

Left Main Coronary Artery Stent Deformity Caused by Dilated Sinus of Valsalva Compression

Jiunn-Wen Lin, MD

**Division of Cardiology, Buddhist Dalin Tzu Chi General
Hospital**

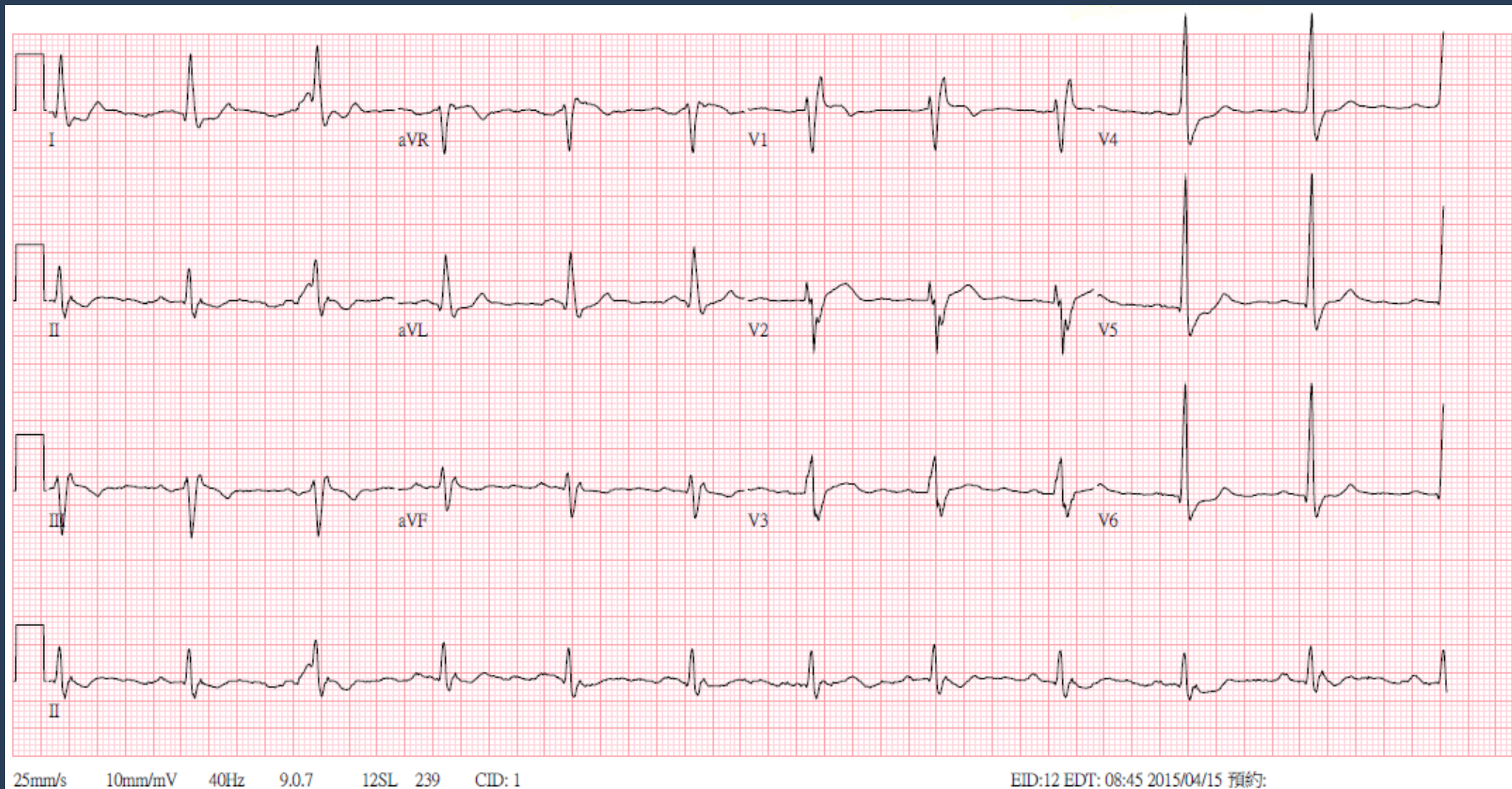
Disclosure

- I have nothing to disclose.

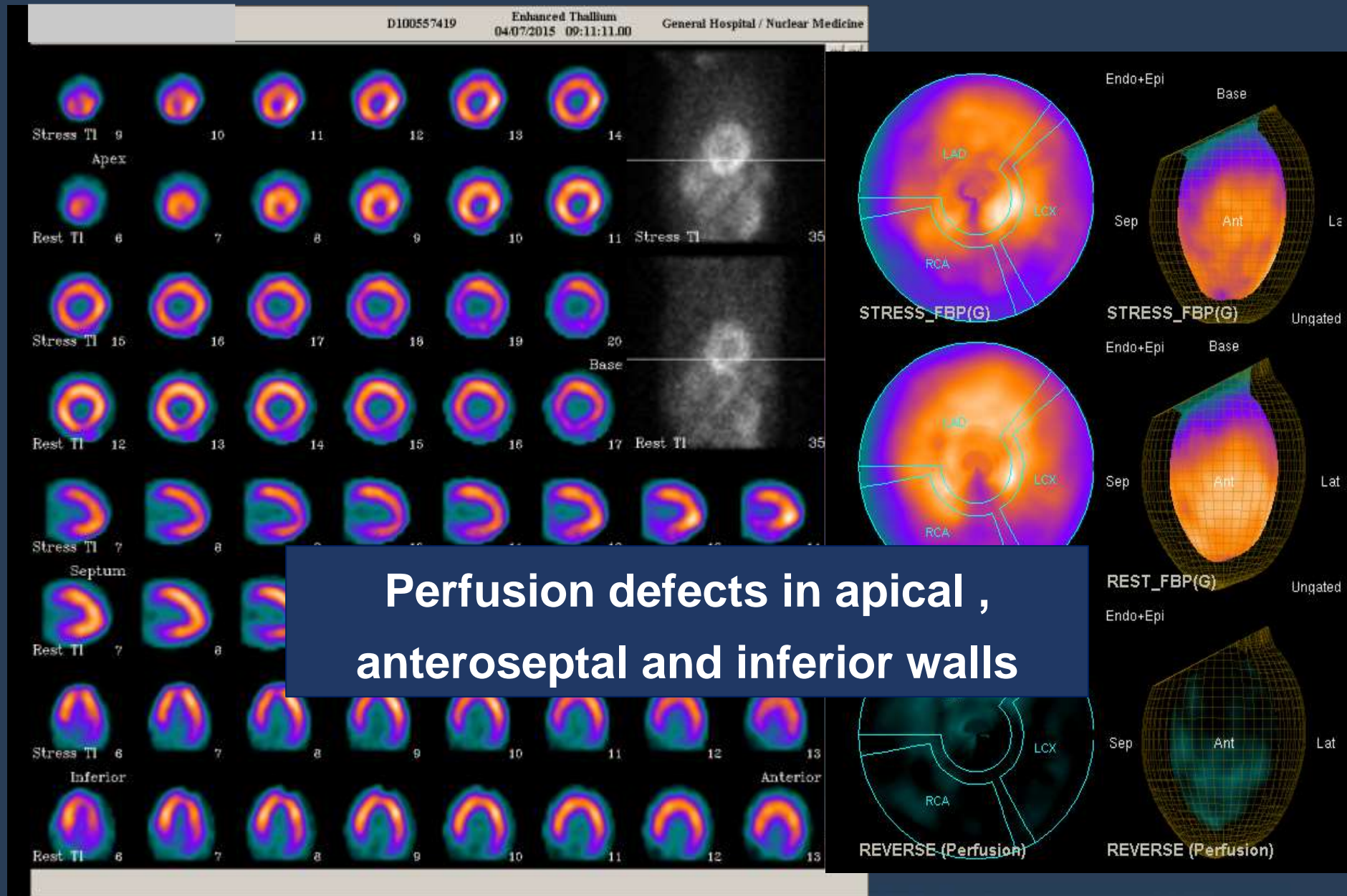
Case Summary

- Mr. Chen
- 77 y/o, male
- Clinical presentation : Intermittent effort angina and dyspnea for months
- Past History :
 - No history of DM
 - Hypertension under medical control

ECG



Thallium Scan

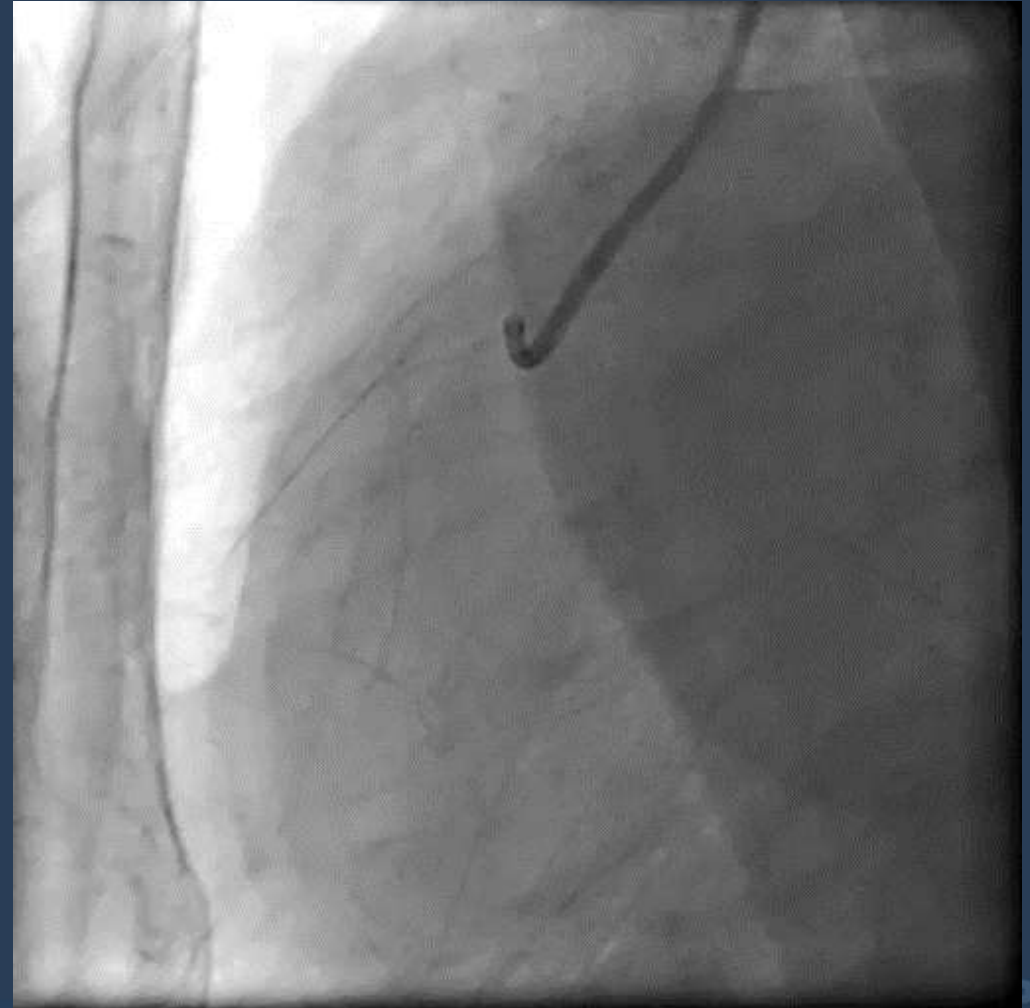


CxR



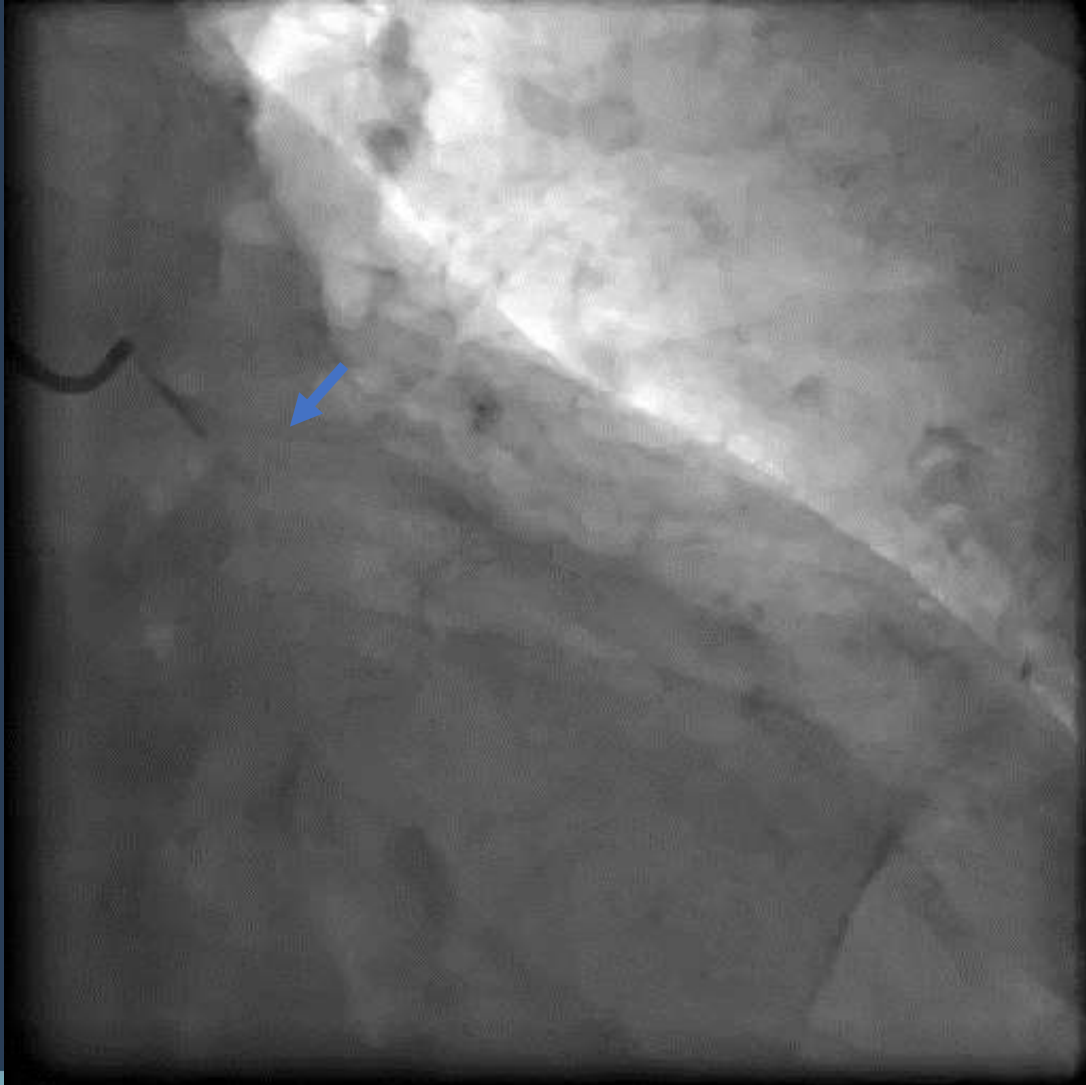
CAG - LCA

JL 5.0 diagnostic catheter
Seemed no significant stenosis

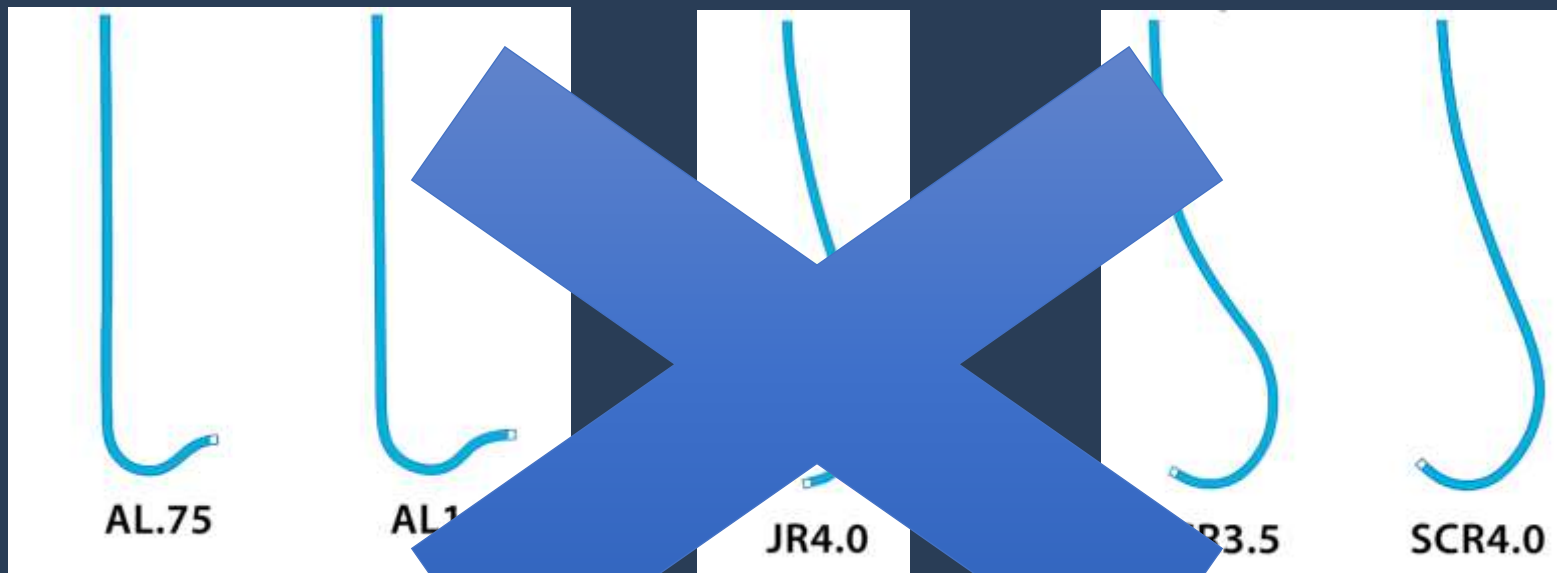


CAG - LCA

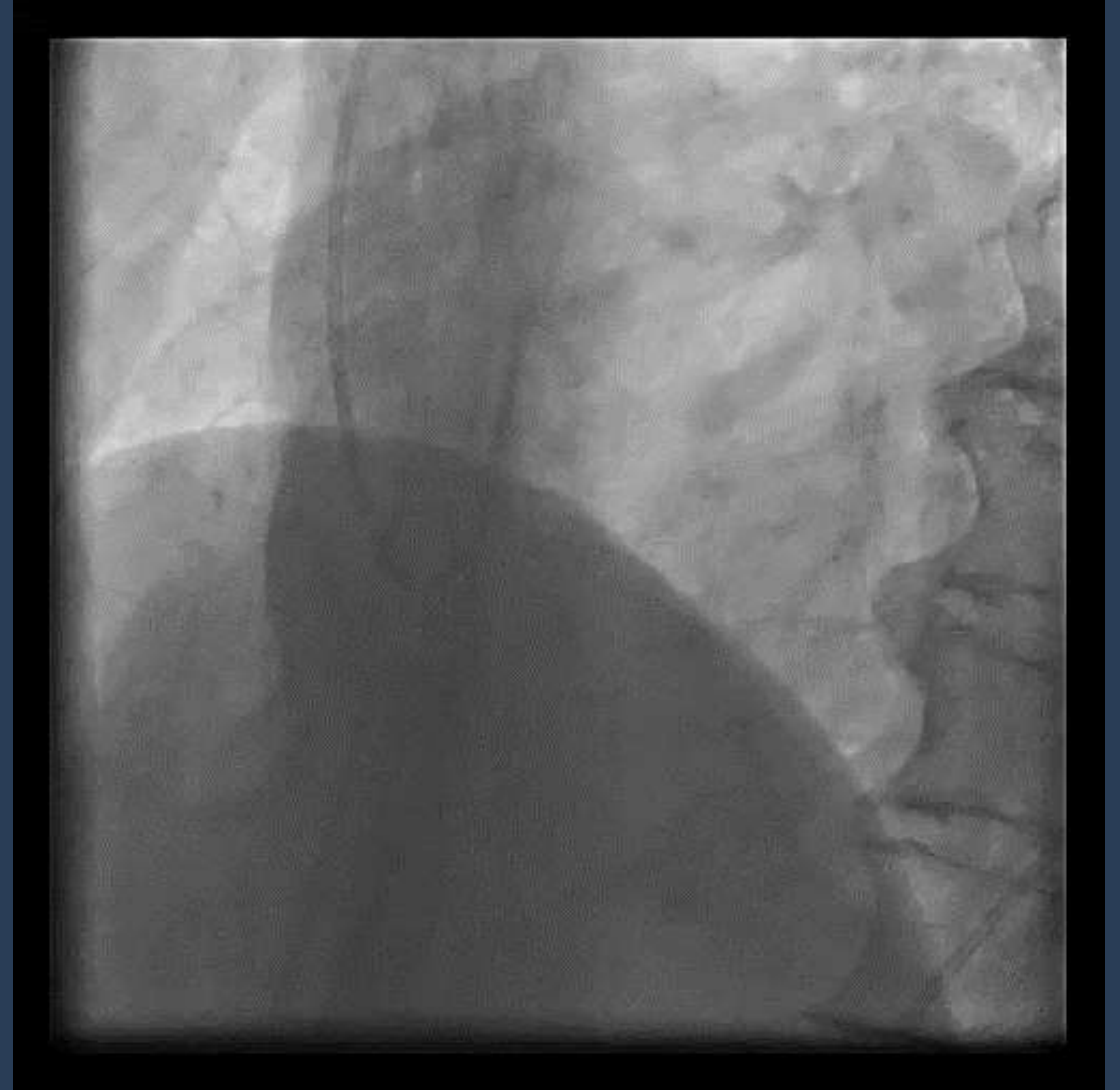
Severe stenosis in left main



We could not engage RCA.....

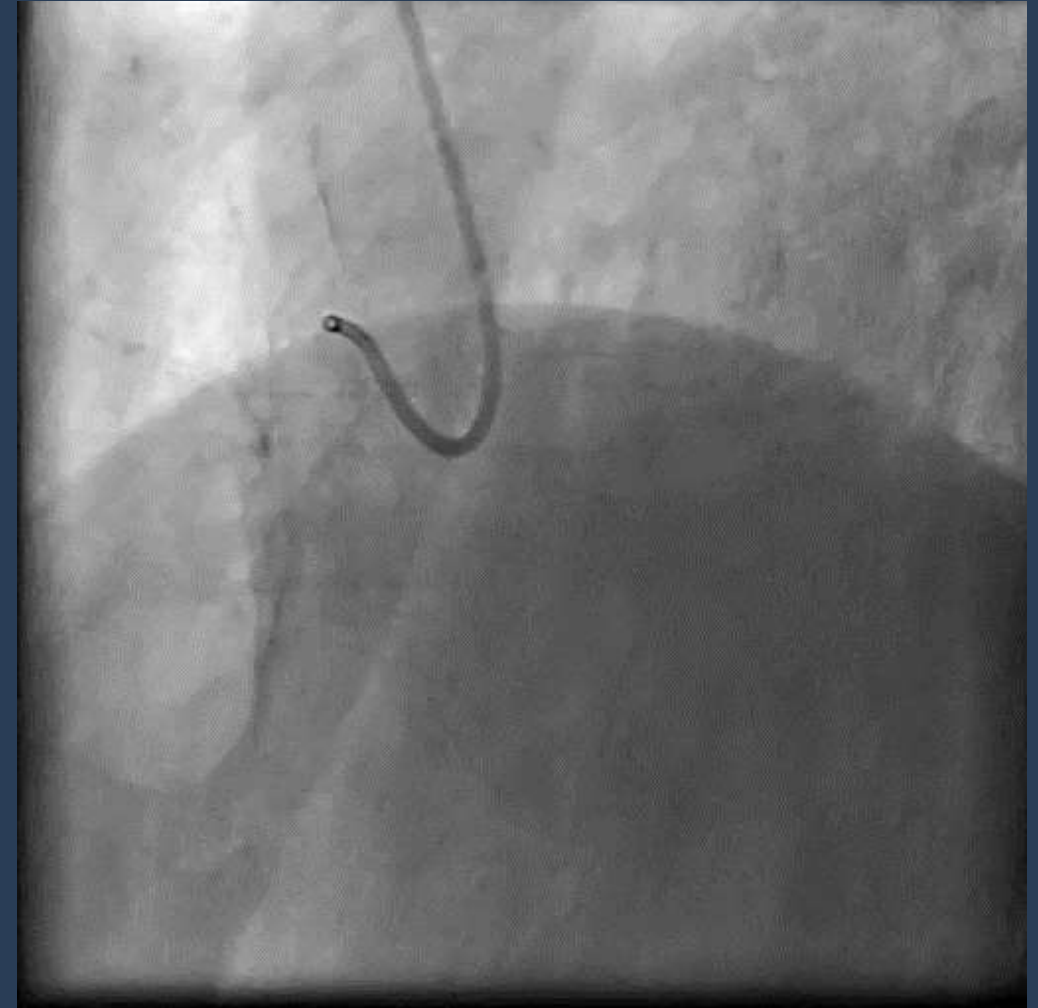
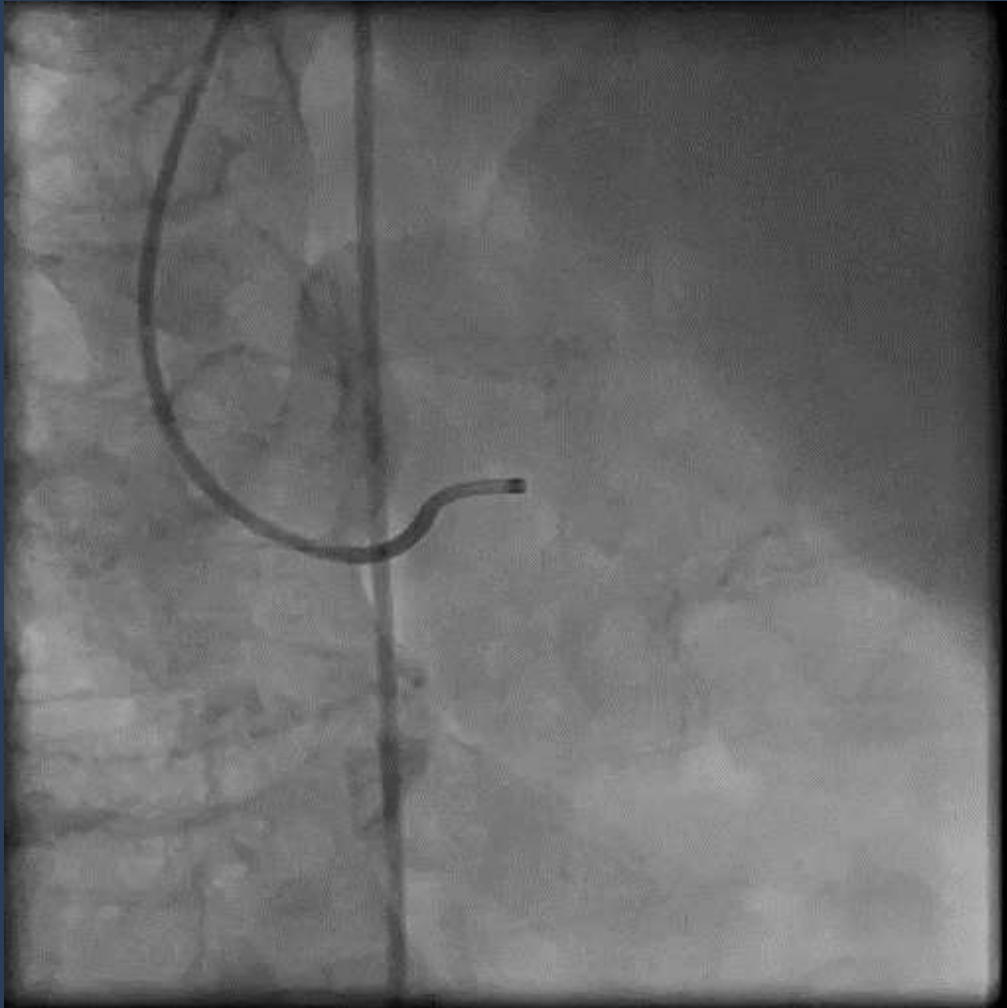


Aortogram



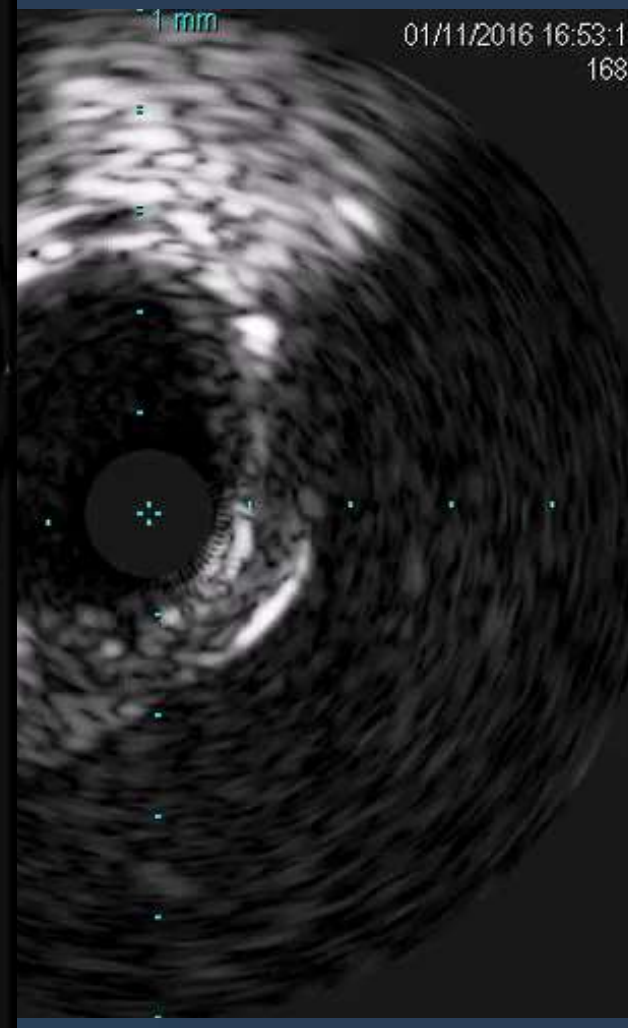
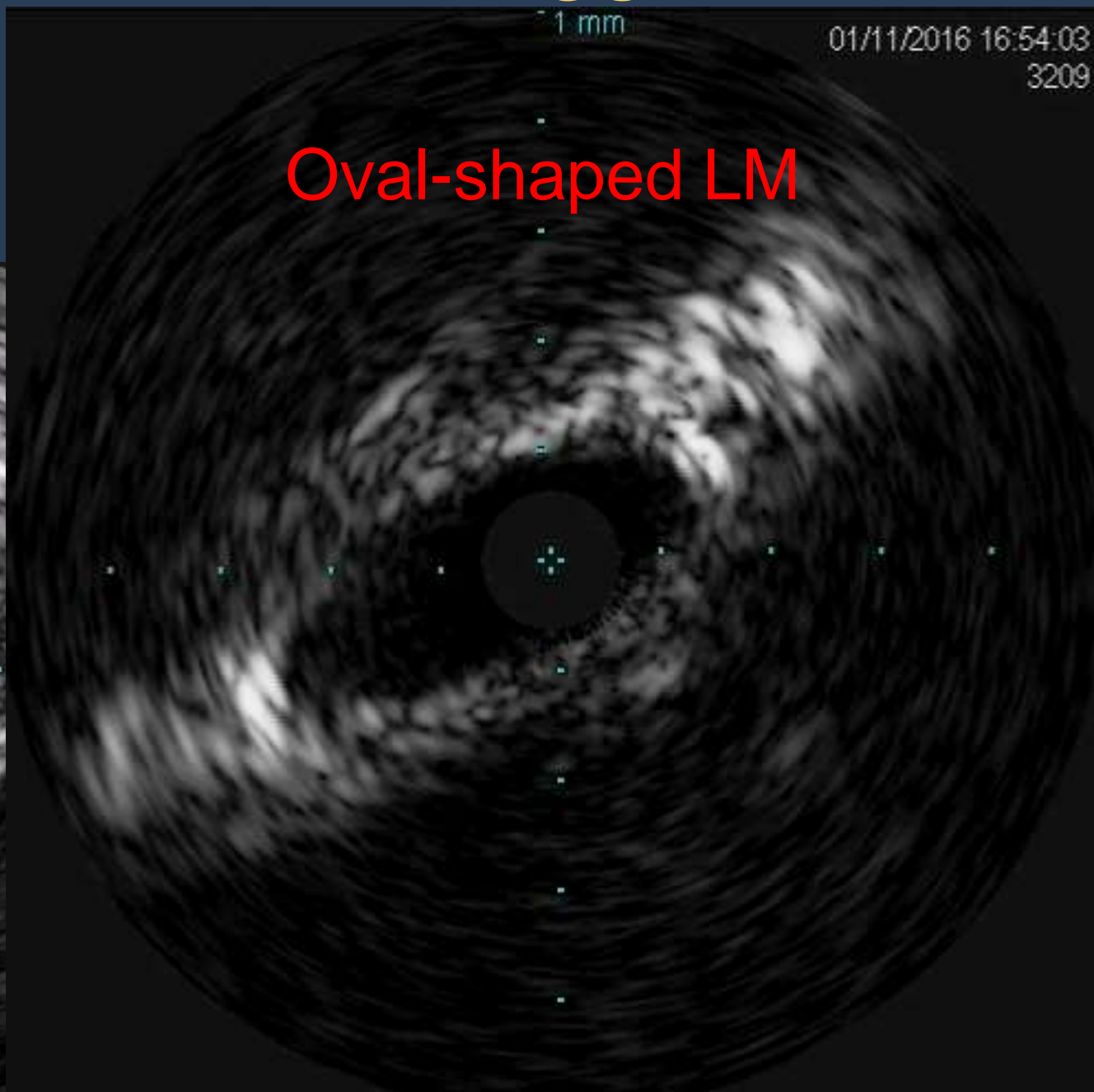
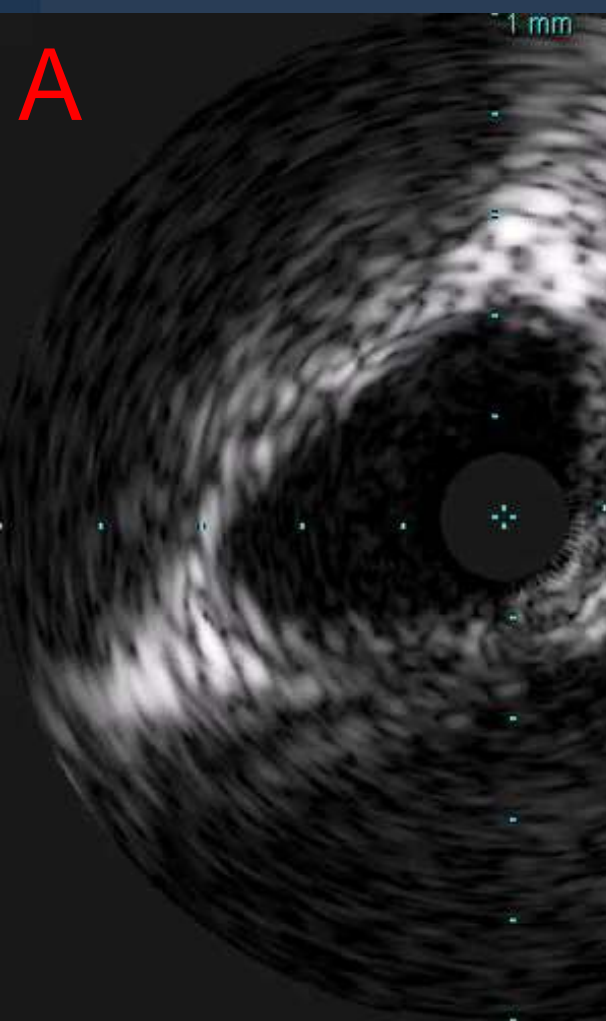
CAG - RCA

AL 2.0 diagnostic catheter ... still very difficult



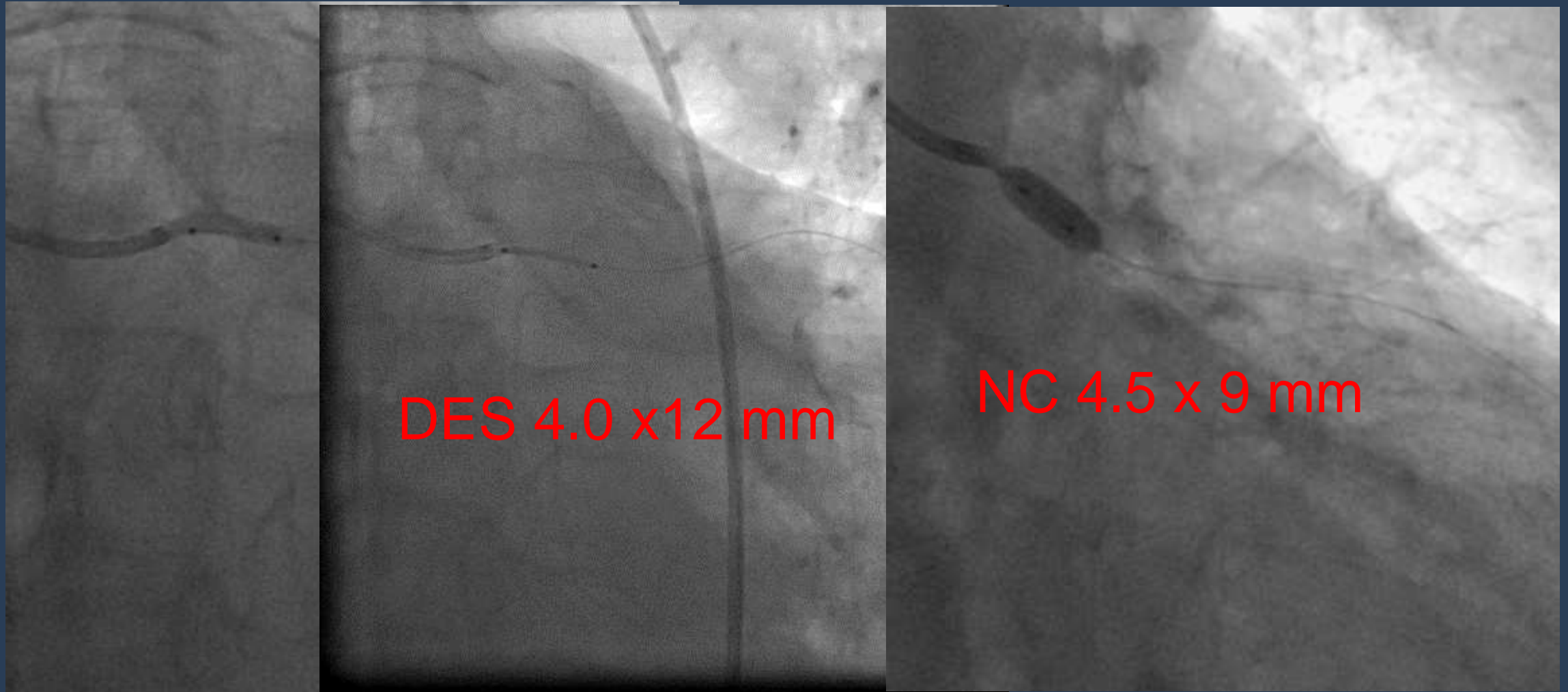
IVUS

A



PCI for LM

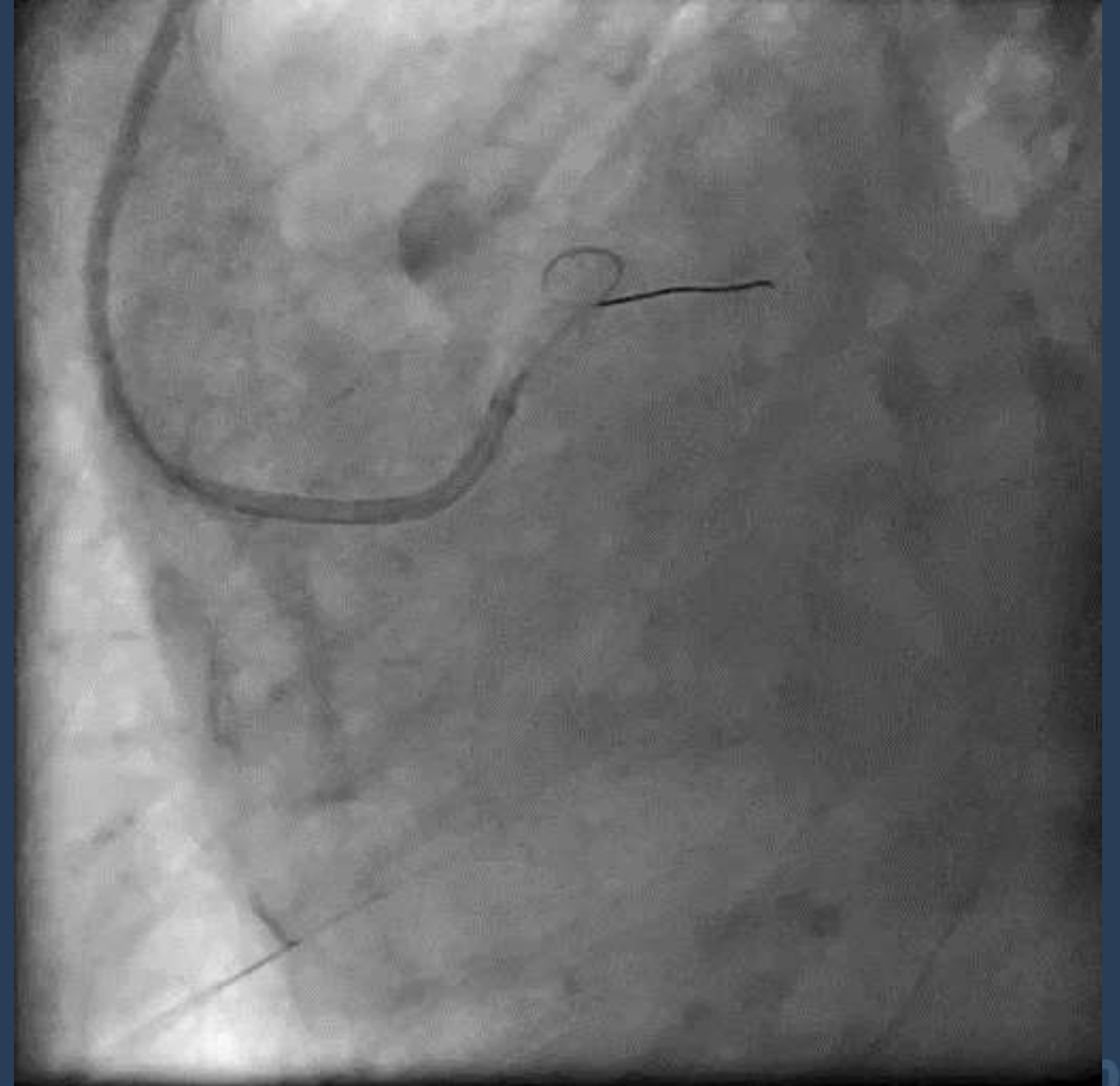
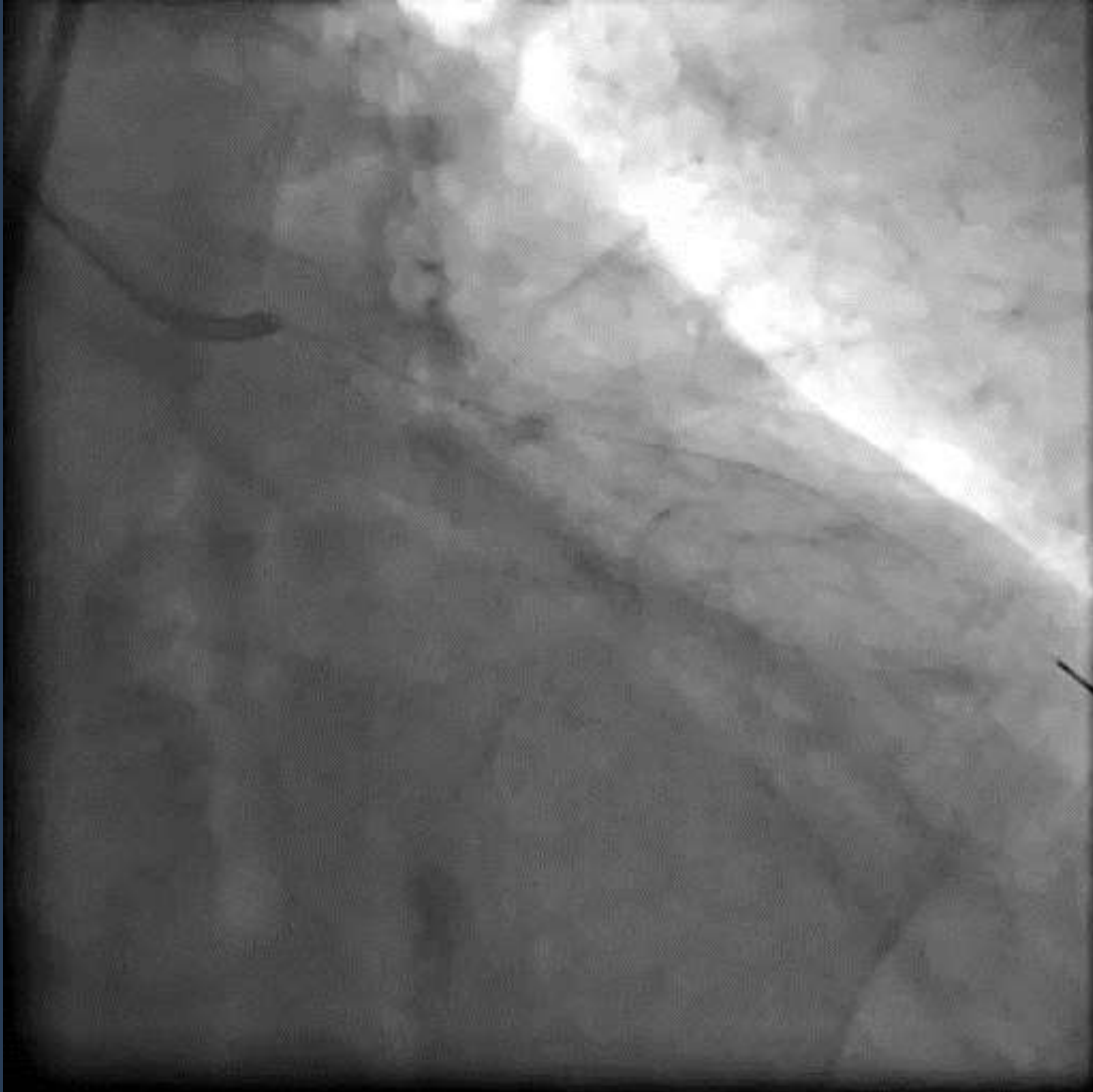
JL 5.0 x 7F guider + Runthrough floppy GW



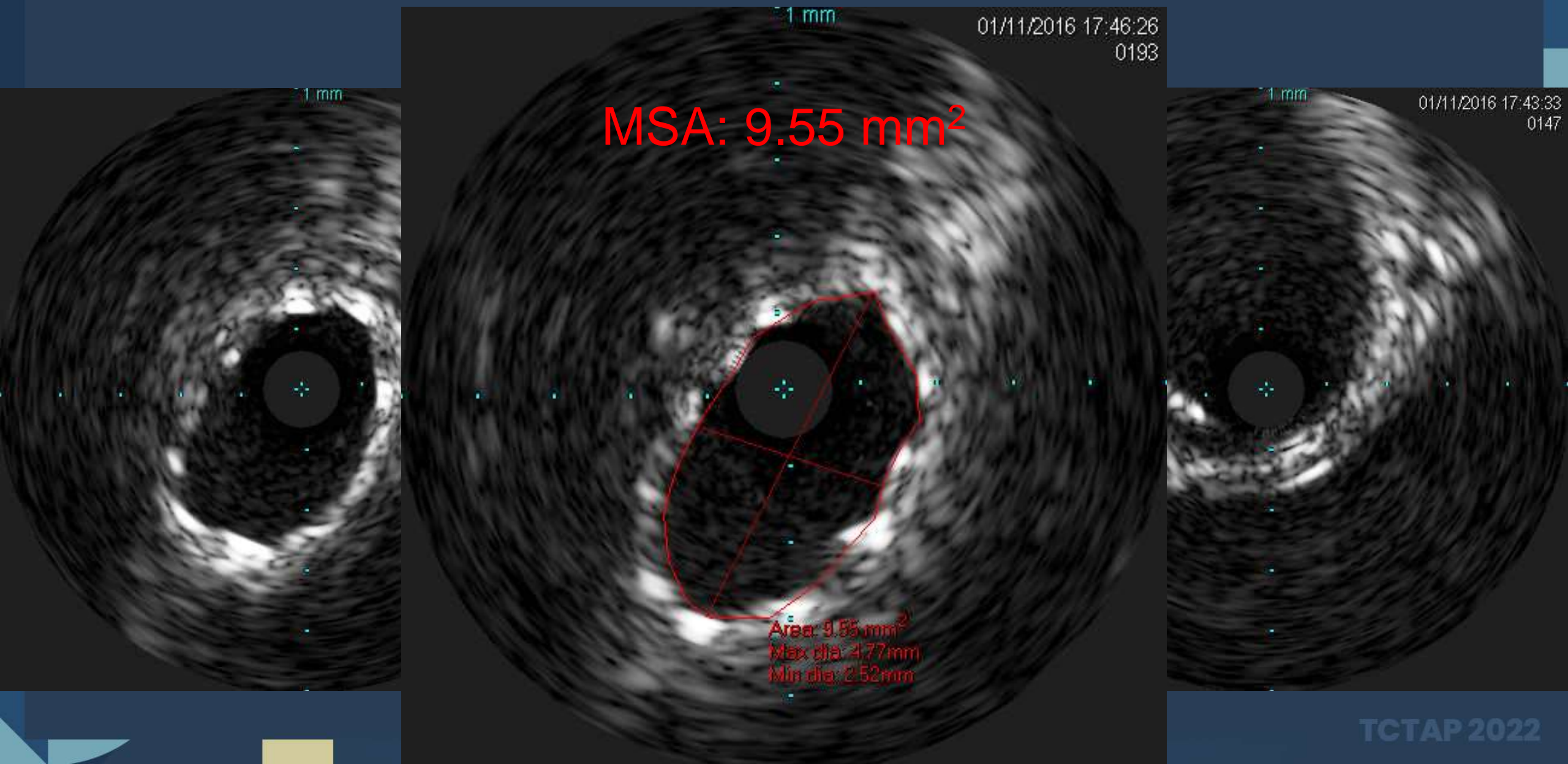
DES 4.0 x12 mm

NC 4.5 x 9 mm

Final Angiogram



IVUS post-PCI



Clinical Course

Discharged home on the next day

On bokey, Ticagrelor, statin,
Concor

Symptoms improved much after
PCI

3 months after PCI

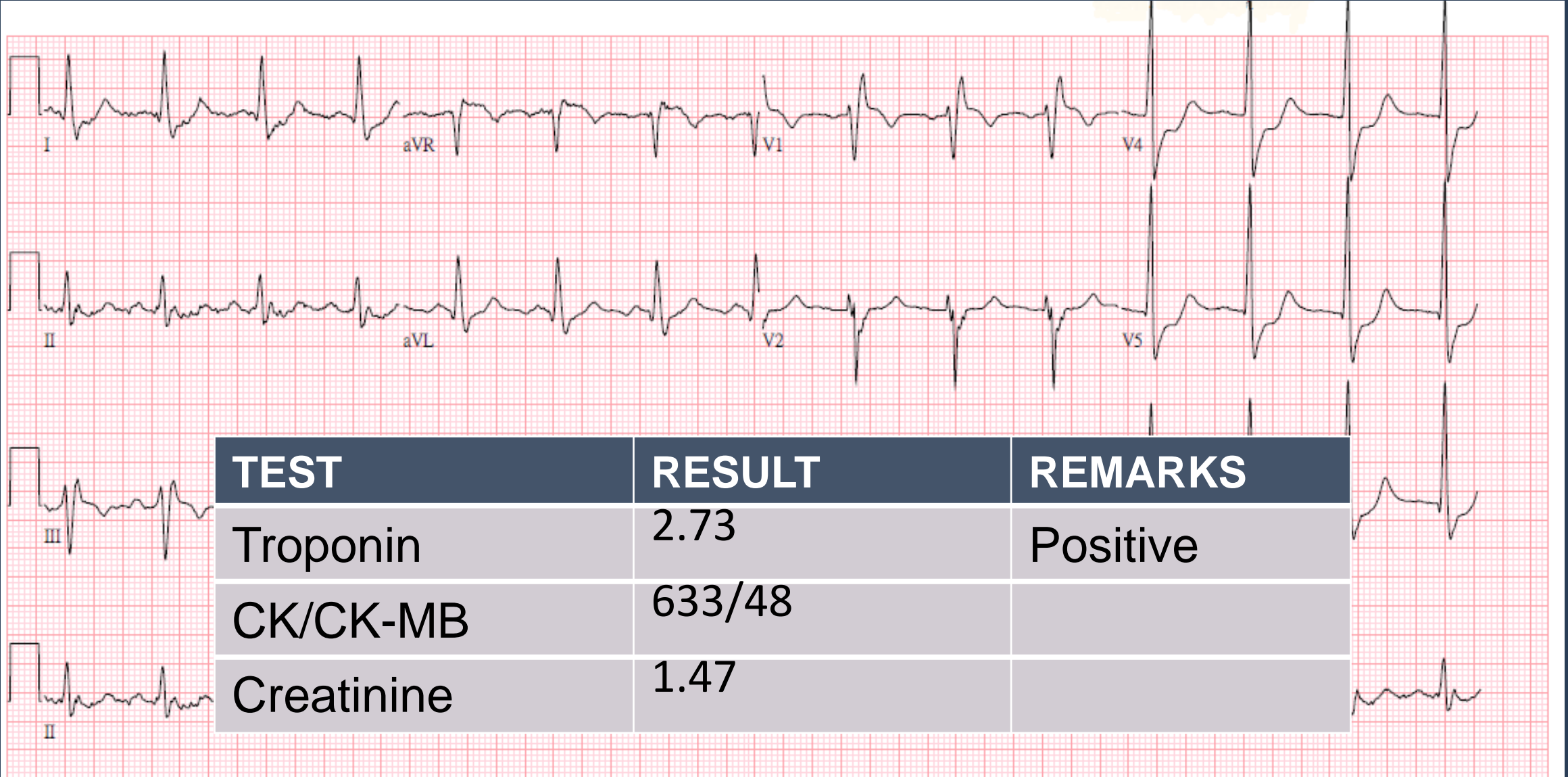


Acute chest pain and dyspnea



Our ER

ECG



TEST	RESULT	REMARKS
Troponin	2.73	Positive
CK/CK-MB	633/48	
Creatinine	1.47	

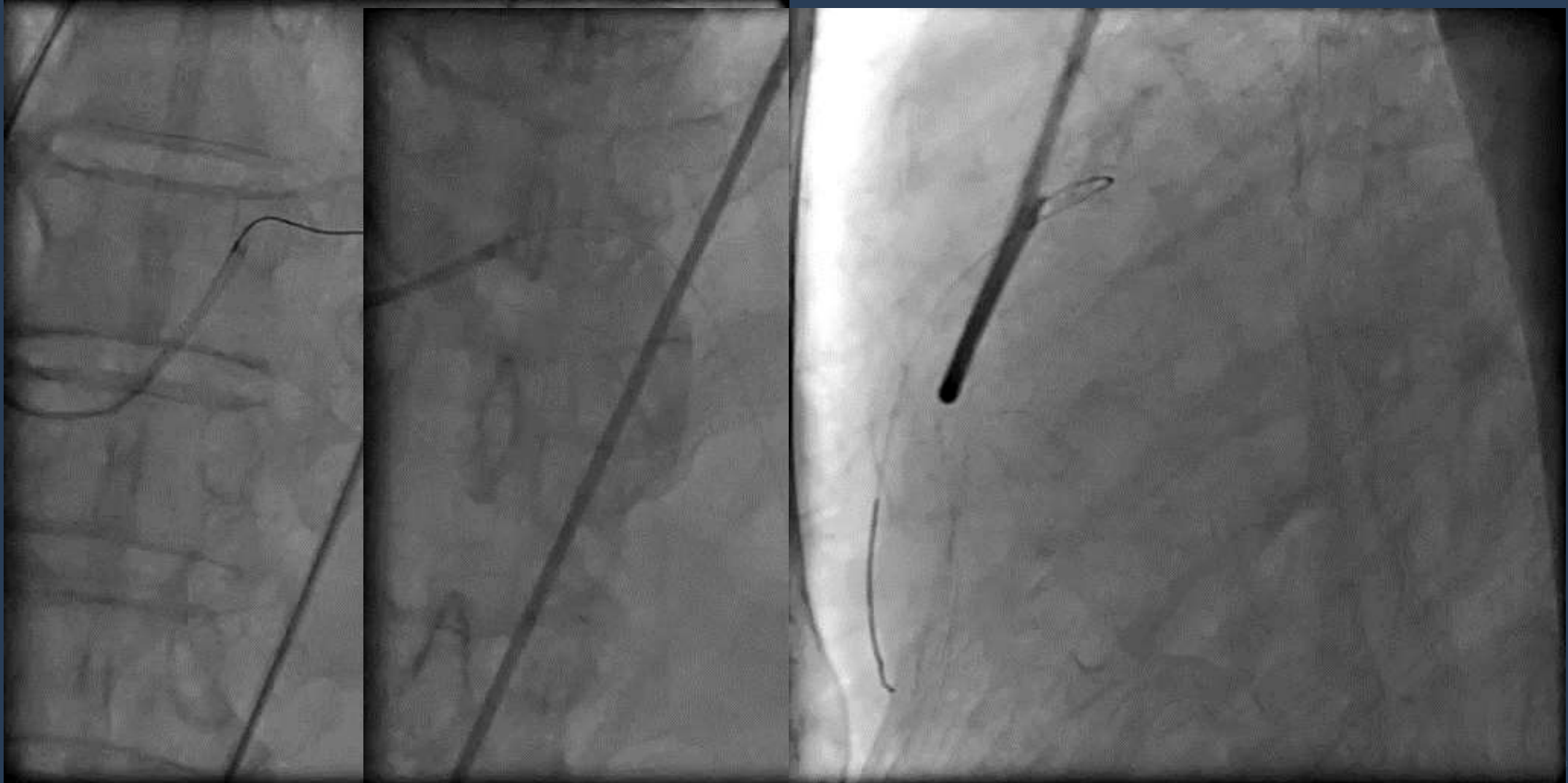
**Sent the patient to cath. Lab
for CAG**



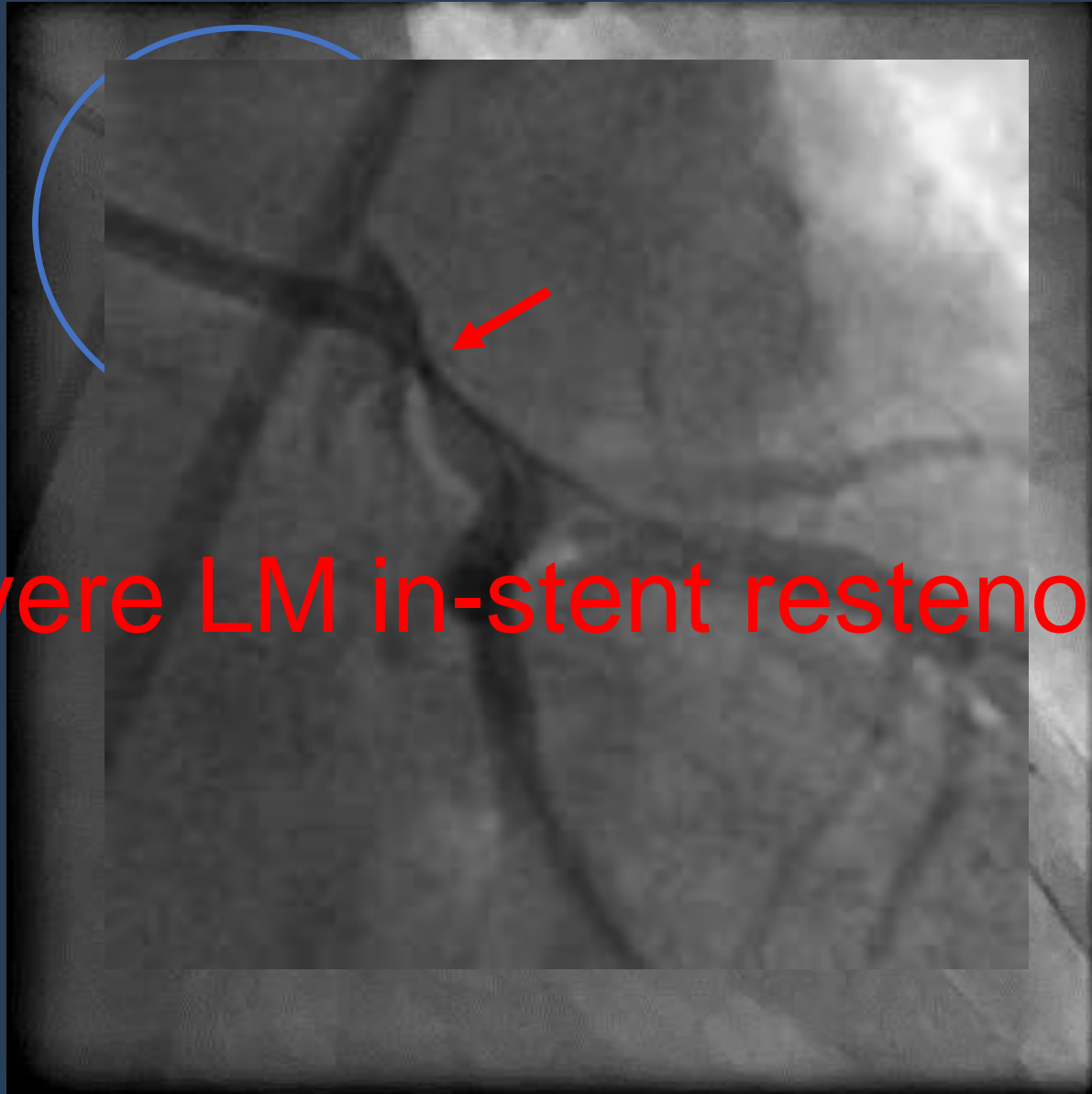
**Very difficult to engage
LM**

CAG - LCA

EBU 5.0 guiding catheter + Runthrough floppy guidewire

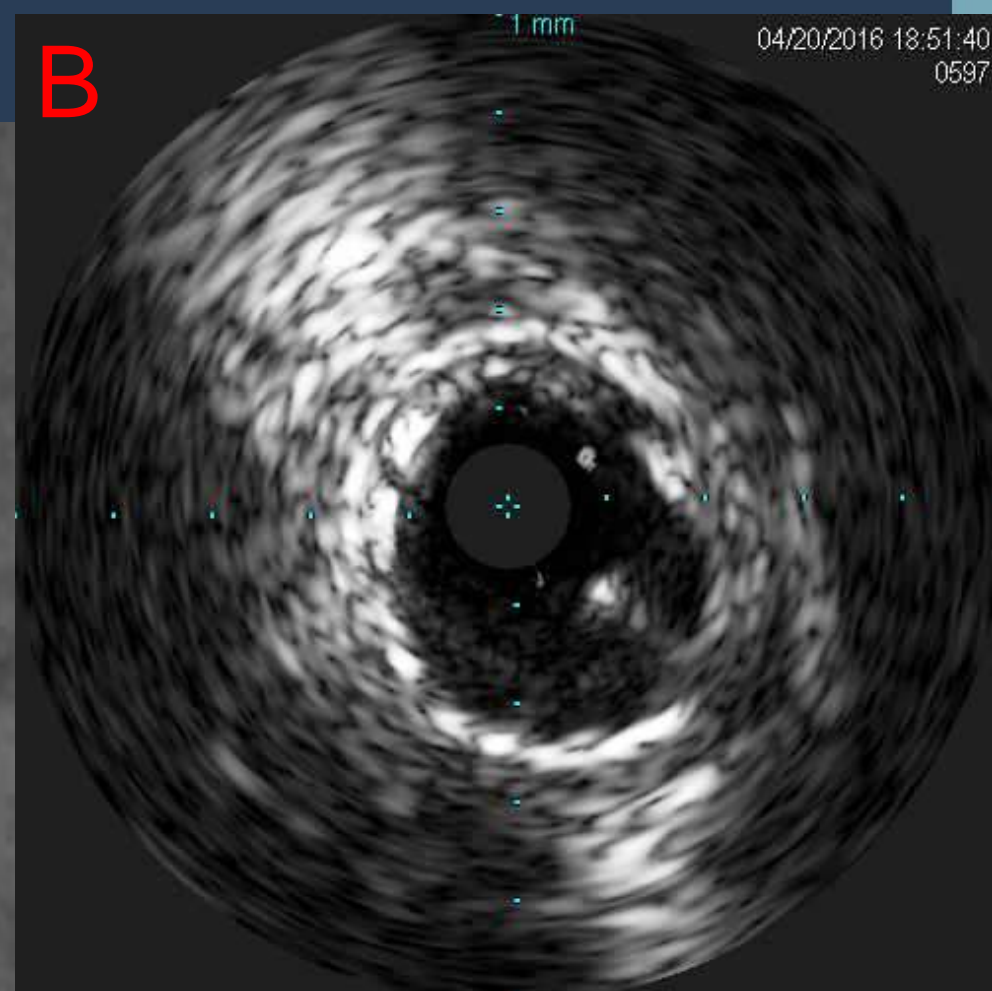
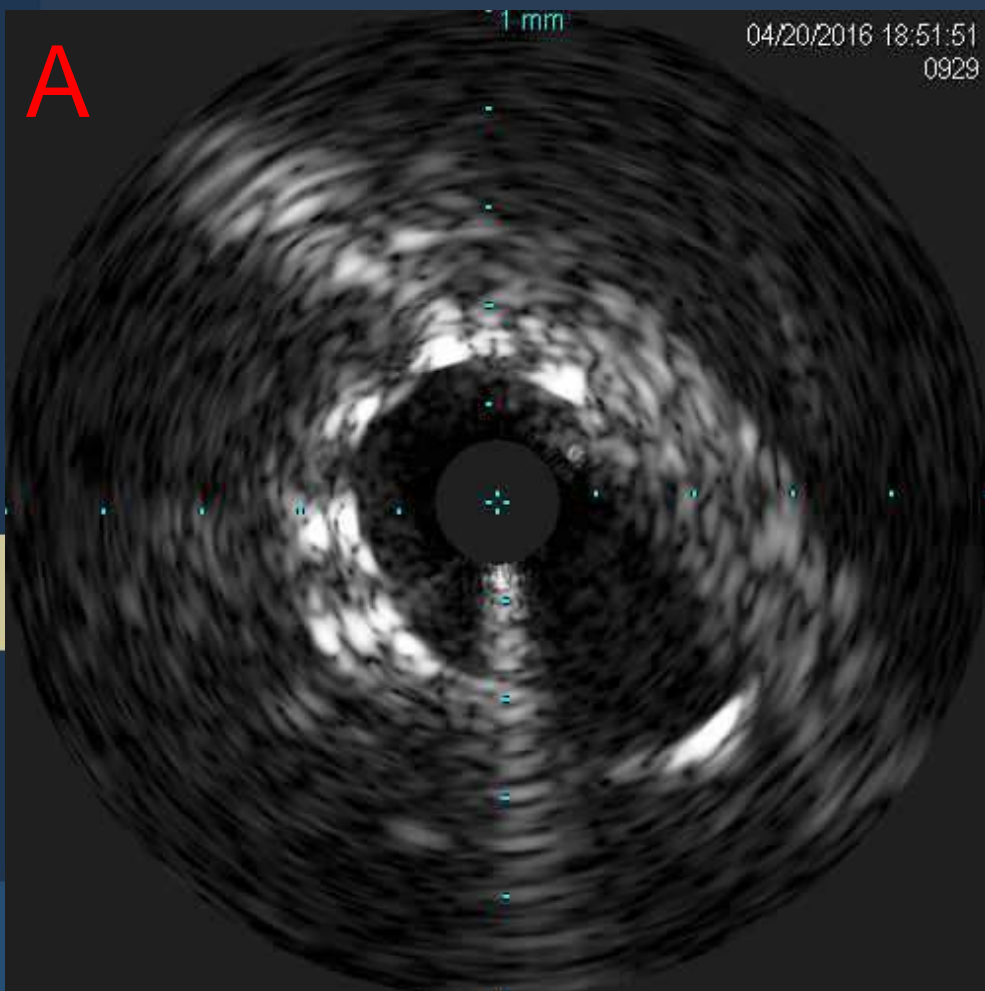


CAG - LCA



Severe LM in-stent restenosis !

IVUS

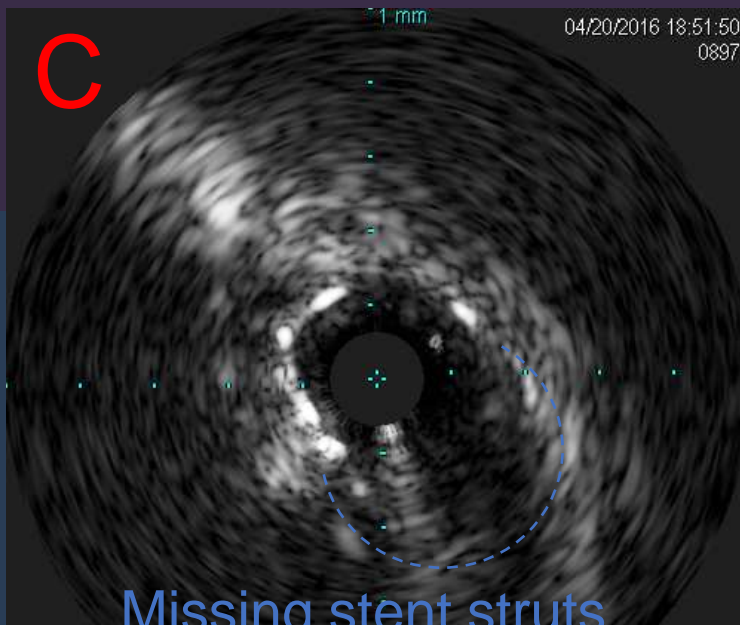


D



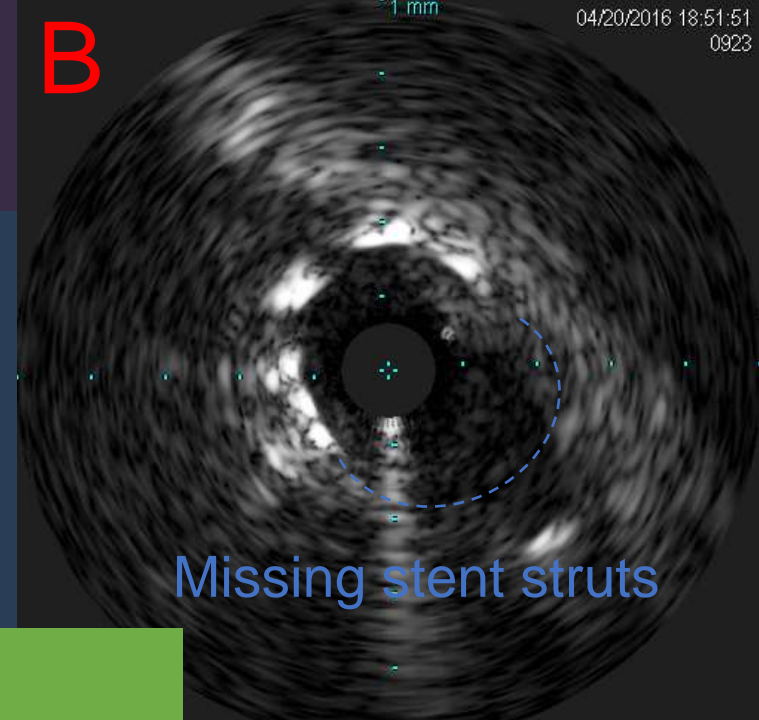
Missing stent struts

C



Missing stent struts

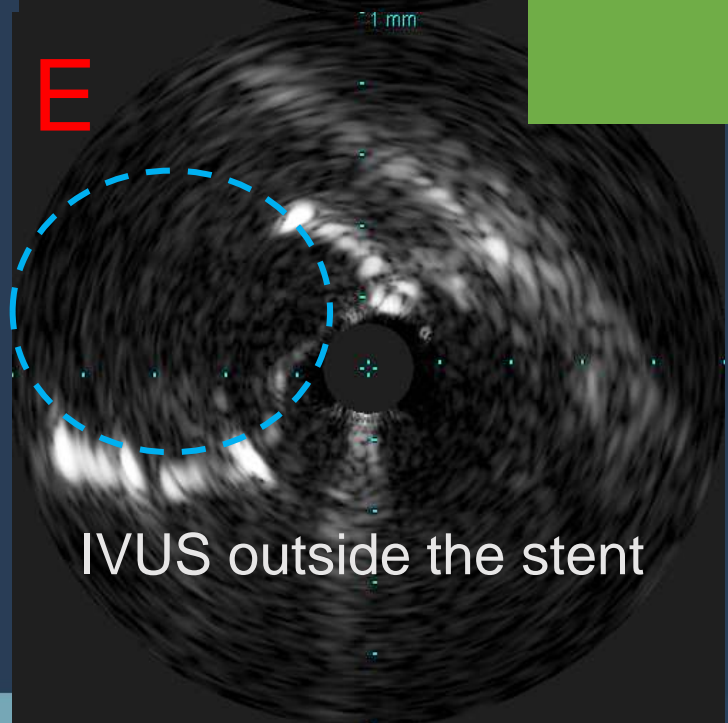
B



Missing stent struts

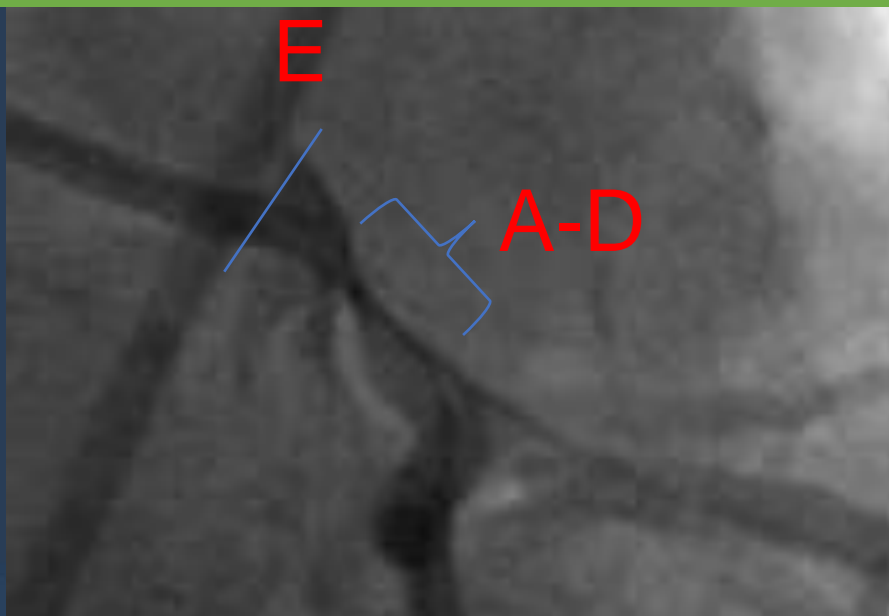
Stent fracture !!

E



IVUS outside the stent

E



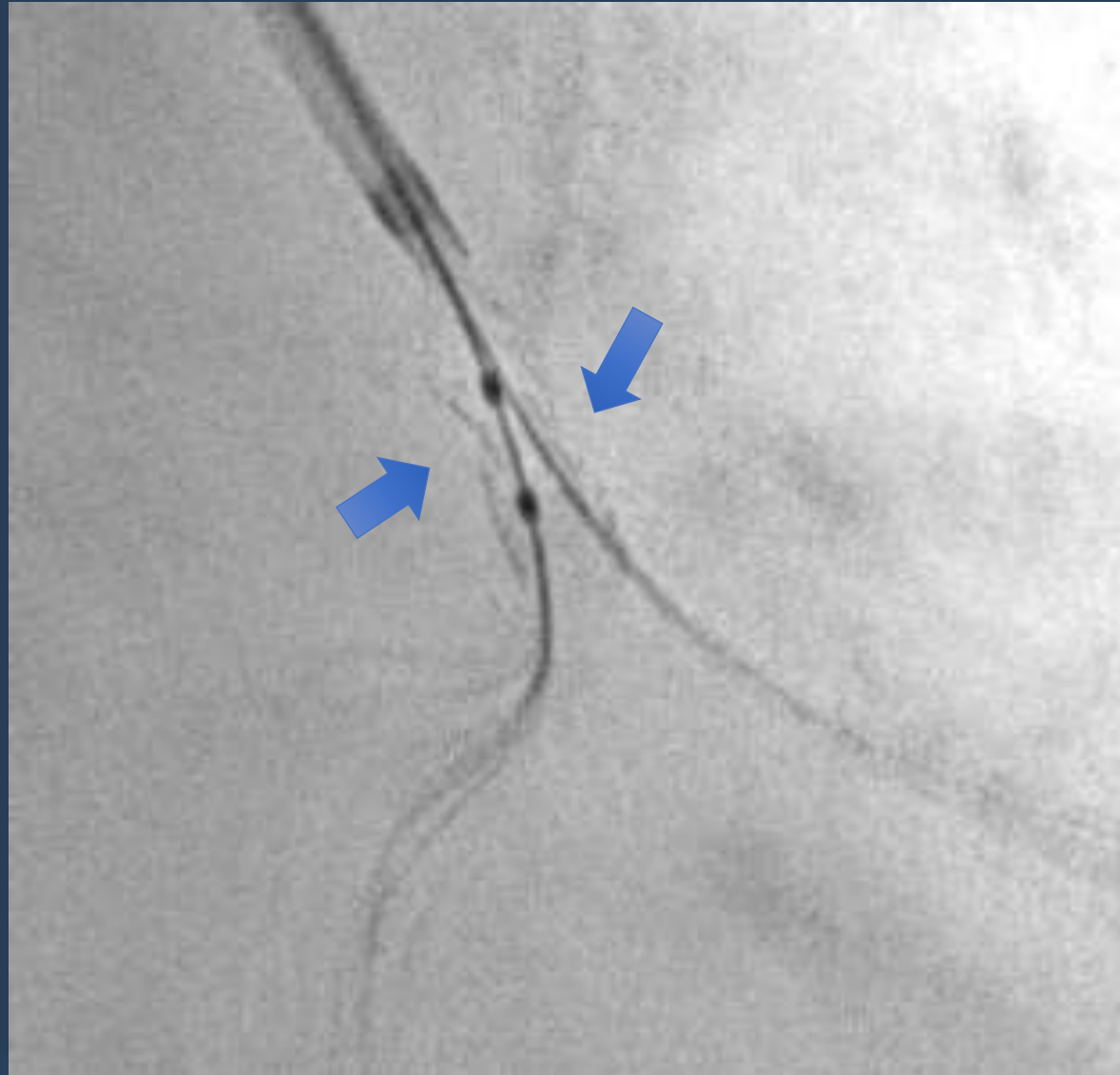
A-D

A



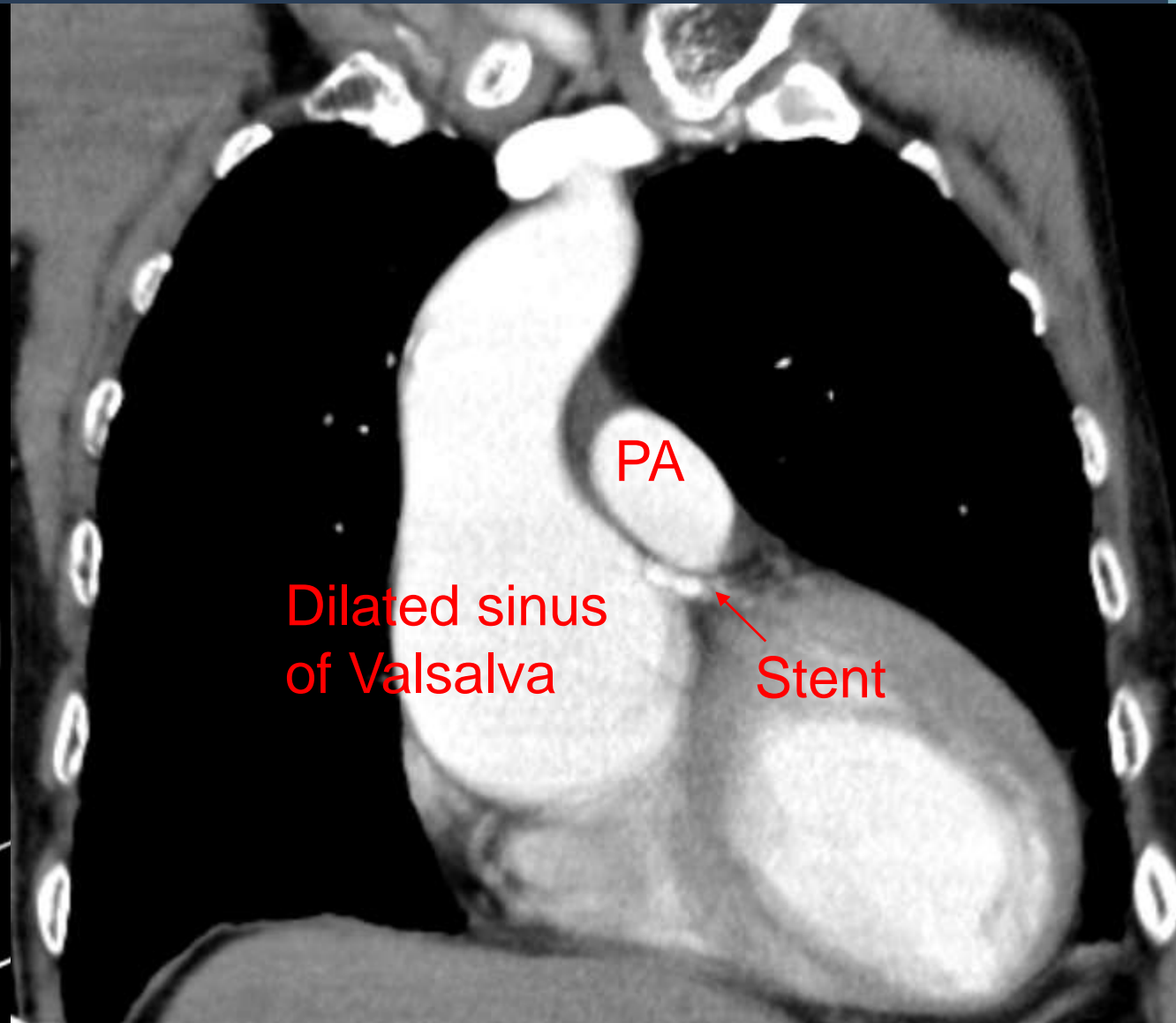
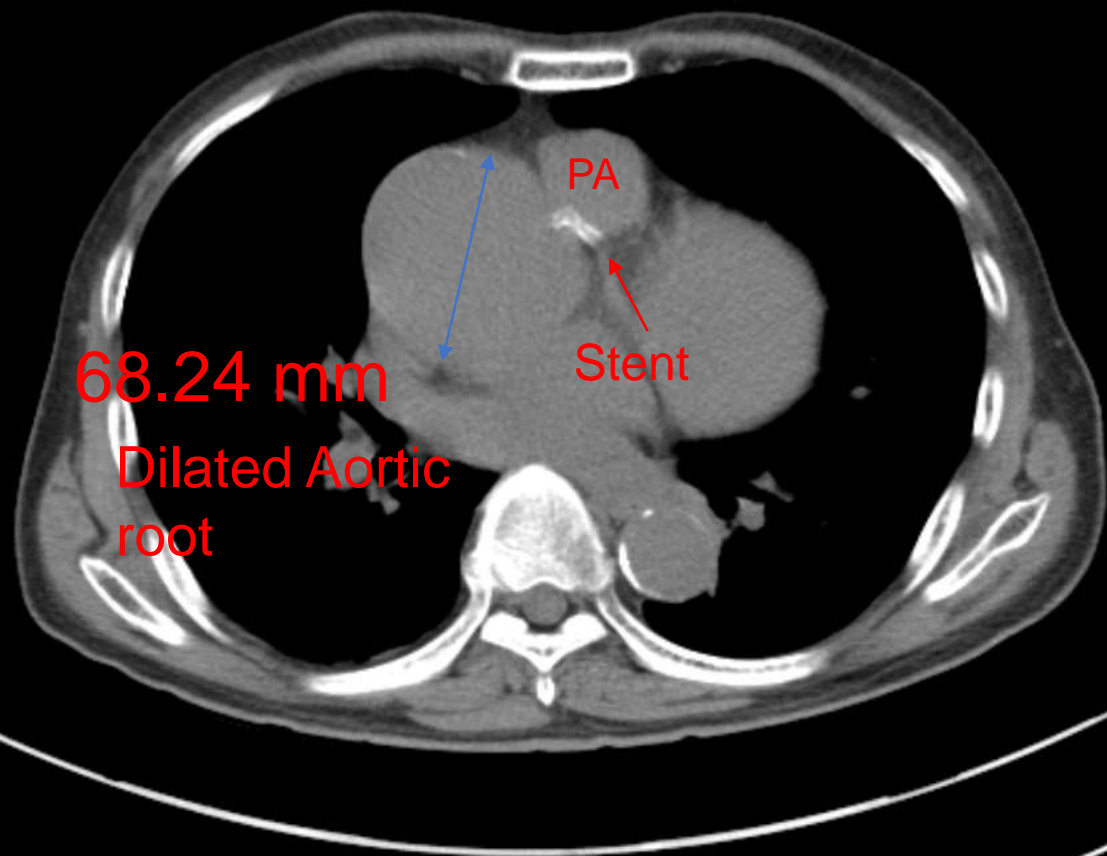
Missing stent struts

Stent Boost Image

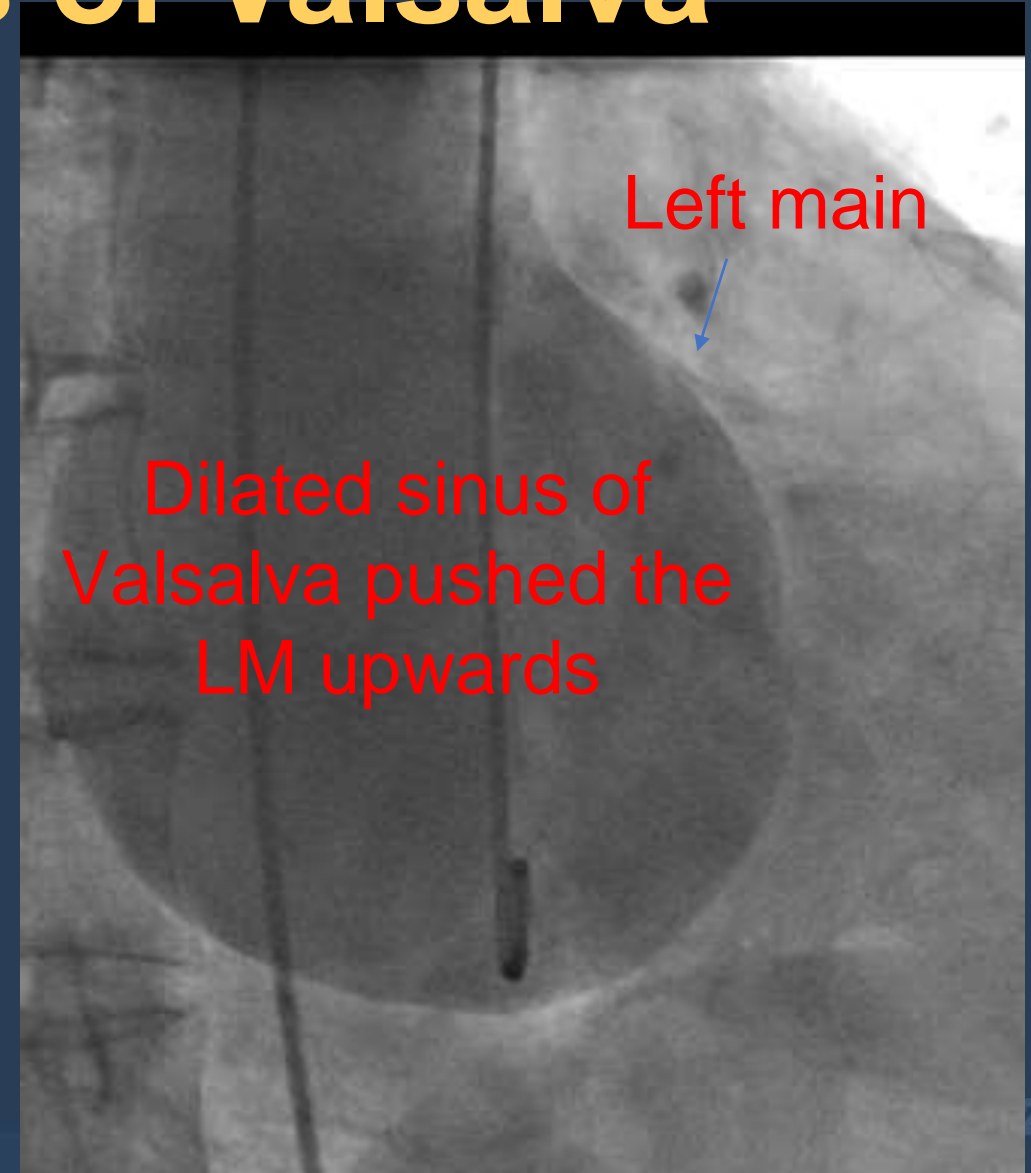
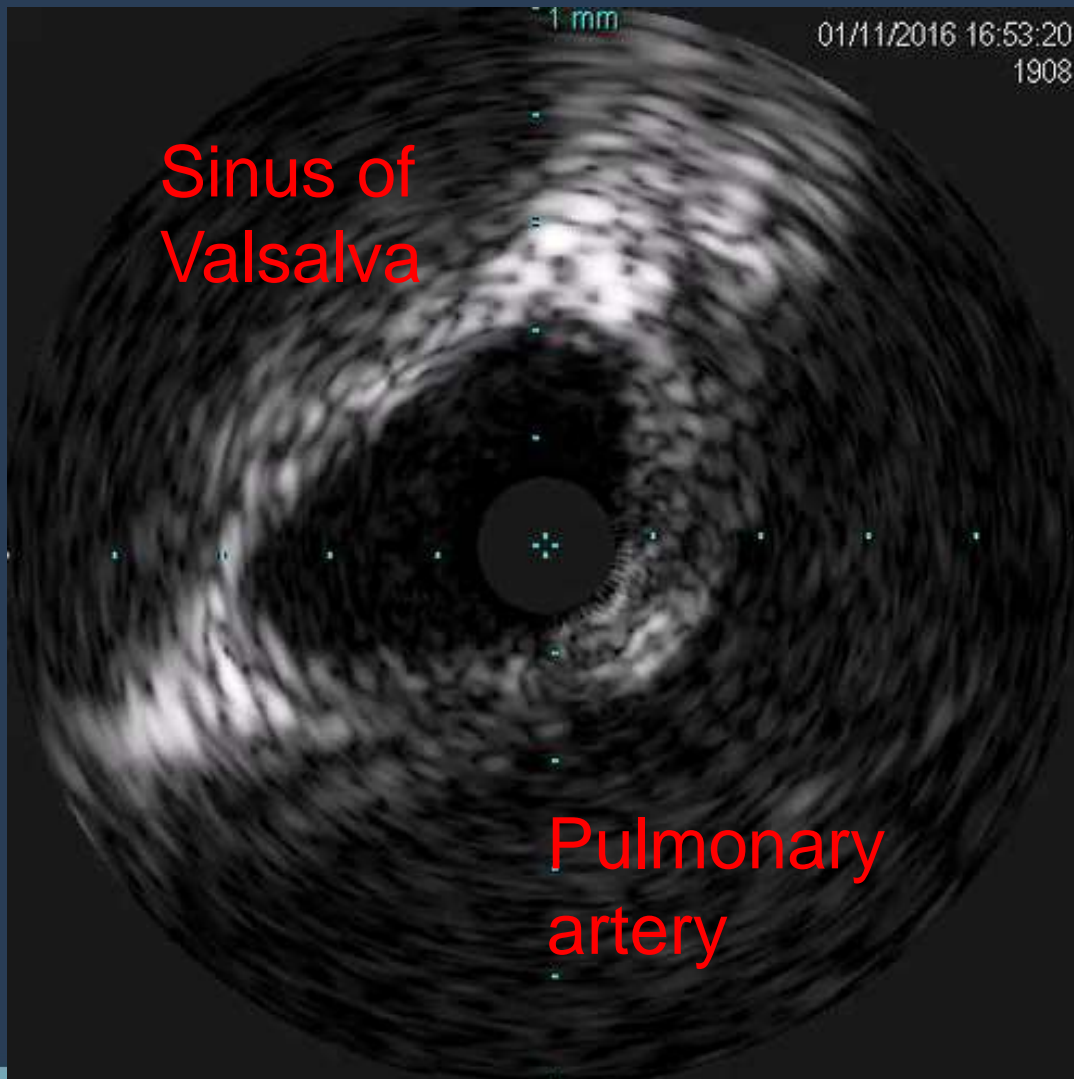


Why did stent fracture happen ?

Chest CT

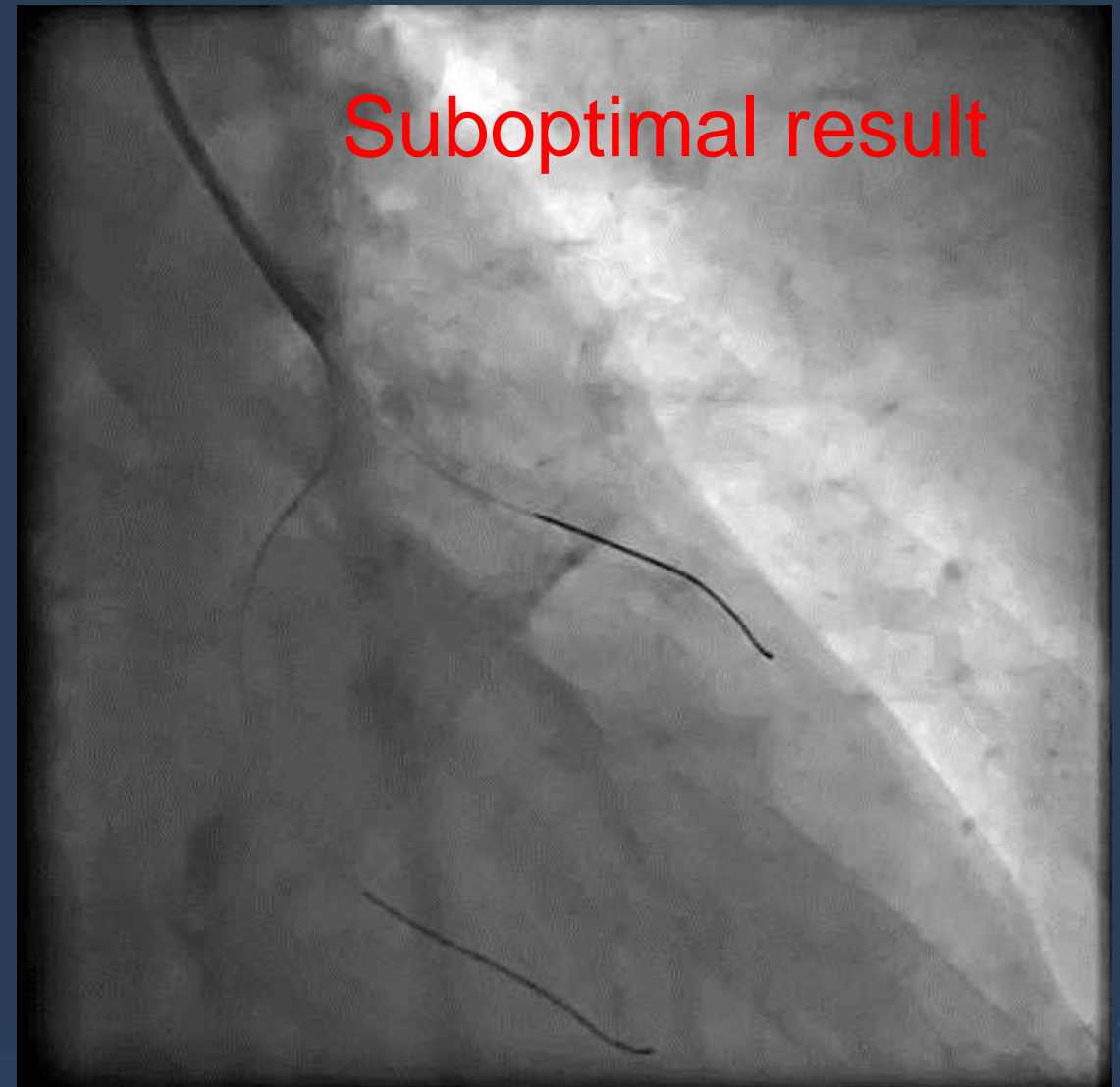
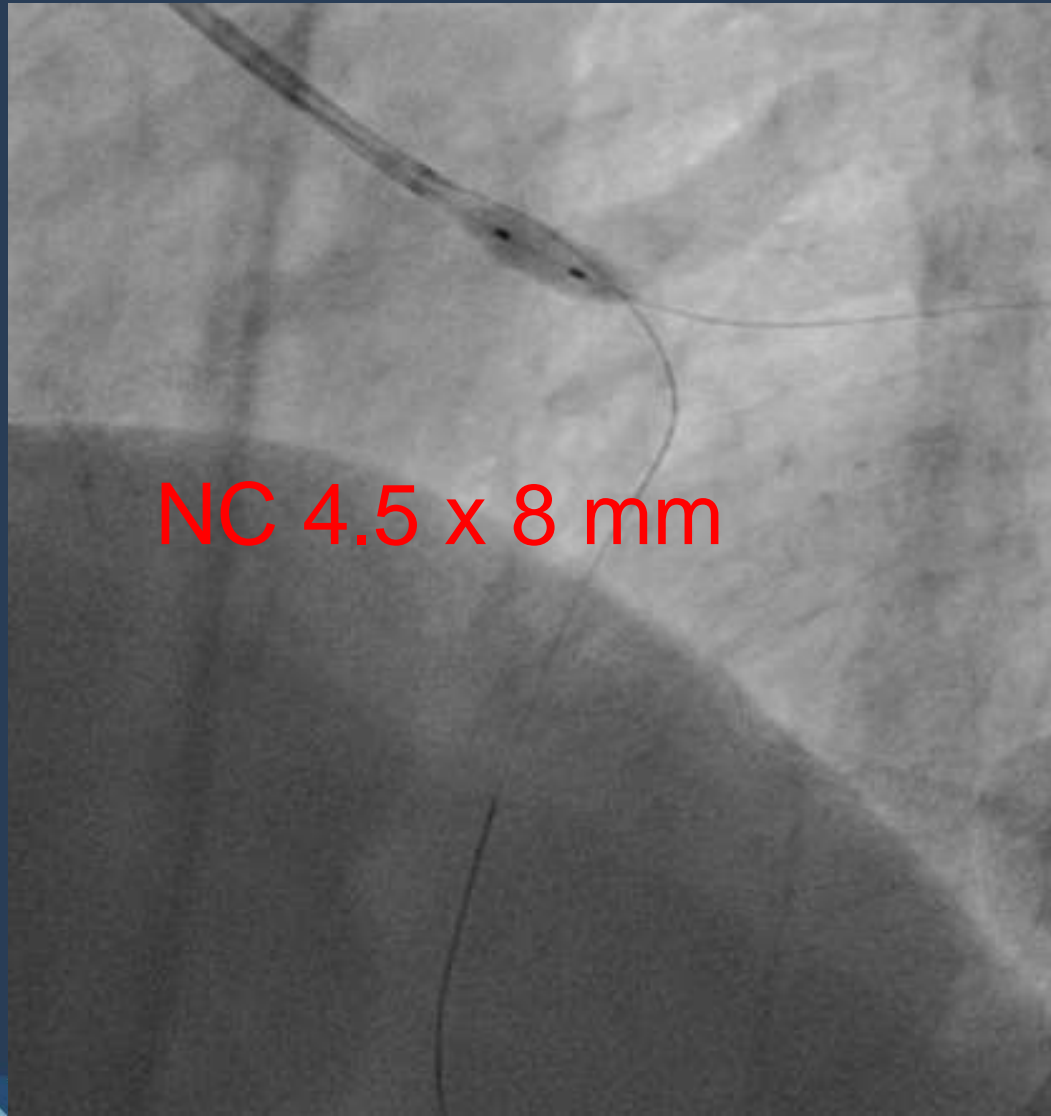


Stent fracture caused by compression of dilated sinus of Valsalva



PCI for LM ISR

EBU 5.0 guiding catheter + Runthrough floppy guidewire



Clinical Course

We consulted CVS for evaluation

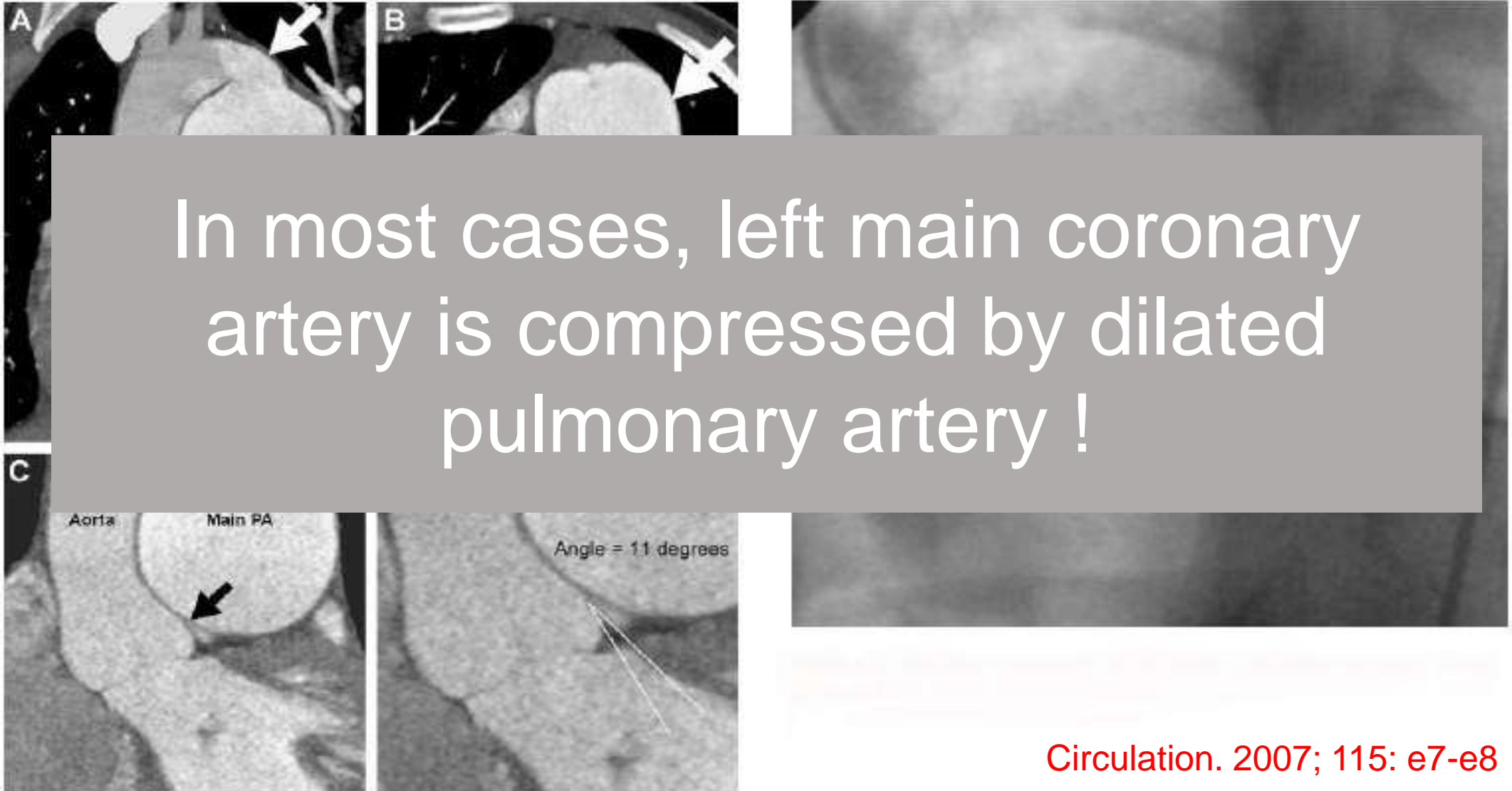


The patient underwent Bentall
procedure + CABG

Left Main Coronary Artery Compression Syndrome

Evaluation With 64-Slice Cardiac Multidetector Computed Tomography

Jonathan D. Dodd, MD, MSc, MRCPI, FFR(RCSI); Andrew Maree, MD; Igor Palacios, MD;



Conclusion

- Extrinsic compression of the left main coronary artery is an increasingly recognized disease entity
 - Mostly in patients with pulmonary hypertension with a dilated pulmonary artery.
- In our case, the left main coronary artery was compressed by dilated sinus of Valsalva and pulmonary artery
 - An extremely rare condition.
- PCI with stenting should be avoided considering the high compression force generated by the dilated sinus of Valsalva, which predisposes the stent to deformation