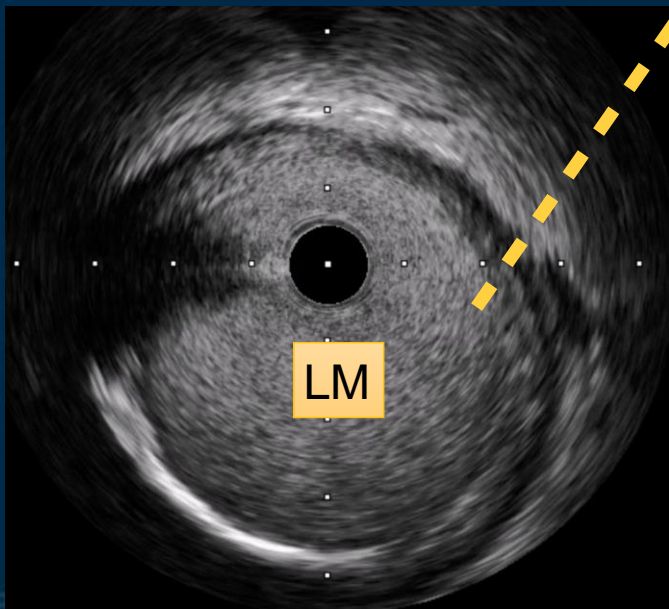
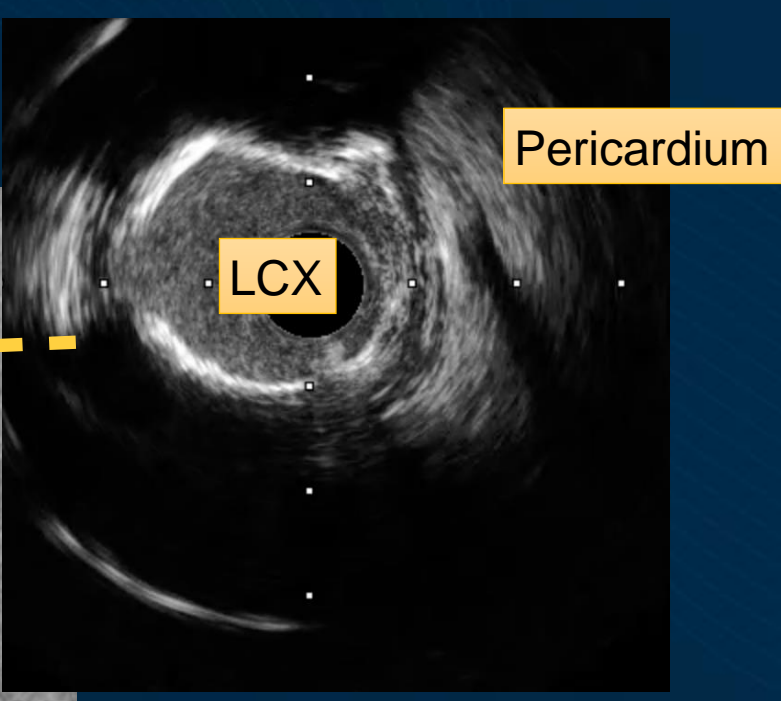
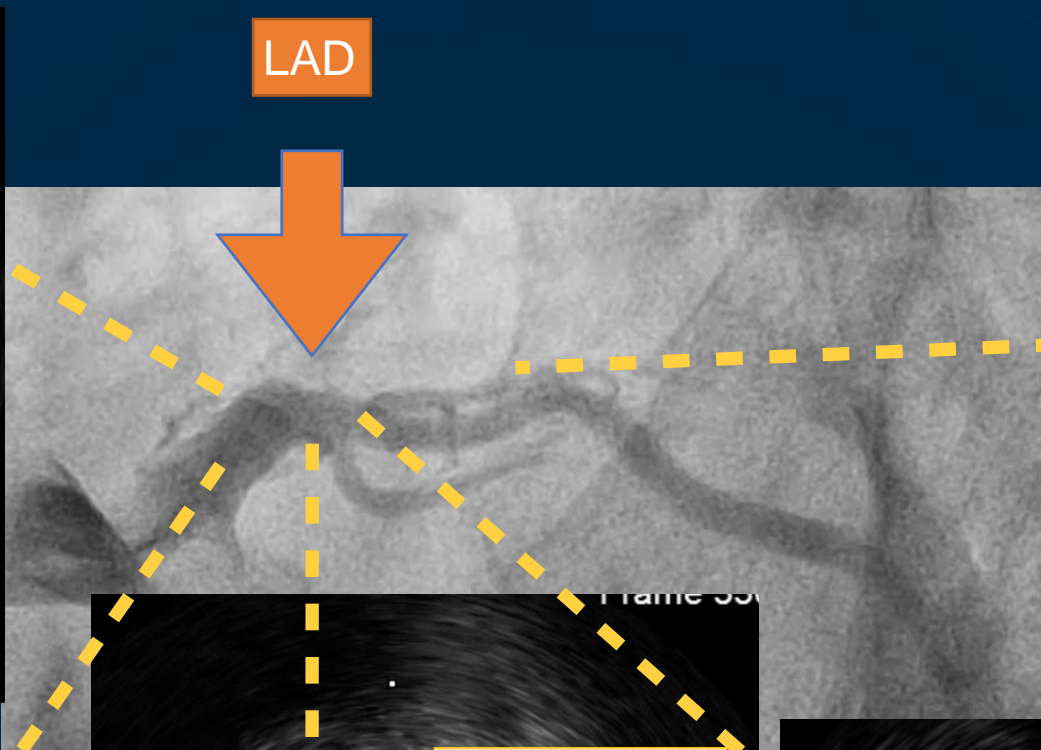
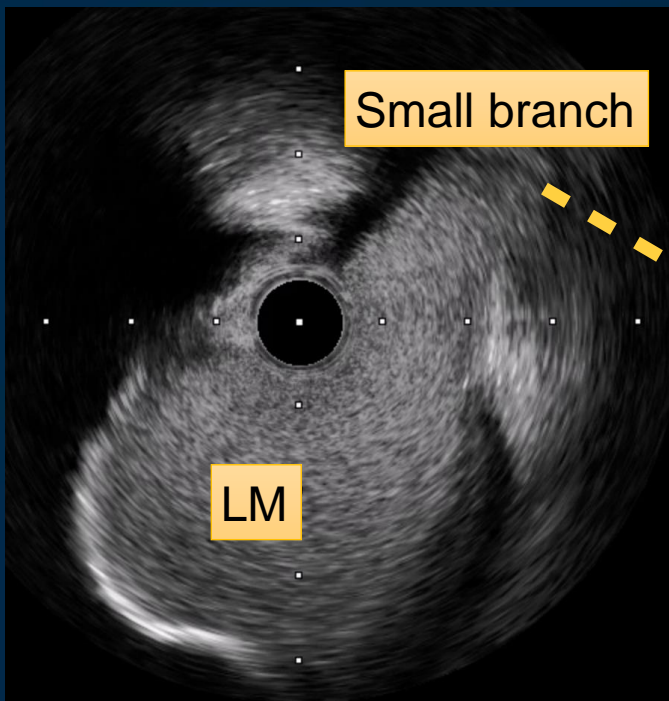
- 2.25 mm x 30 mm, 3.0 mm x 30 mm and 3.5 mm x 22 mm zotarolimus-eluting stents

# Case presentation III

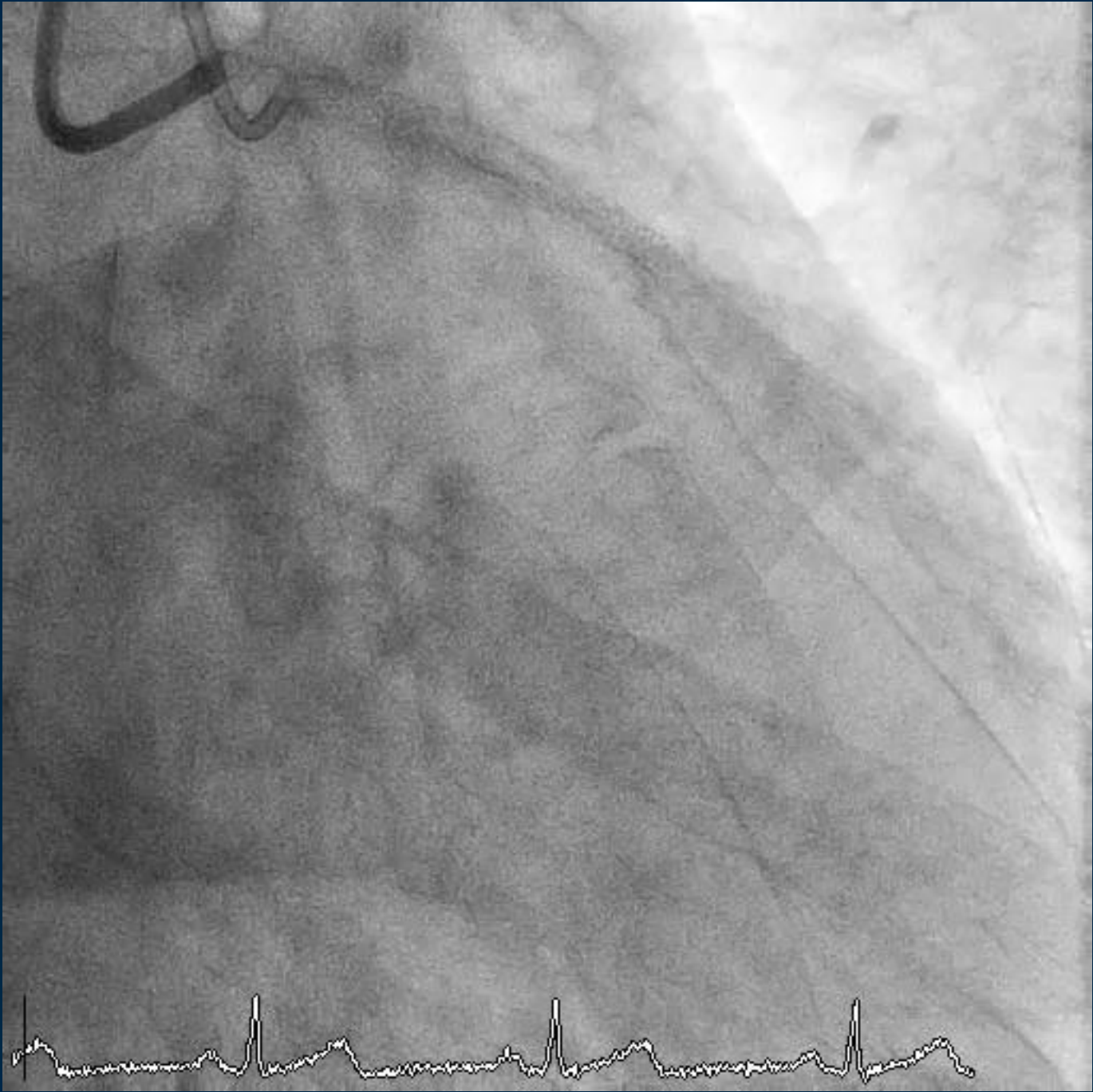
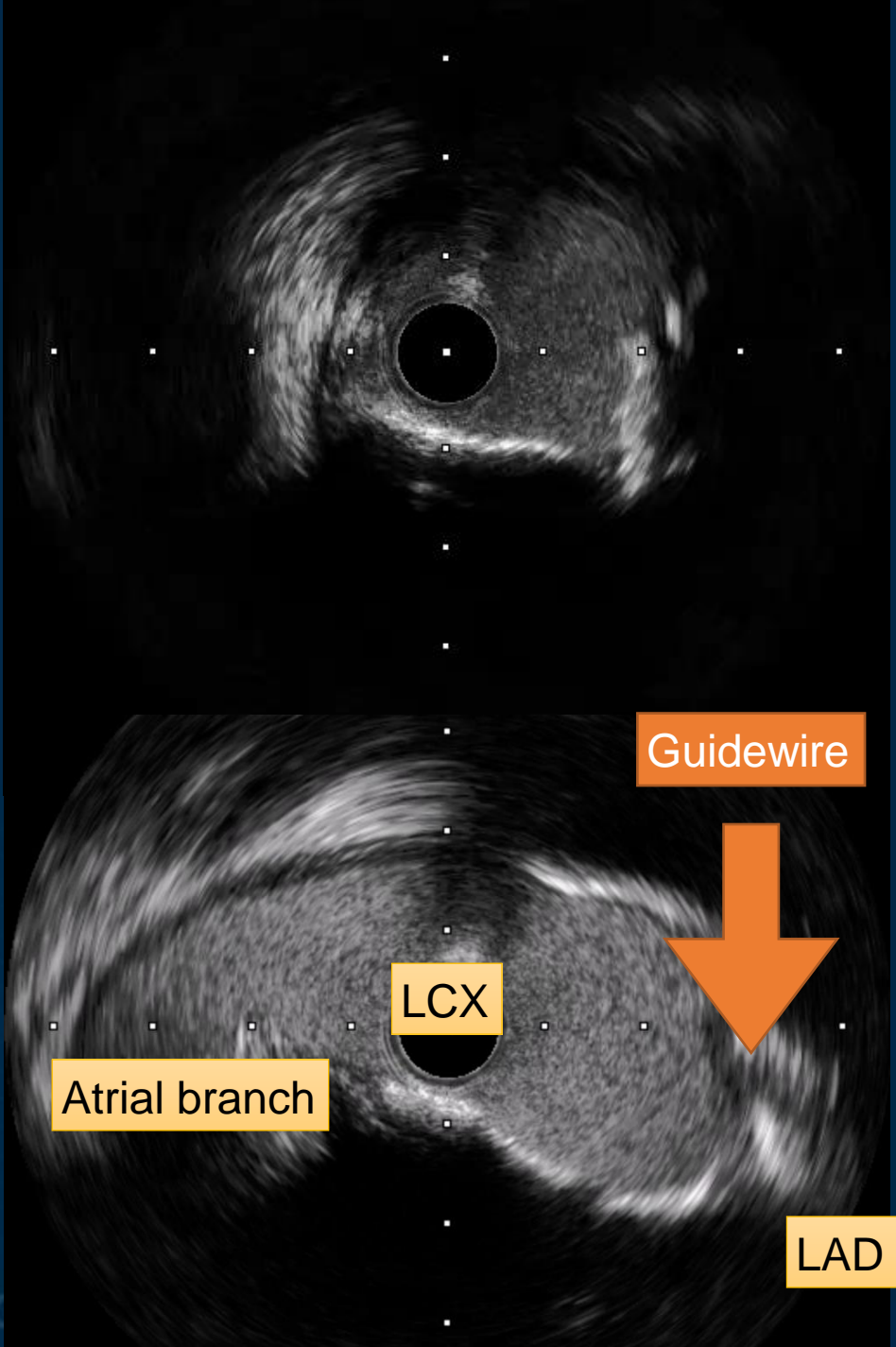
## *Ostial LAD CTO*

- A 75 year-old man
- Comorbidity: hypertension, chronic kidney disease and dyslipidemia
- History of coronary artery disease (diagnosed by stress test, high risk)
- Undergoing non-cardiac surgery (intermediate risk surgery)









# Conclusion

- To guide lesion preparation in heavily calcified CTO.
- To identify landing zone: dissection, intramural hematoma, diffusely disease versus spasm.
- To guide puncture in antegrade approach with ambiguous stump.
- To guide intraplaque wiring after going to subintimal space.