OCT Guided PCI in Ambiguous Lesion of NSTEMI Patient

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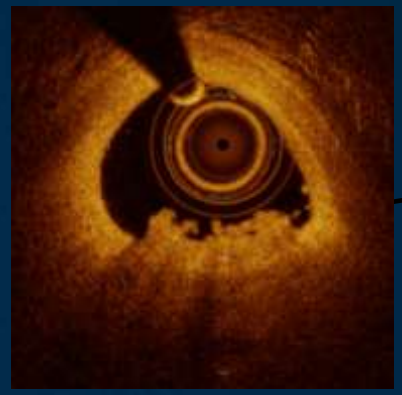
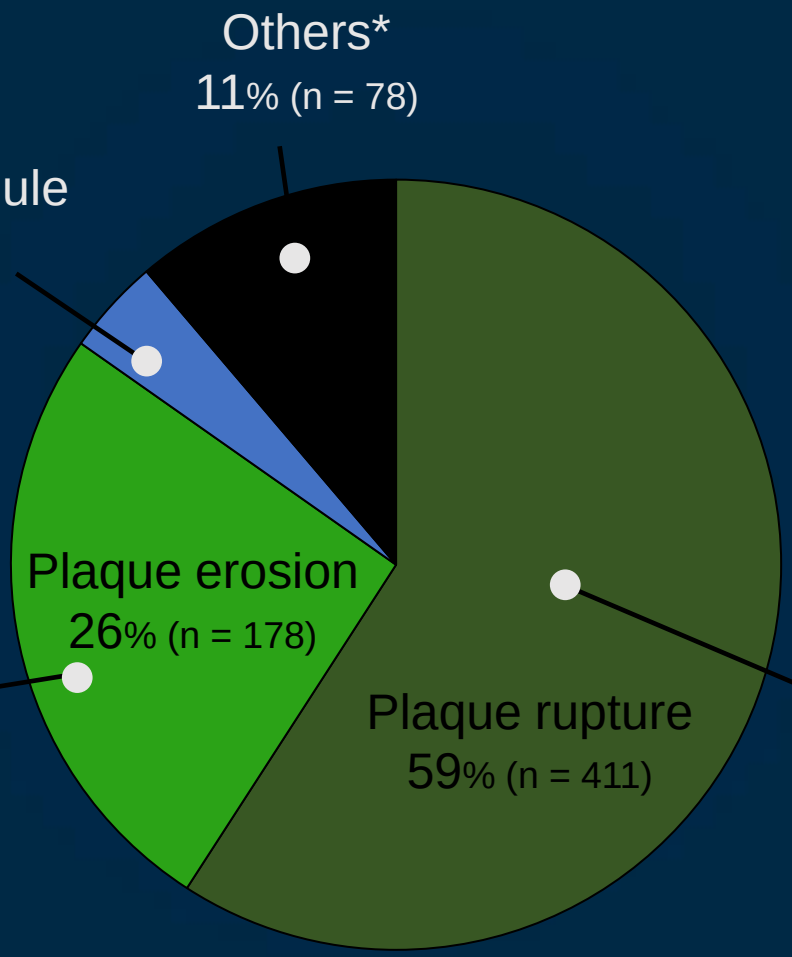
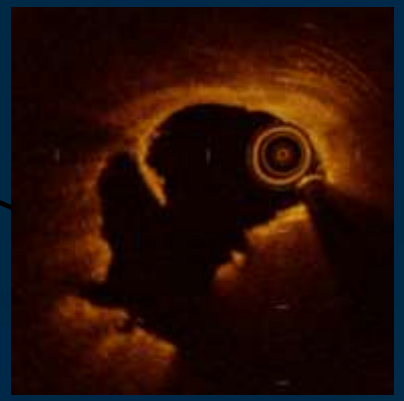
Disclosure

- I have nothing to disclose

Prevalence of underlying causes of ACS (primary endpoint)







N=695

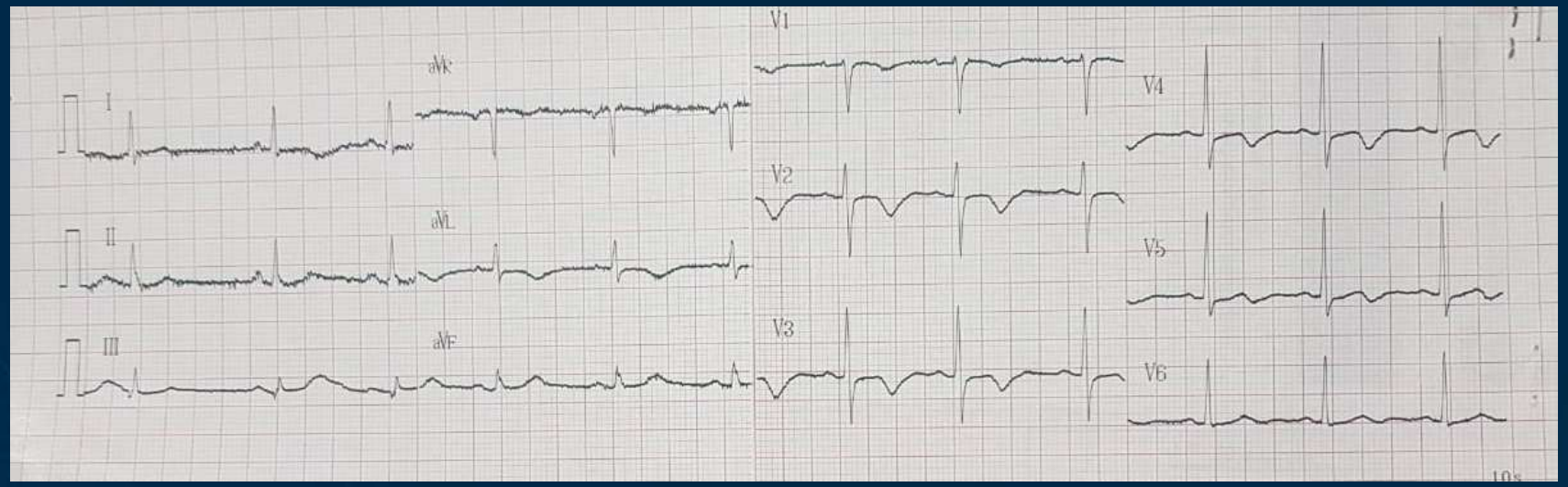
*Others

Significant stenosis	64 (9.1%)
Coronary spasm	7 (1.0%)
Ectasia	3 (0.4%)
Embolism	3 (0.4%)
Spontaneous coronary dissection	1 (0.1%)

Yamamoto MH et.al. J Cardiol. 2022;S0914-5087(22)00164-2.

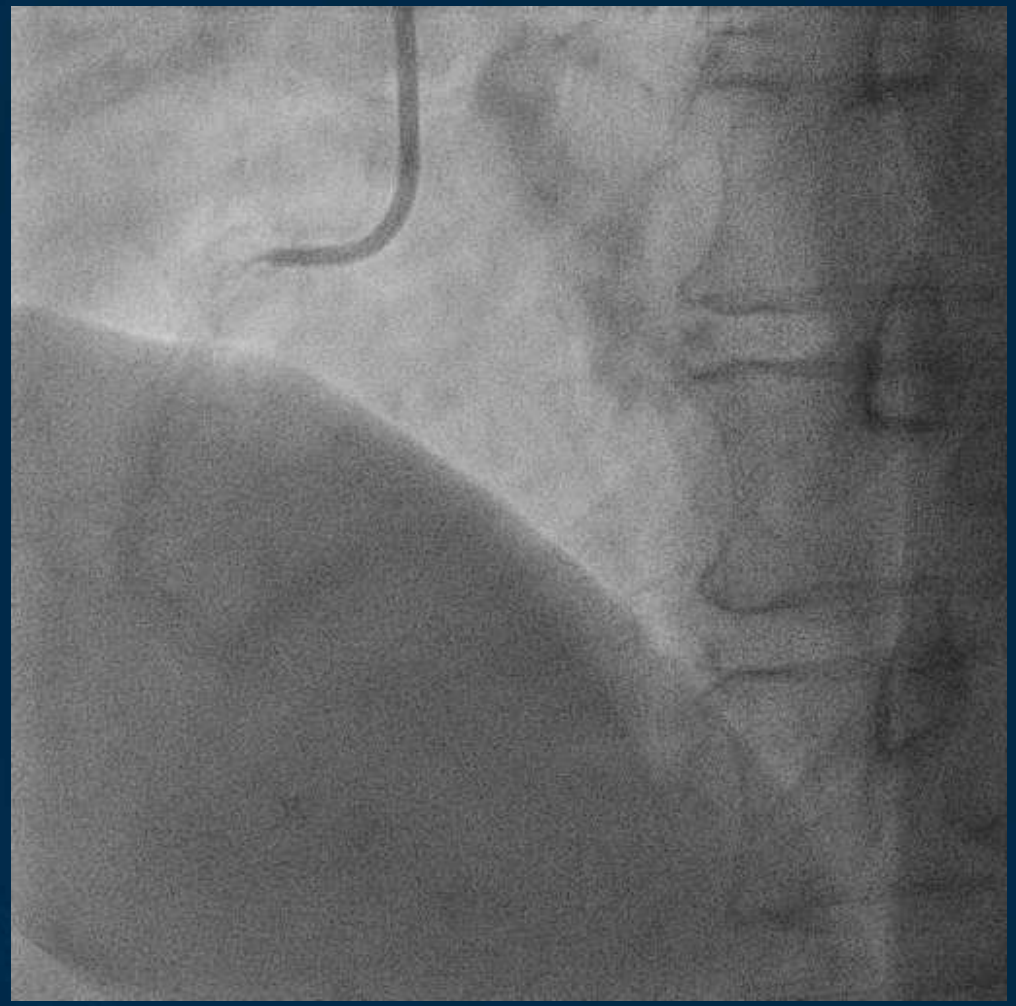
Clinical History

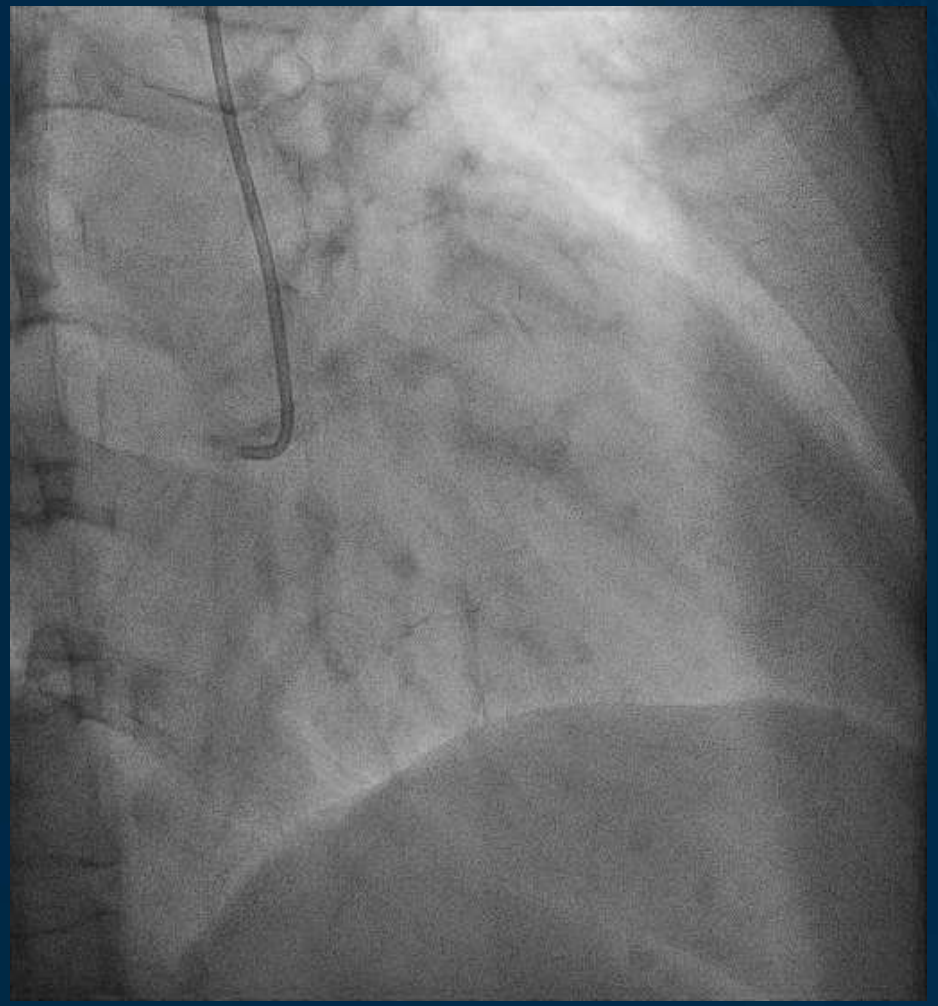
- A 69-year-old female presented with NSTEMI
- Risk factors ; HTN and Dyslipidemia
- Normal renal function
- Echocardiography : Preserved LVEF



Diagnostic Coronary Angiography

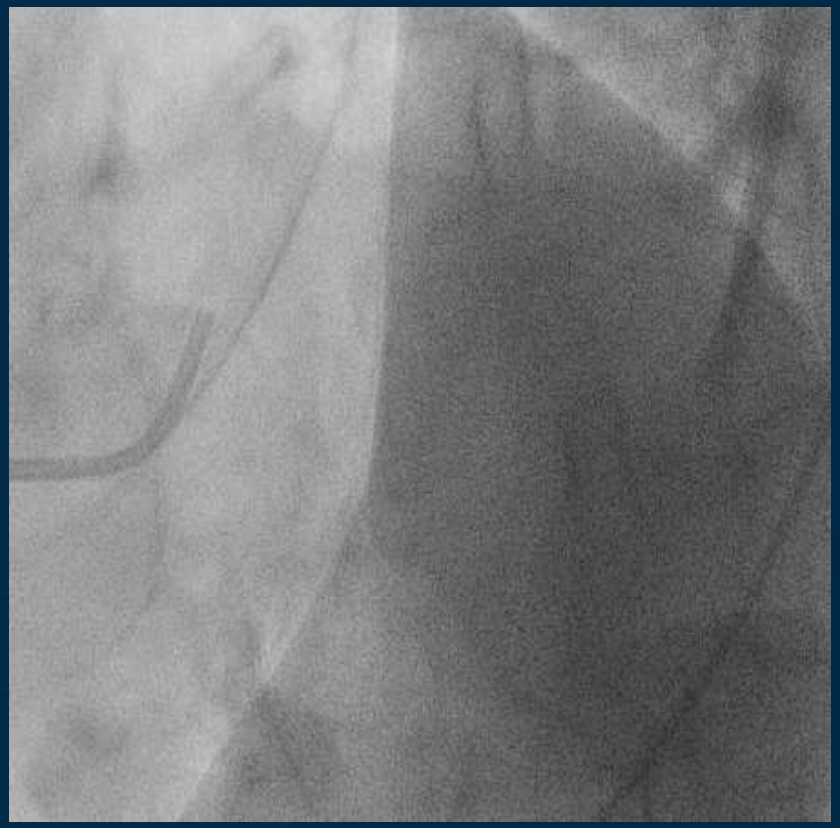
Severe calcified RCA

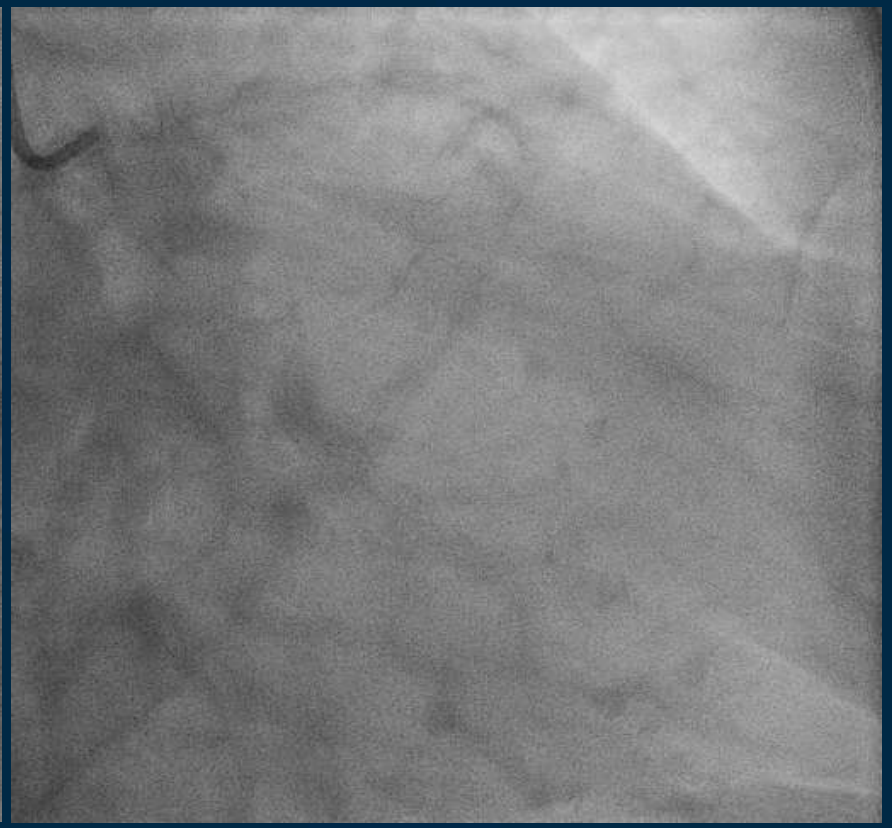


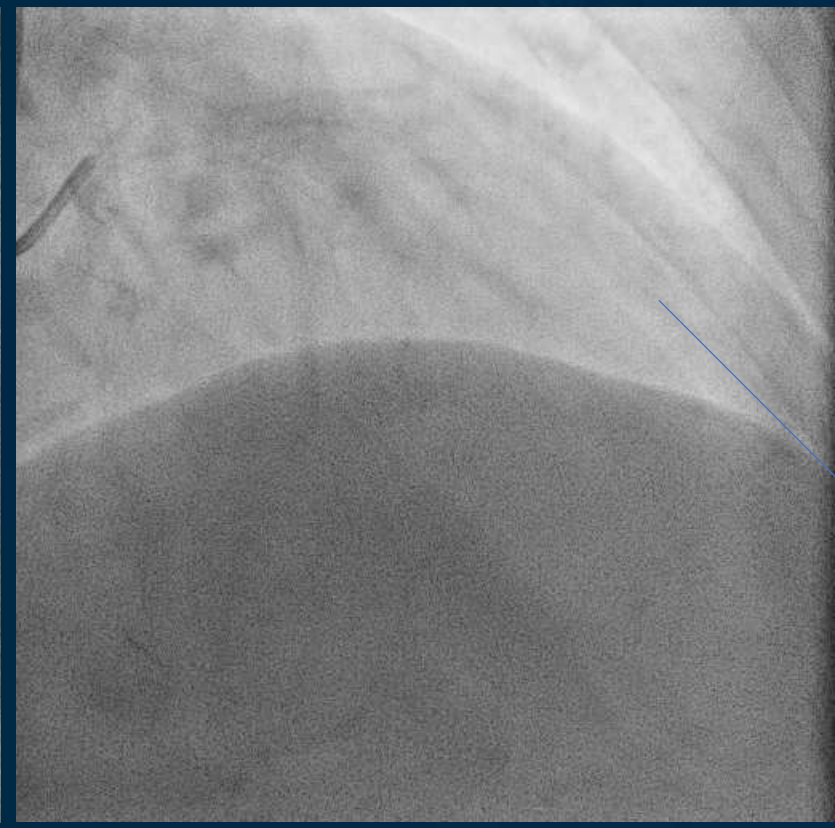


Diagnostic Coronary Angiography

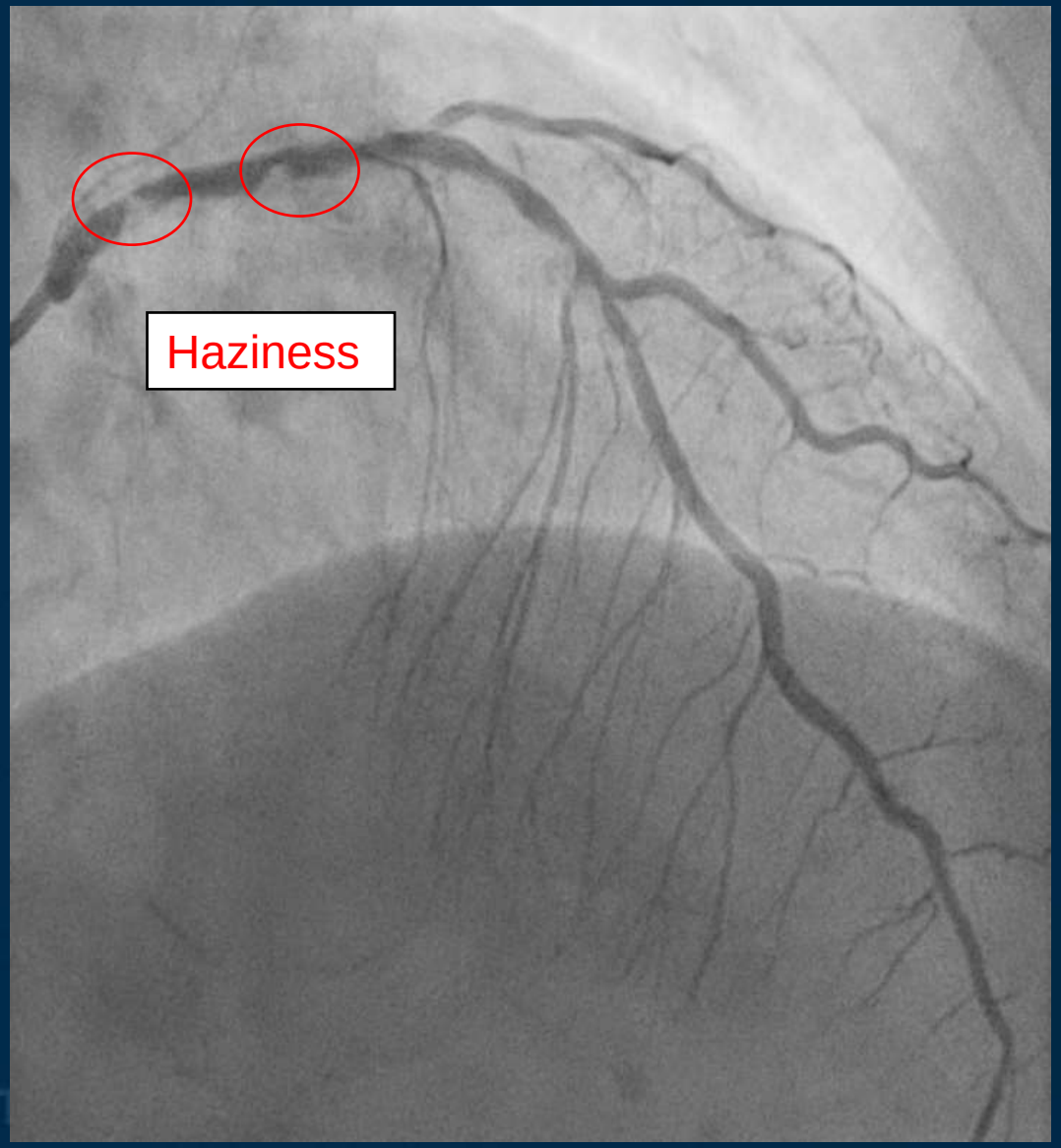
Severe calcified LCA with haziness appearances at proximal LAD

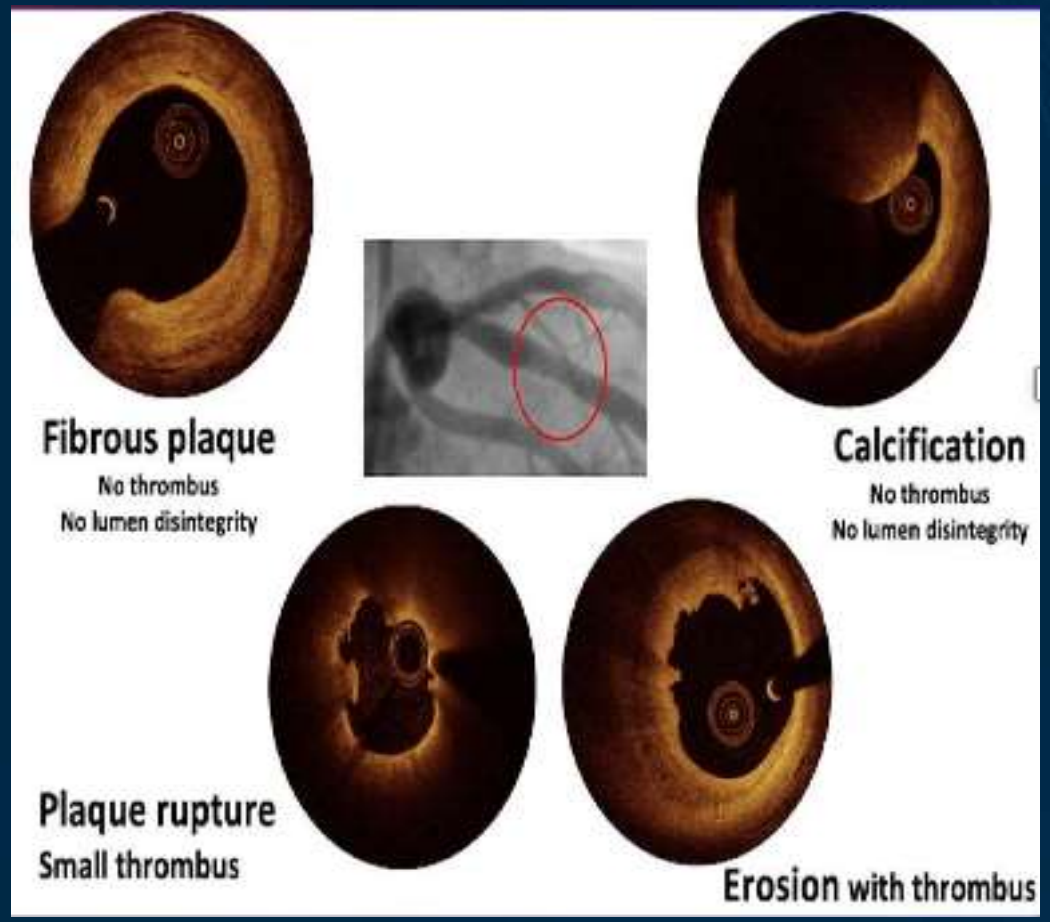




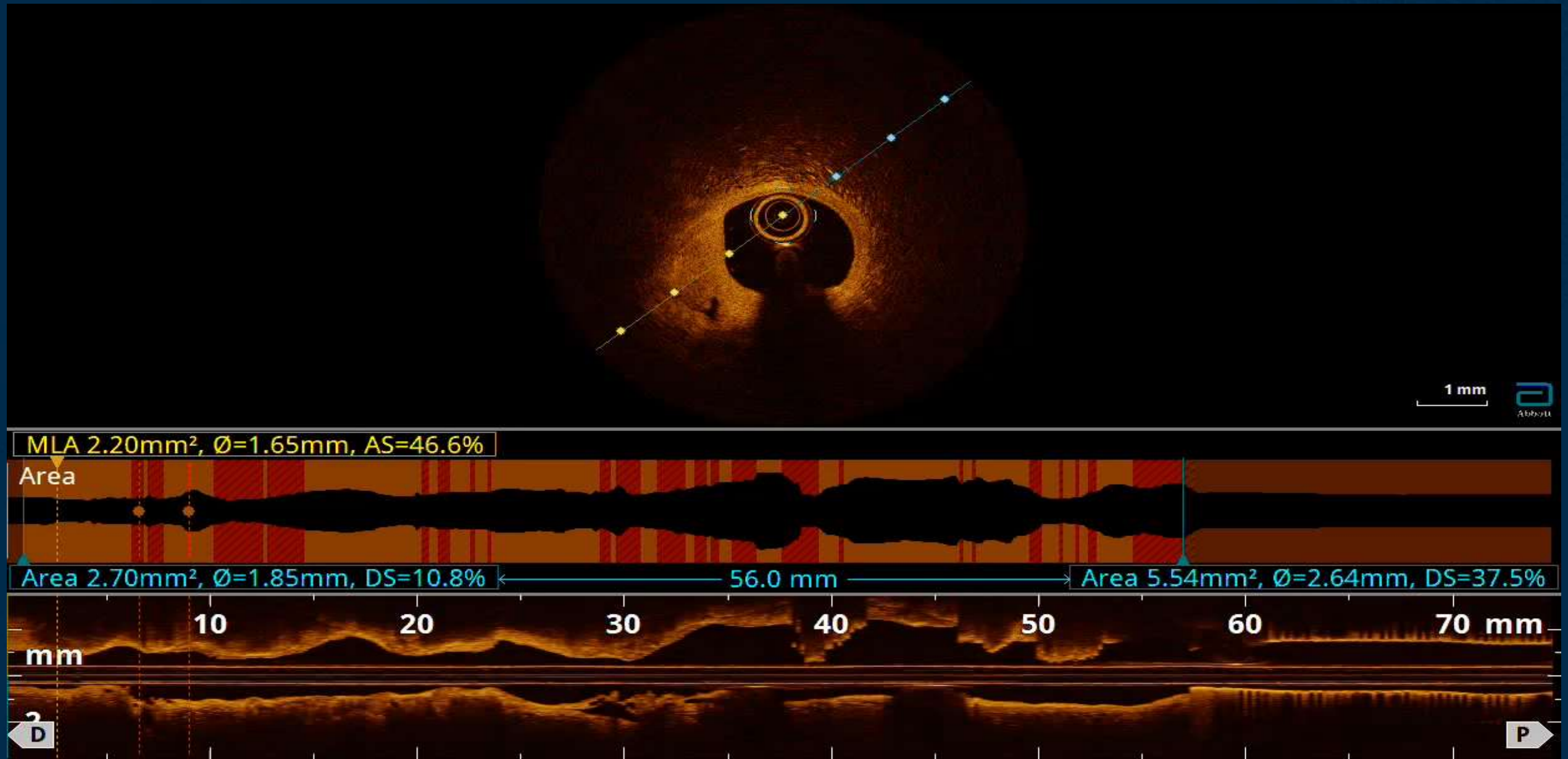


Cause of Haziness ?

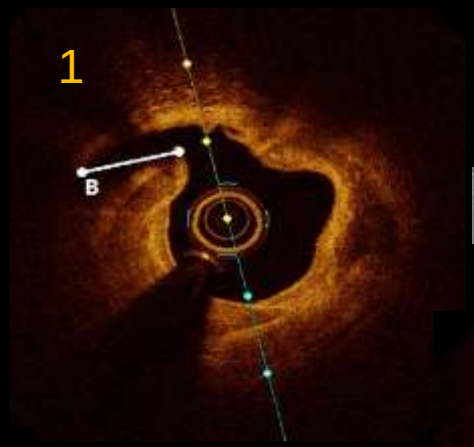


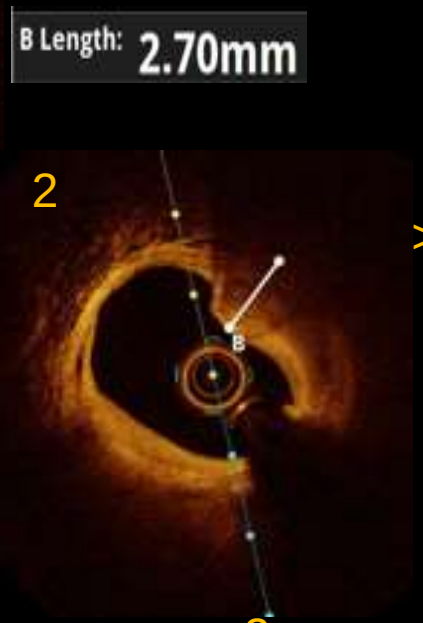


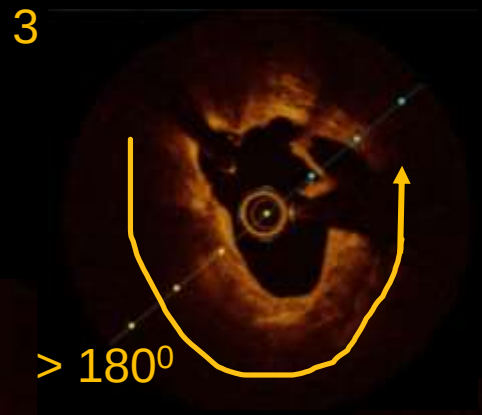
OCT pre PCI
post predilation using 2.0 mm SCB



Calcification Evaluation







Calcium Volume Index Score

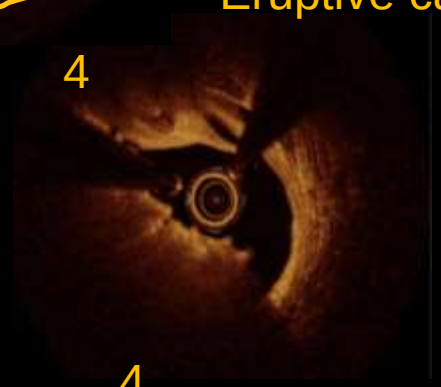
Maximum Calcium Angle > 180 ^{0} : 2 point

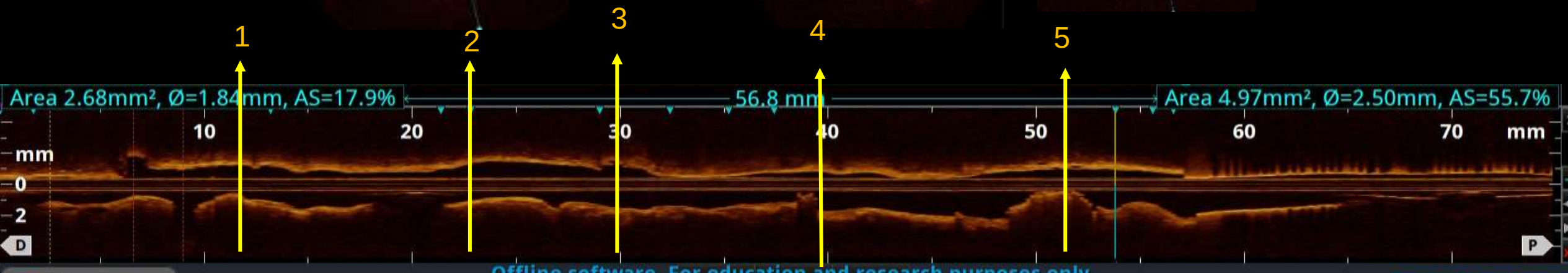
Maximum Calcium Thickness > 0.5 mm : 1 point

Calcium Length > 5 mm : 1 point

Total 4 point

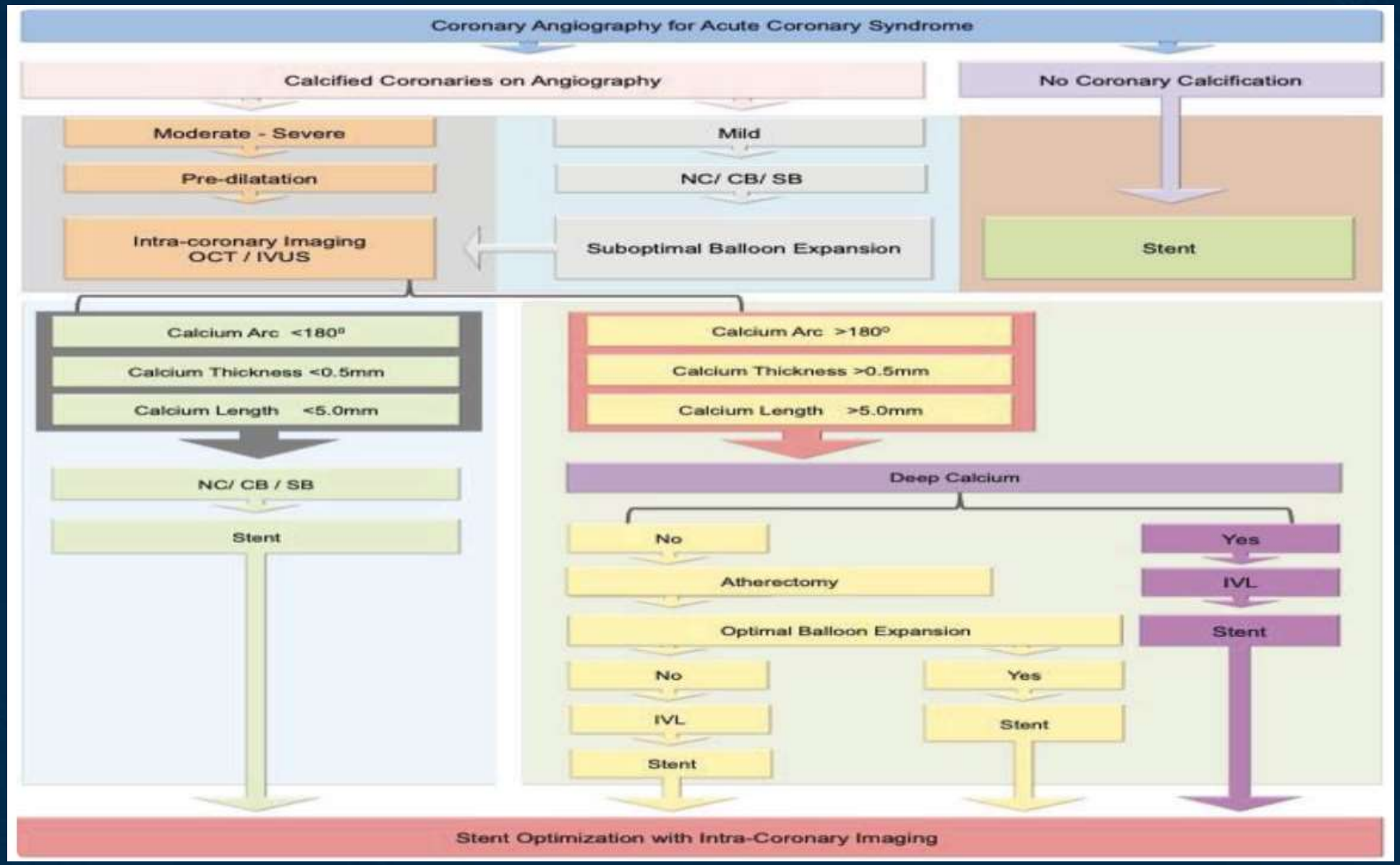
Eruptive calcified nodule





Offline software. For education and research purposes only.

Proposed Algorithm for the treatment of Calcified Lesion in ACS



Azeem S Seikh et al, 2021

Published experienced RA in ACS

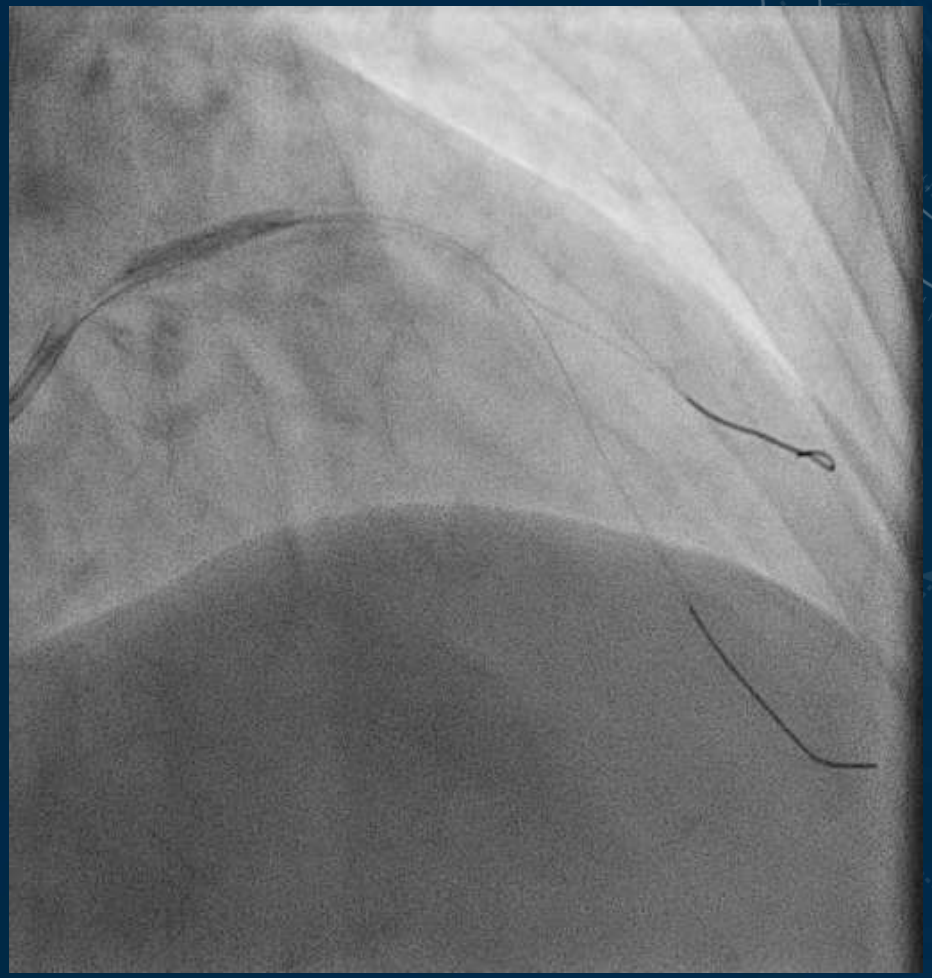
Author	Year	ACS	Stable CAD	Angio graphyc success	Slow flow/ no flow	IH death (%)	IH MACE (%)	FU (m)	FU death (%)	FU TLR (%)	FU TVR	FU MACE %
Allali et al	2018	108	433	96.6	0.8	1.8	3.7	25	15.6	-	26.8	39.9
Kubler et al	2018	43	164	93	0	4.7	27	12	16.3	-	-	25.6
ROTATE Registry	2016	484	824	97.6	3.3	1.2	6.8	27.9	9.7	13.5	-	32.4
ORPKI Registry	2018	245	530	96.7	3.3	0	2	-	-	-	-	-

Clinical Research in Cardiology , 2022

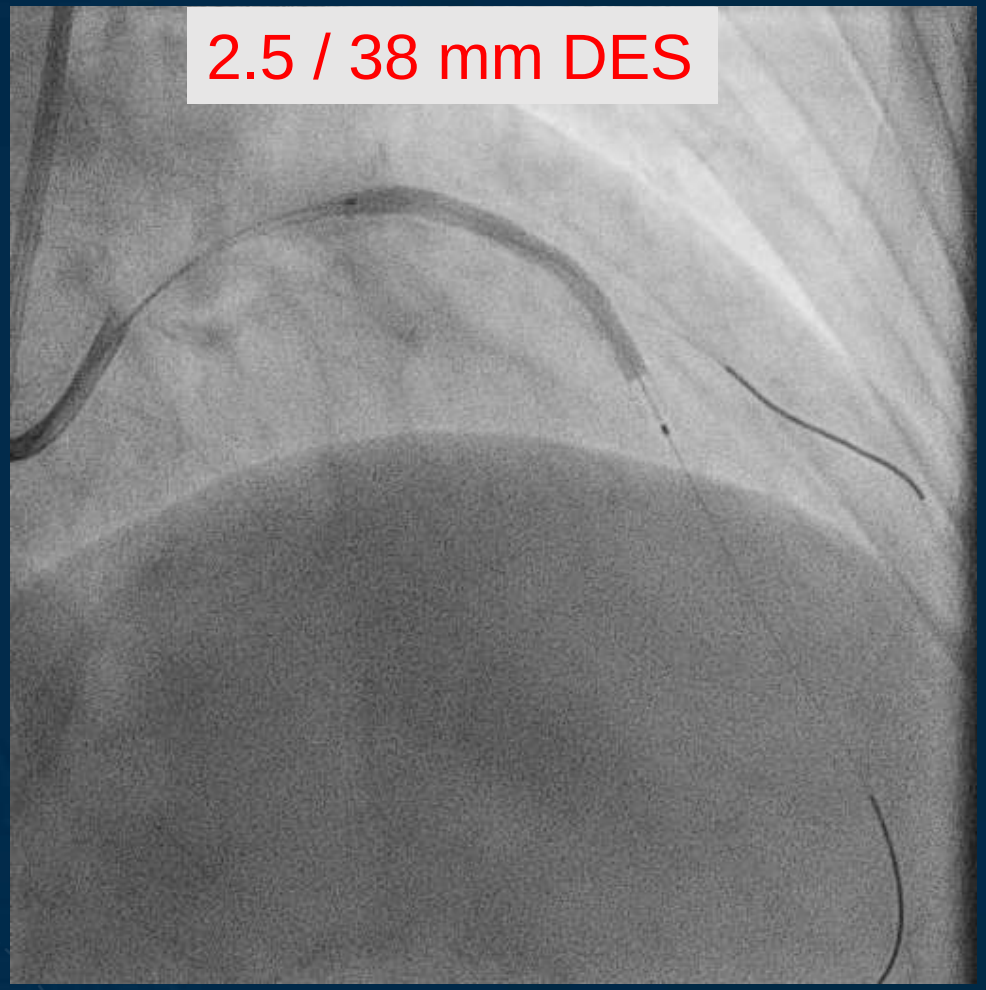
Rotational Atherectomy

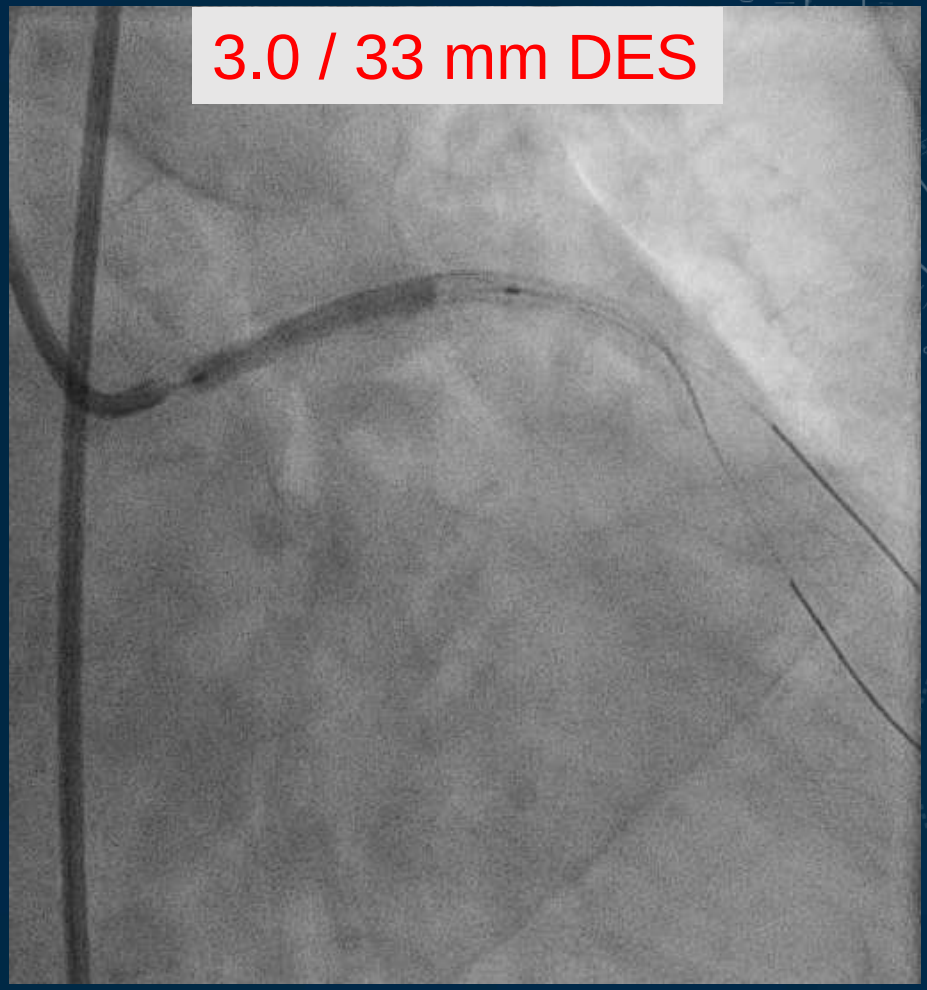
Burr 2.0 mm 180.000 rpm

2.5/15 mm Scoring Balloon

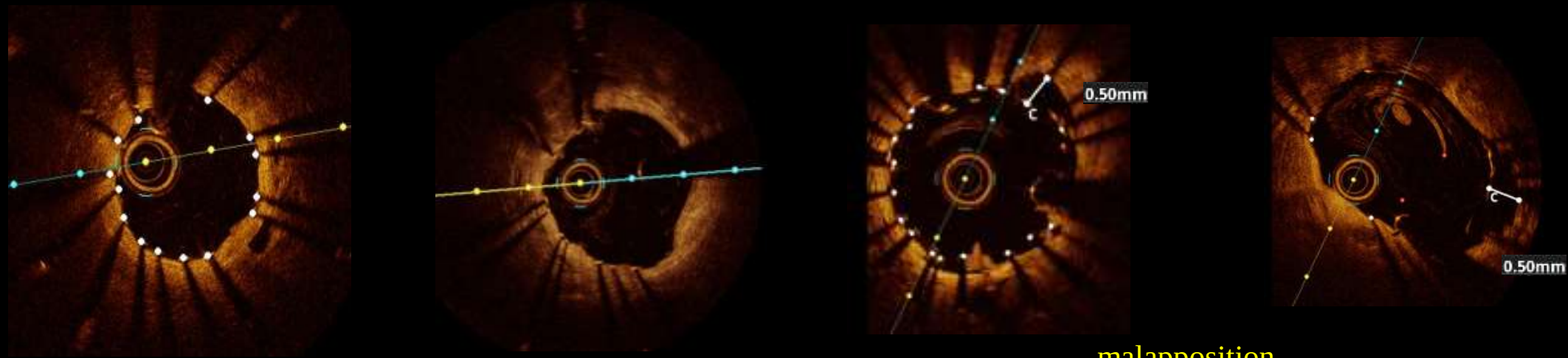


Stenting LAD

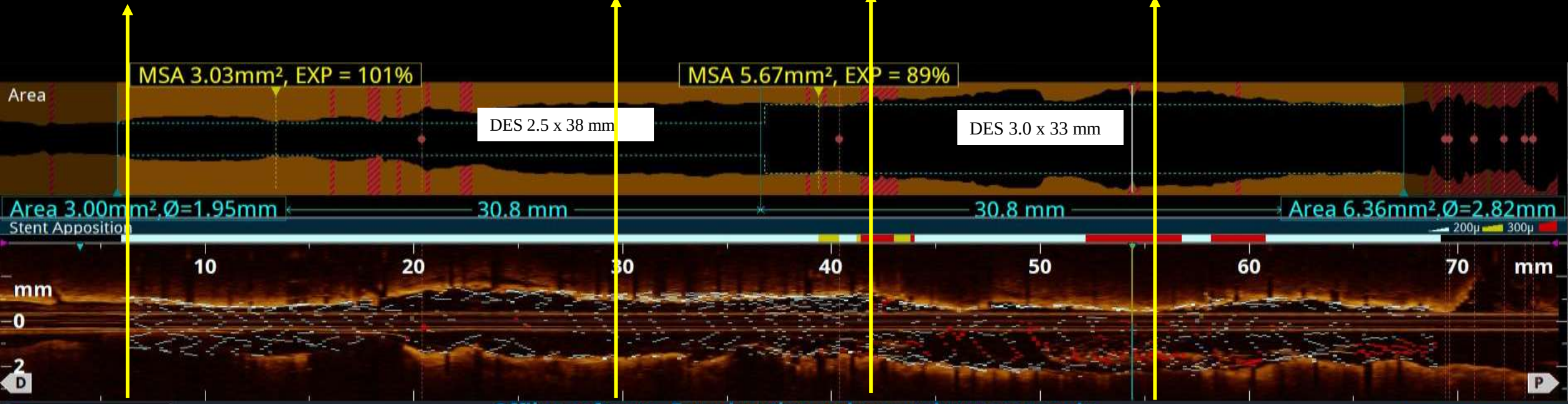




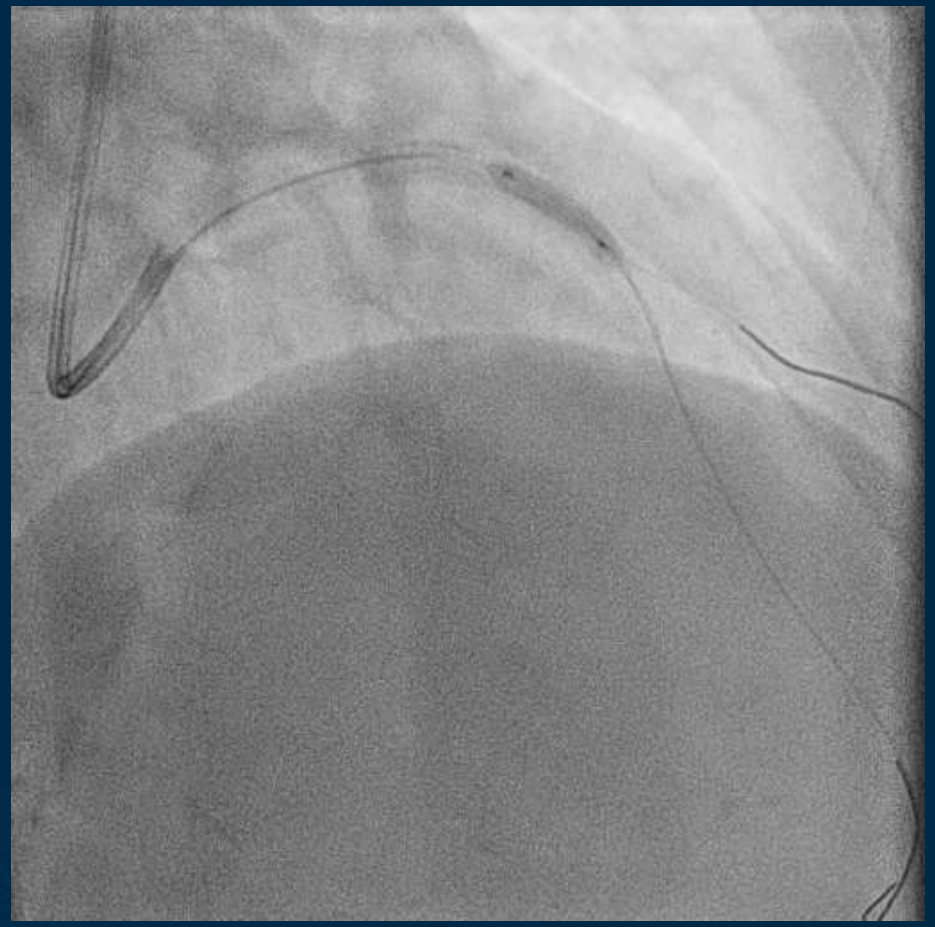
Oct post stenting

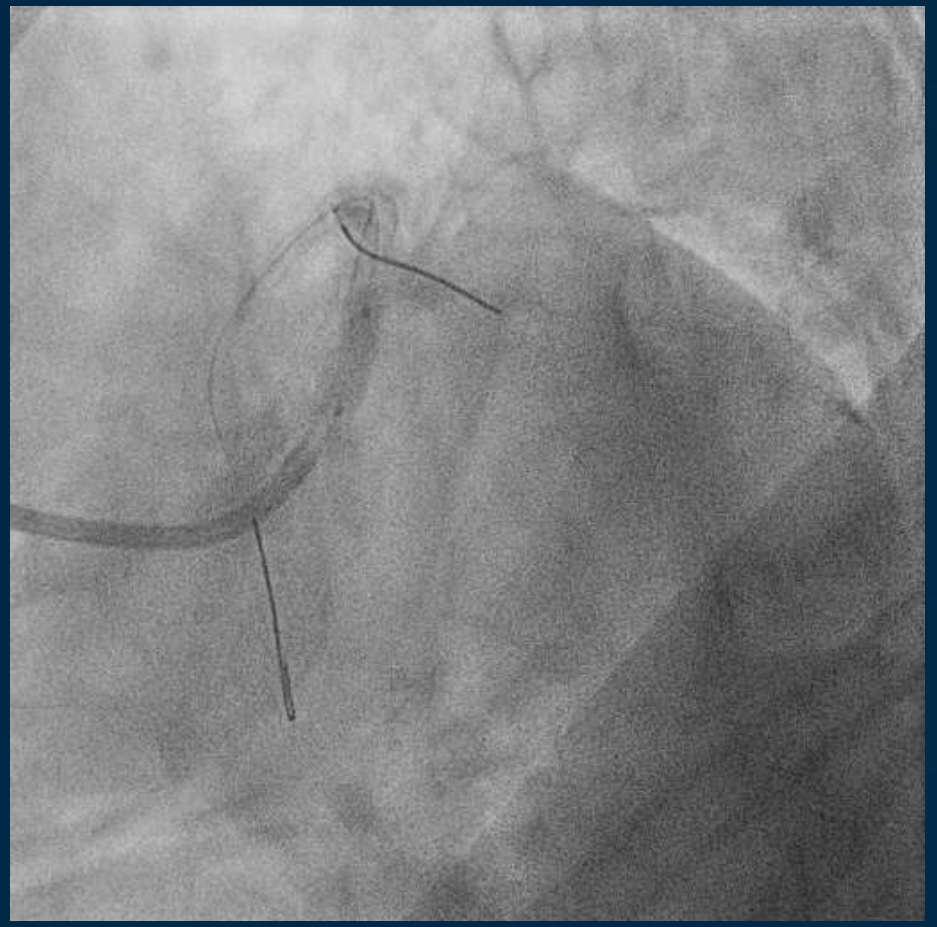


malapposition

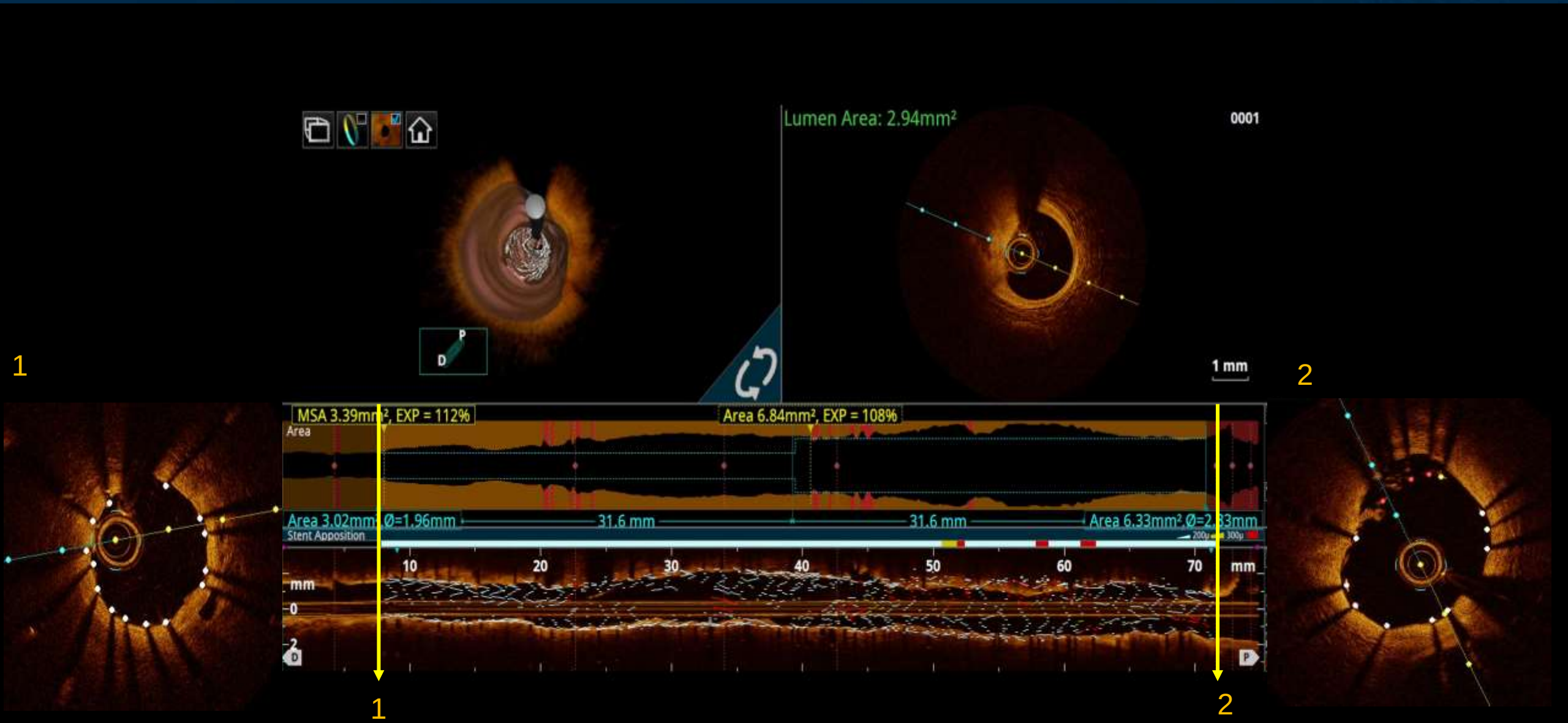


Optimization with 3.5/12mm NC Balloon

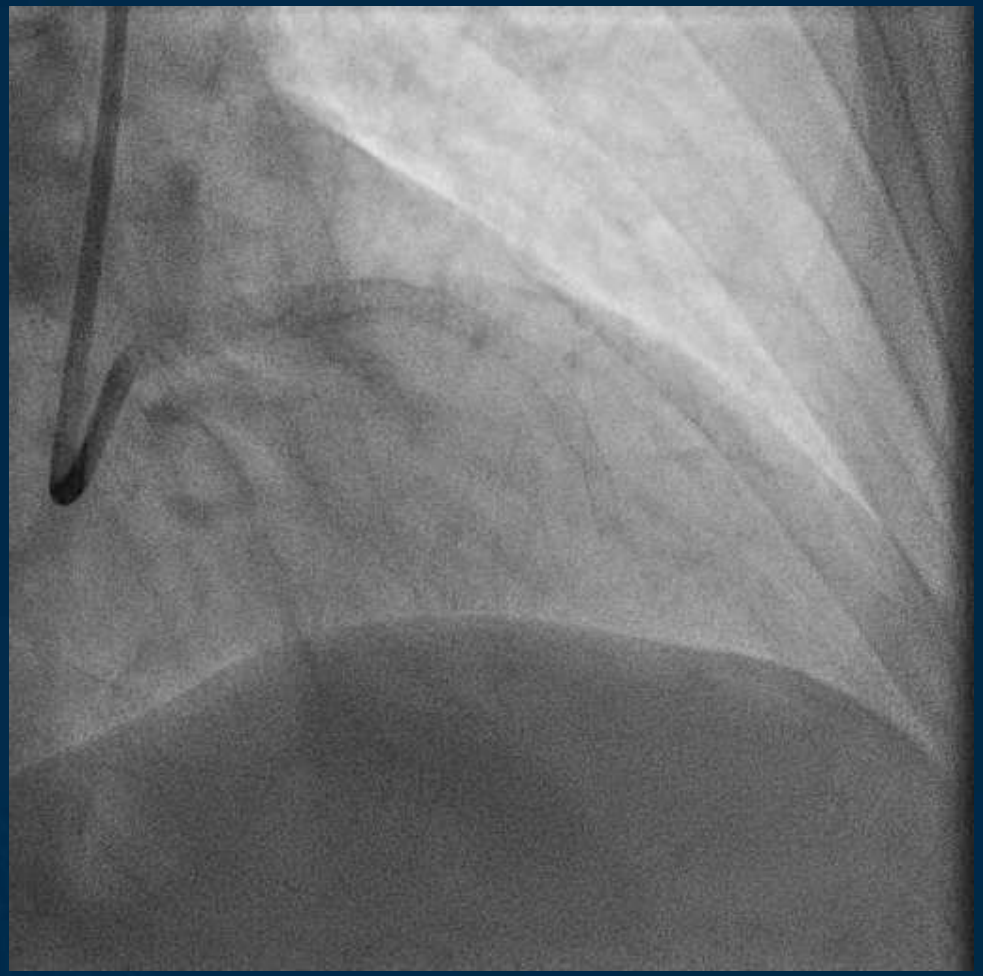


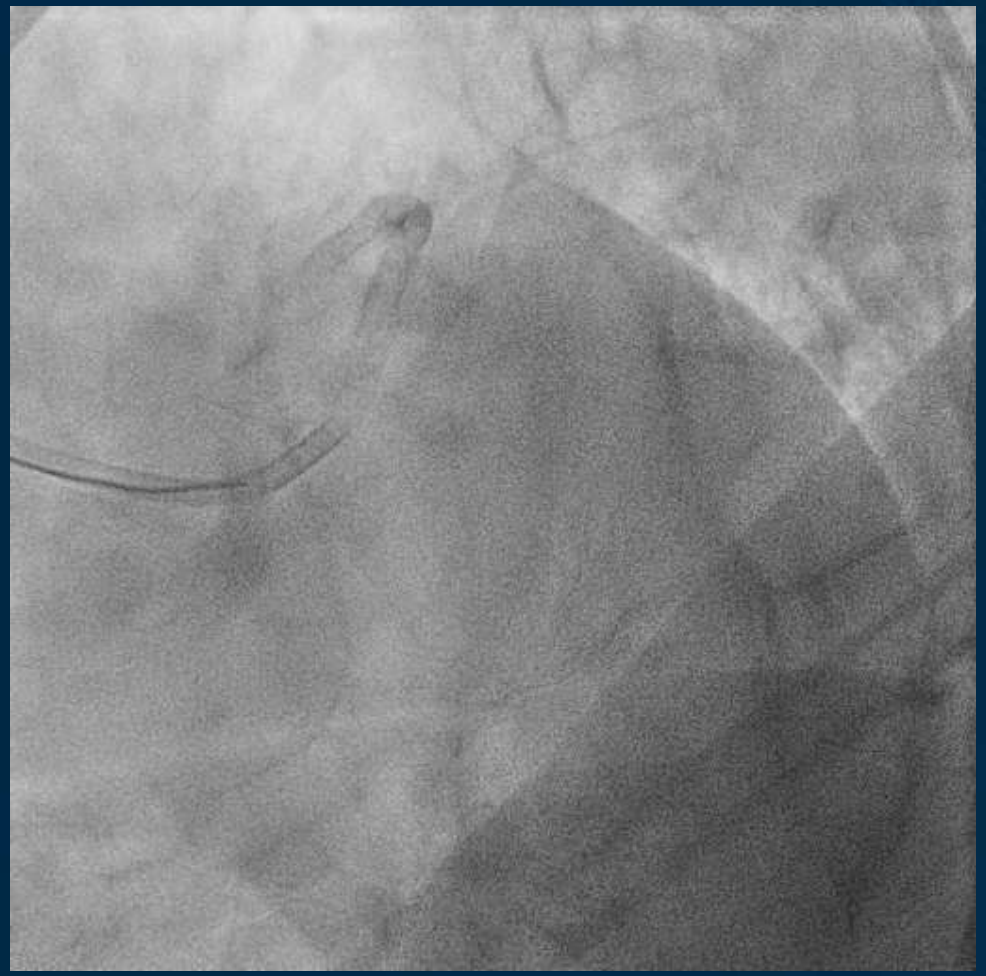


OCT post Optimization



Final Result





Conclusion

- Intracoronary imaging especially OCT is very crucial to determine the mechanism of ACS which lead to strategic planning in optimizing PCI
- Calcified nodule (CN) is recognized as one of the underlying mechanisms of ACS and it has an exaggerated clinical risk of ACS
- Rotational Atherectomy + Scoring/NCB was feasible for plaque modification, facilitating calcium fracture with better stent expansion