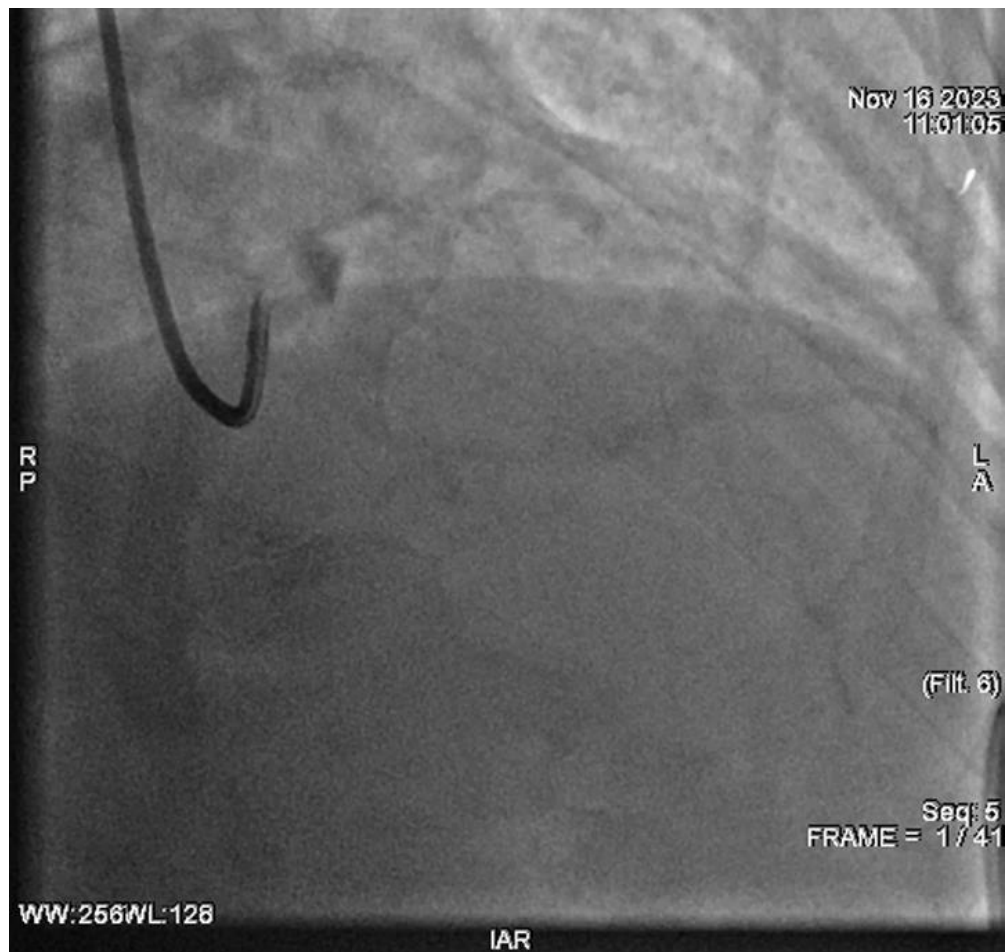


**IVUS guided,  
orbital atherectomy assisted  
LAD PCI**

## Clinical case

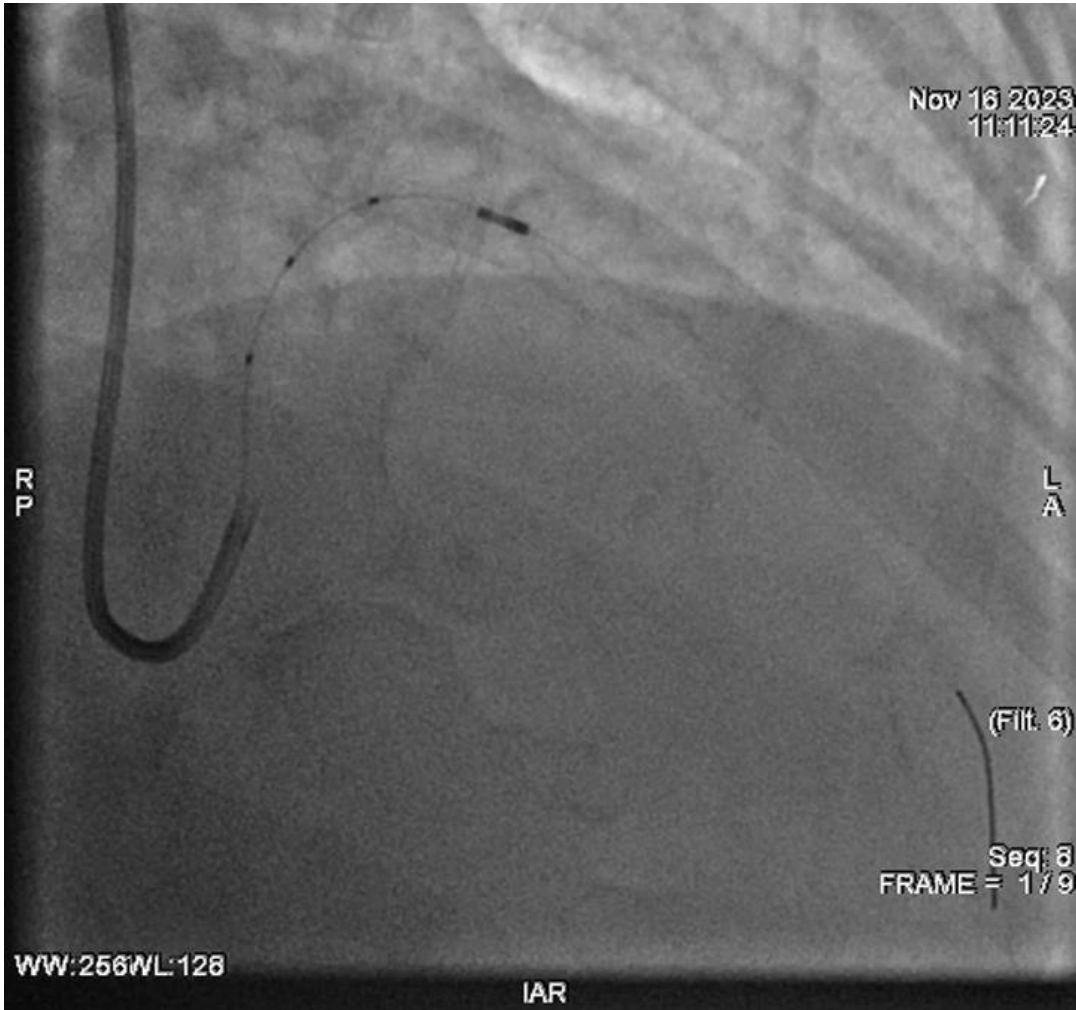
- F, 74 y
- Systemic arterial hypertension, dyslipidemia, type II diabetes mellitus, smoking habit, obesity
- Previous PCI on RCA (2009)
- BPCO
- Elective hospitalization for exertional angina (CCS 2)
- Normal ECG
- Echocardiography: EF 55%, no alterations in segmental kinesis
- HsTnI = 20 ng/ml

# Coronarography

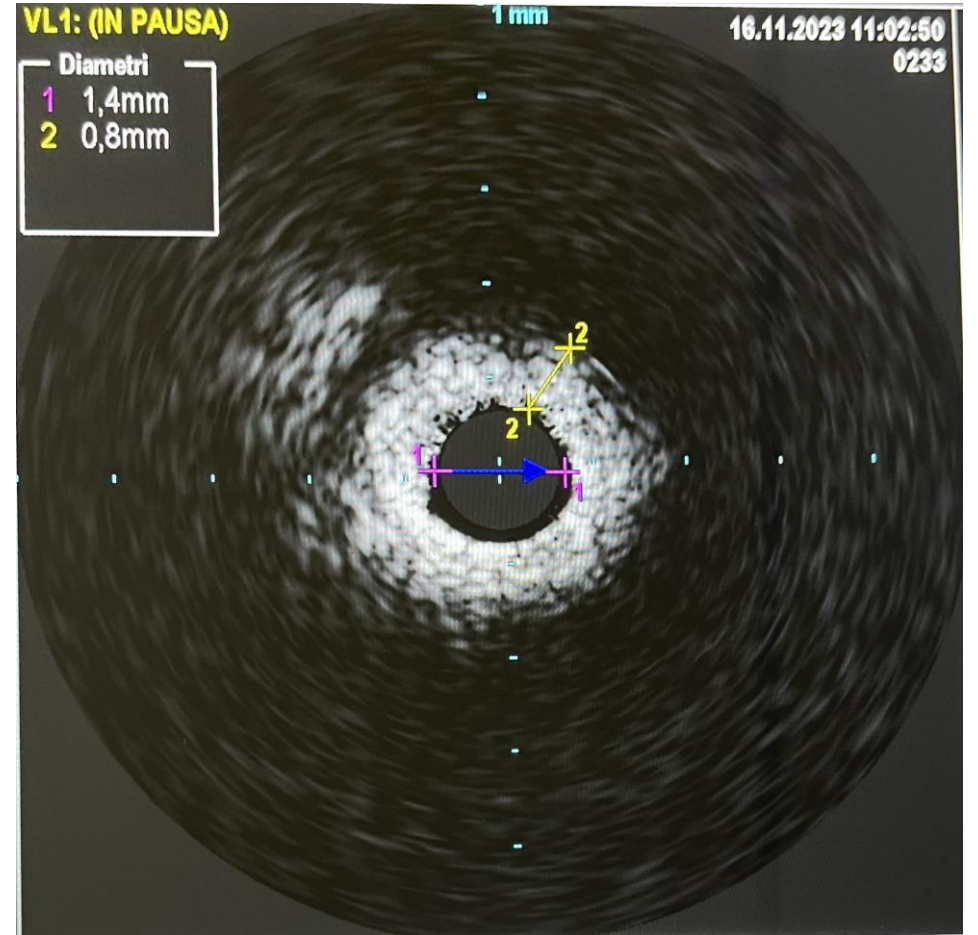


**Evidence of calcific lesion at proximal LAD in bifurcation with D1;  
moderate-severe calcification at angiography evaluation**

# IVUS

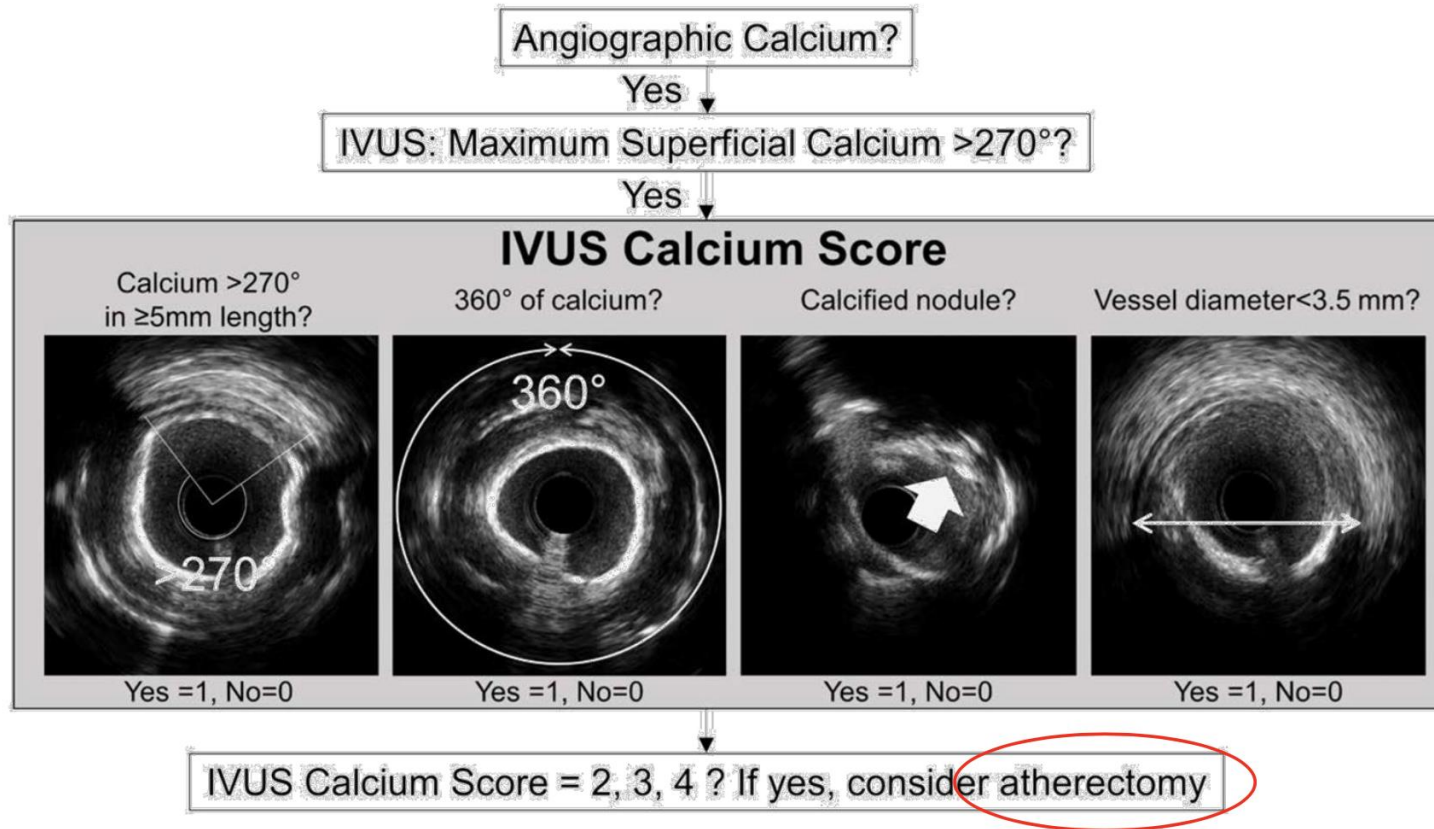


IVUS crossed with great difficulty the lesion and...



- 360 ° of calcium
- Vessel diameter < 3.5 mm
- Calcium thickness > 0.5 mm
- Calcium length > 5 mm

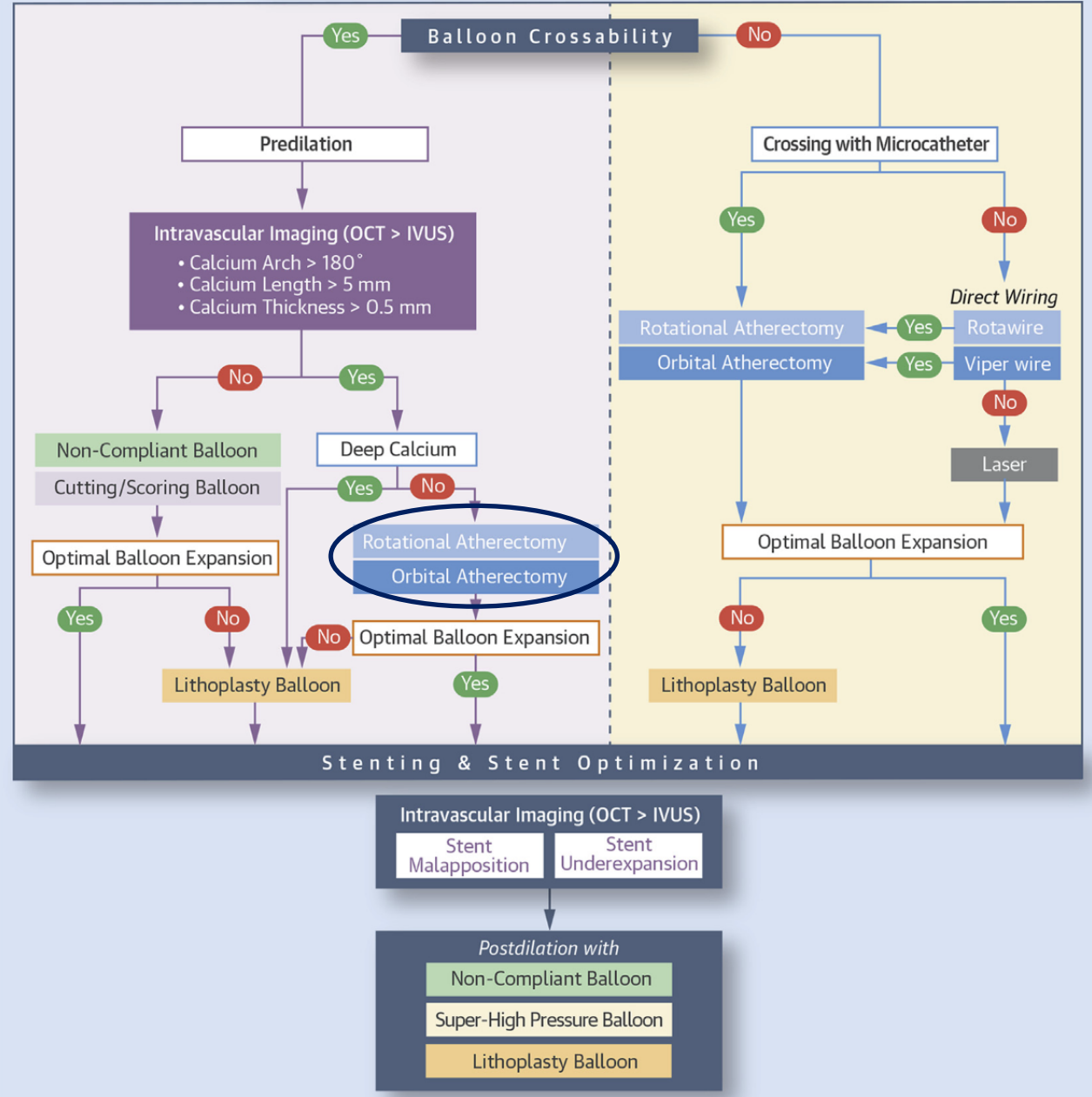
# IVUS Calcium Score

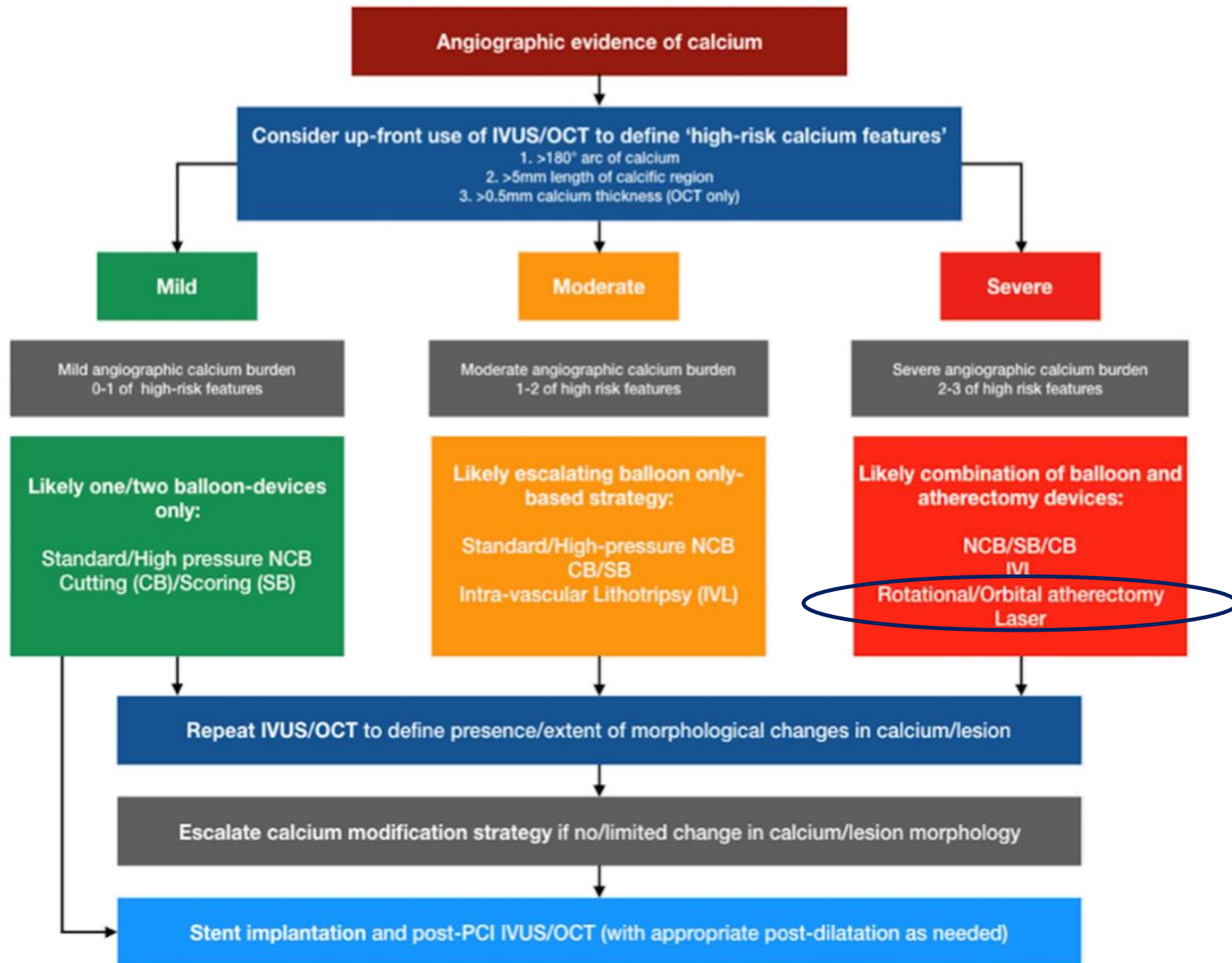


Zhang et al. *Circ Cardiovasc Interv.* 2021;14:e010296

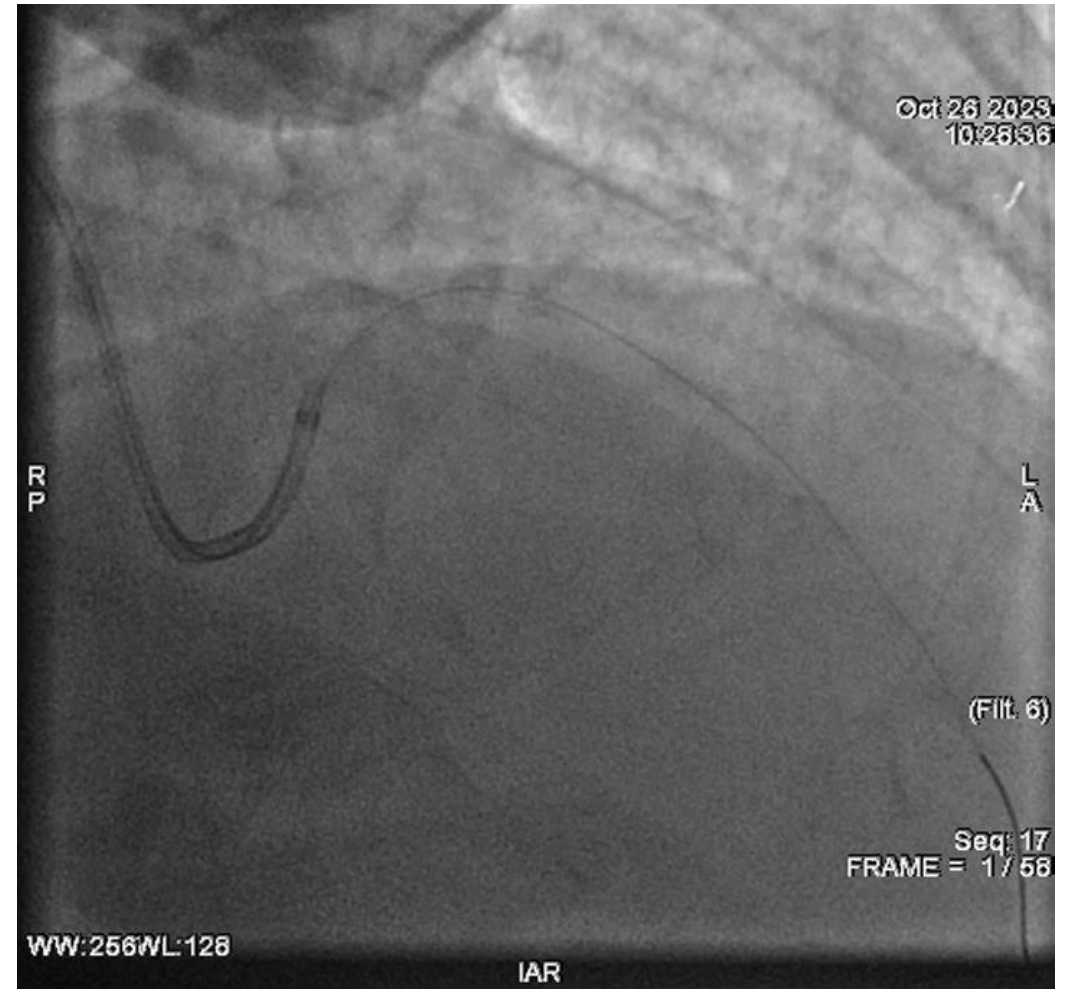
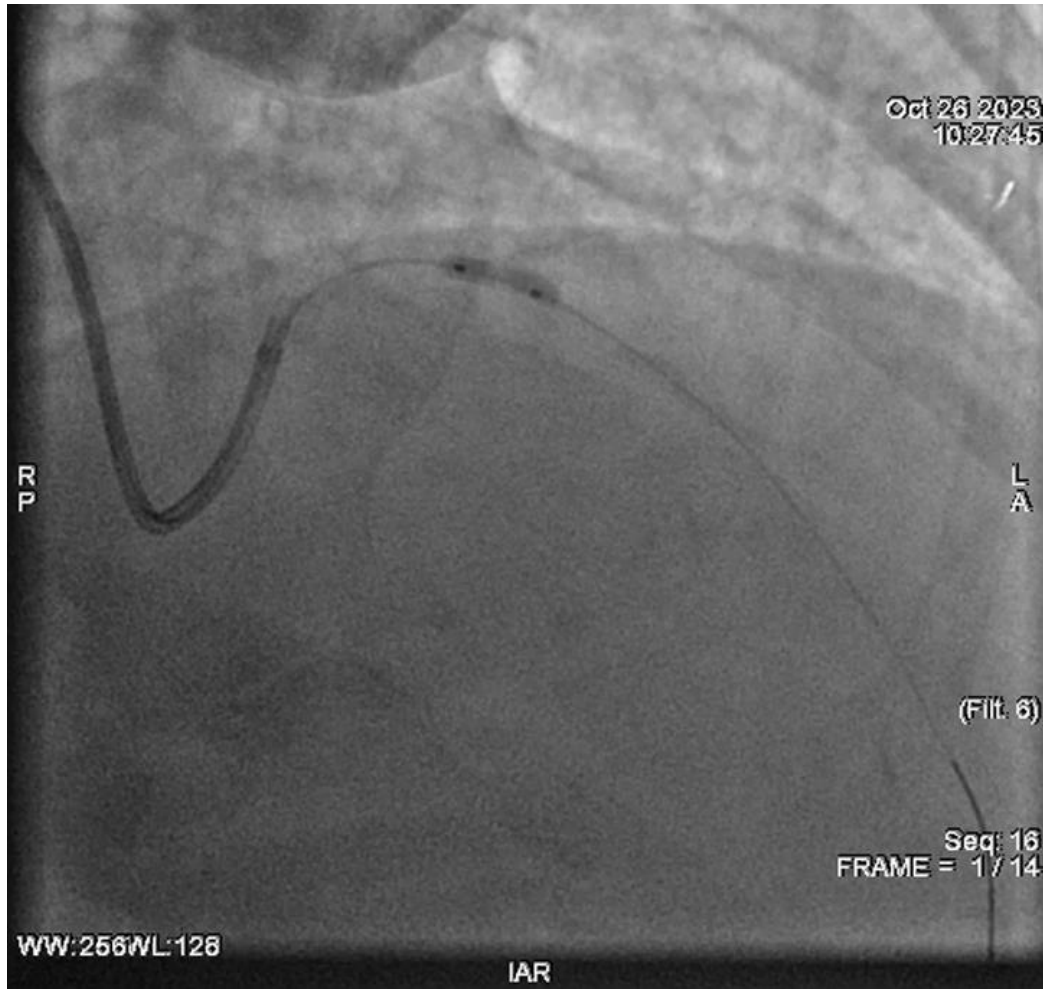
**IVUS Calcium score = 3**

# Lesion with High Calcium Content on Coronary Angiogram





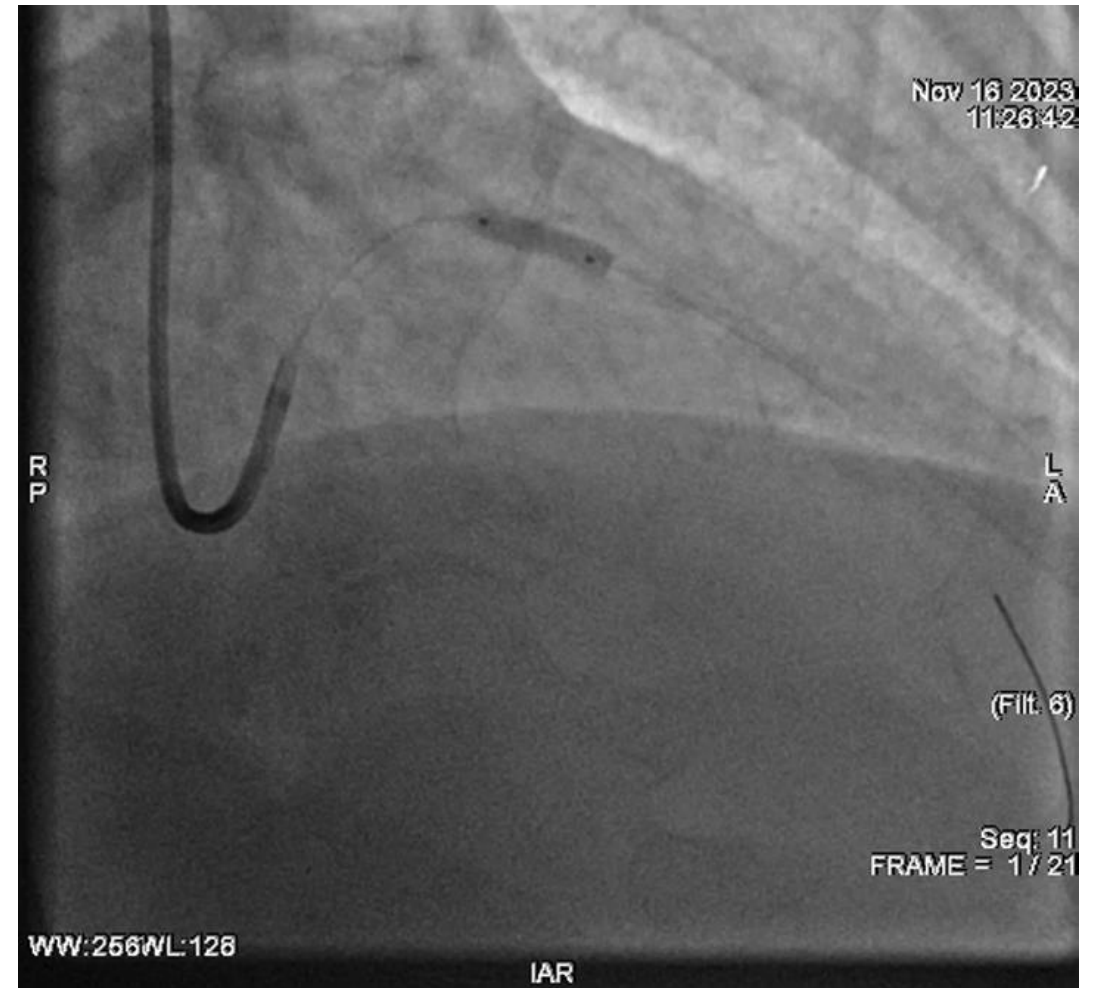
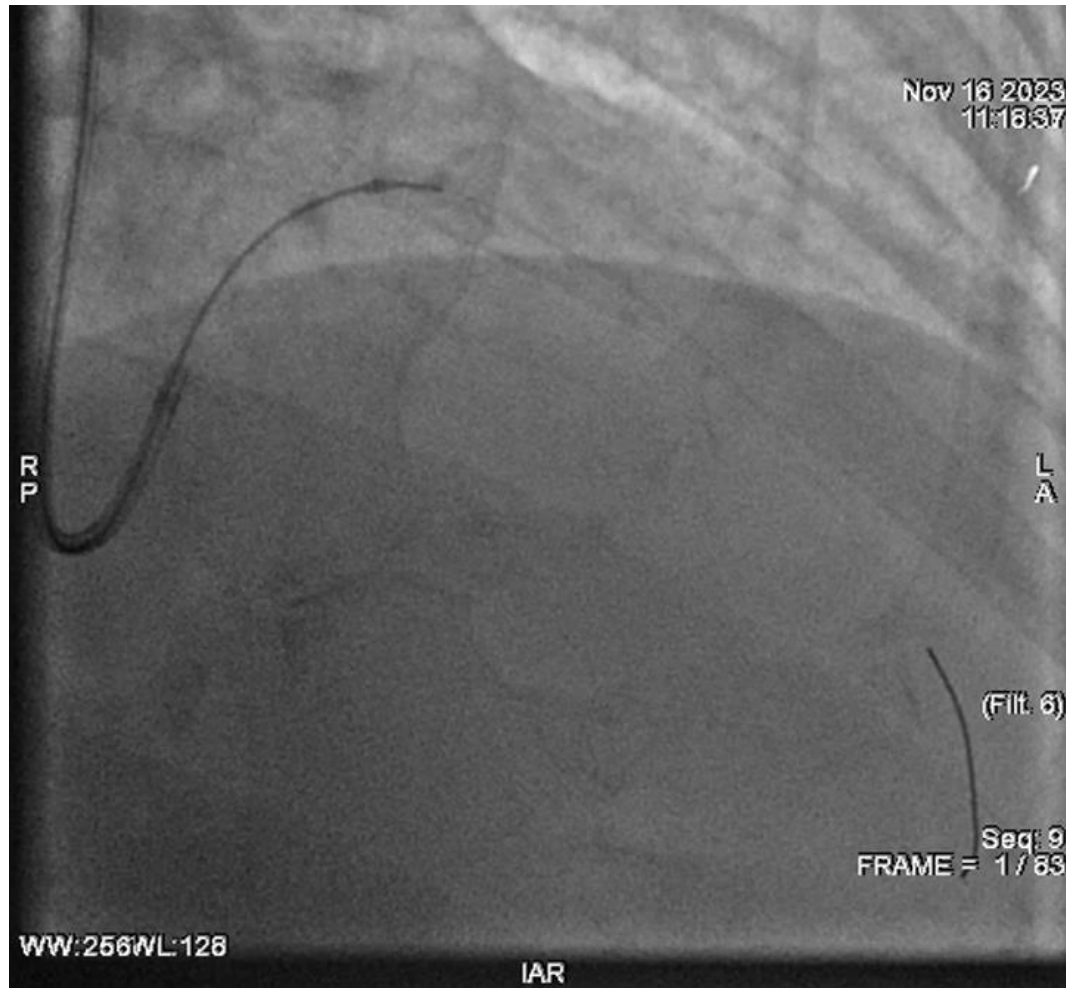
## PCI



**Attempt with NC balloon couldn't crack the lesion  
Dog-bone effect, without evidence of dissection**

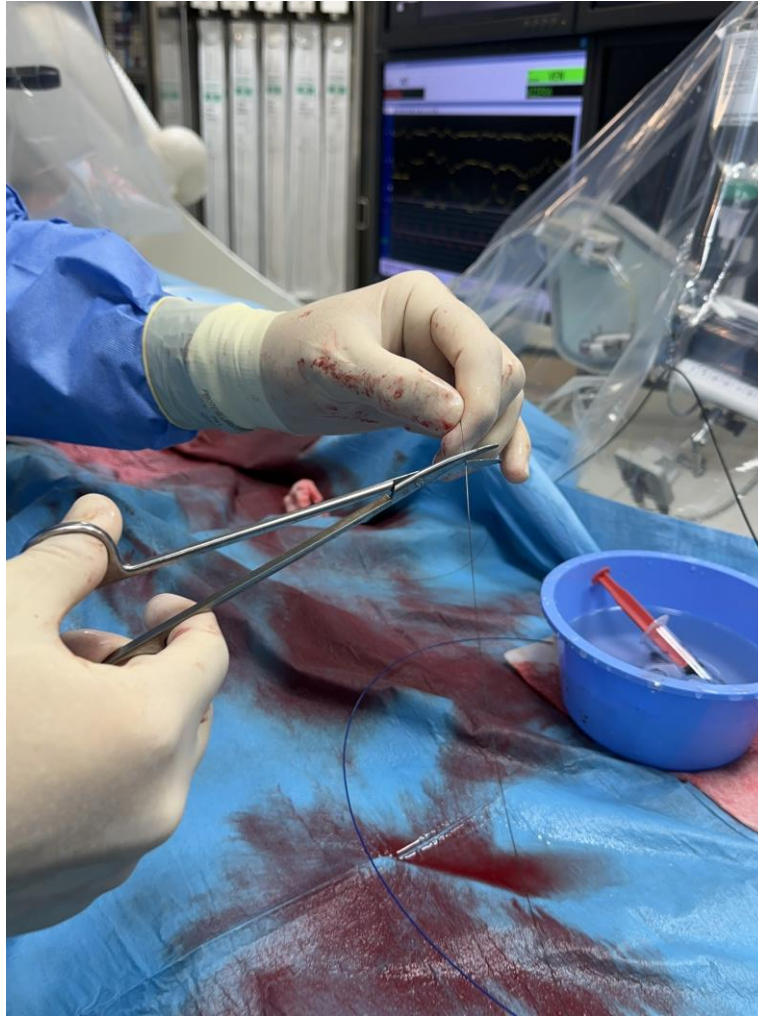


## PCI with orbital atherectomy



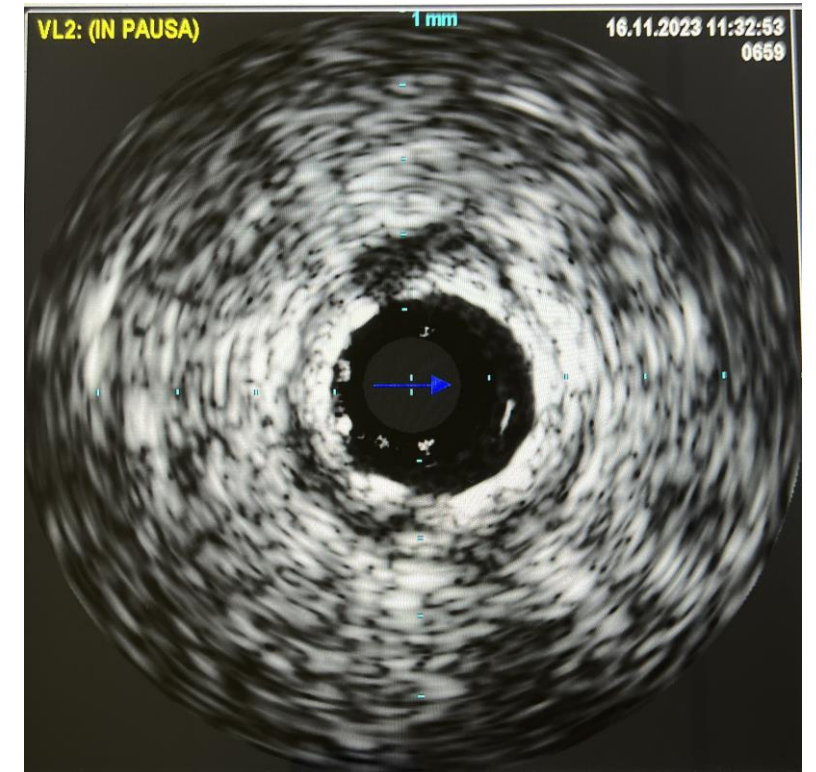
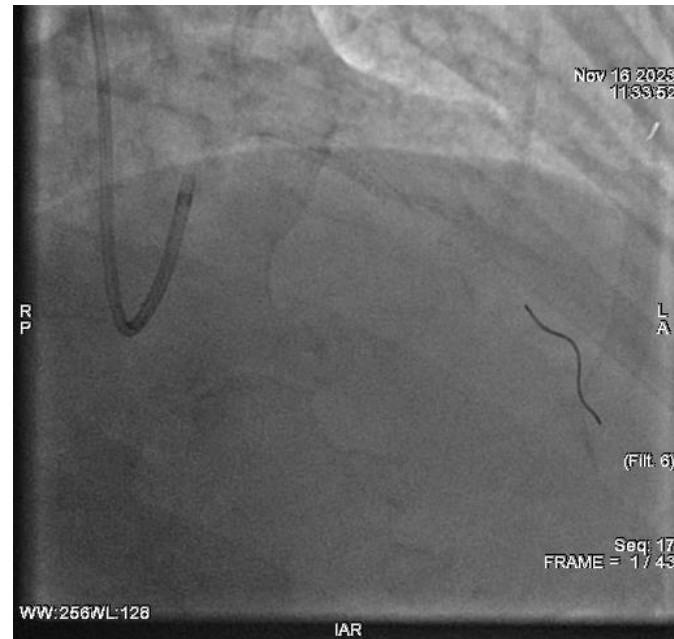
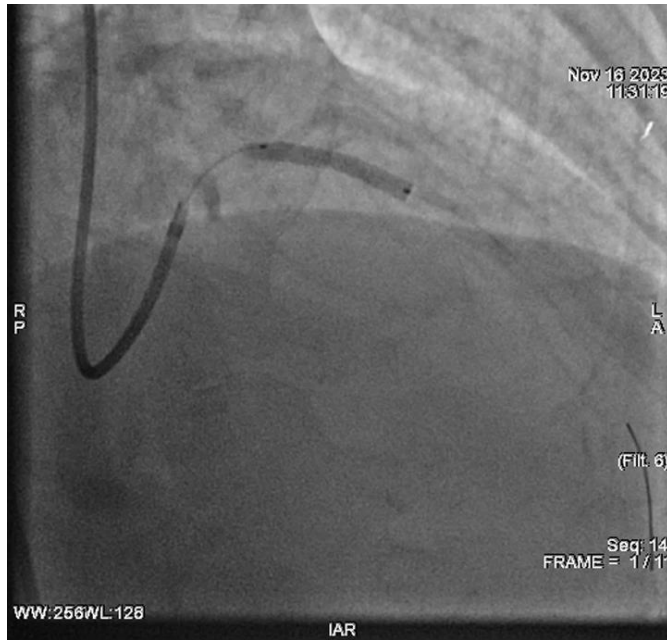
Through Viper-wire, 3 runs were made at 80.000 rpm and 2 at 120.000 rpm;  
Satisfying NC balloon dilation obtained

## PCI with orbital atherectomy



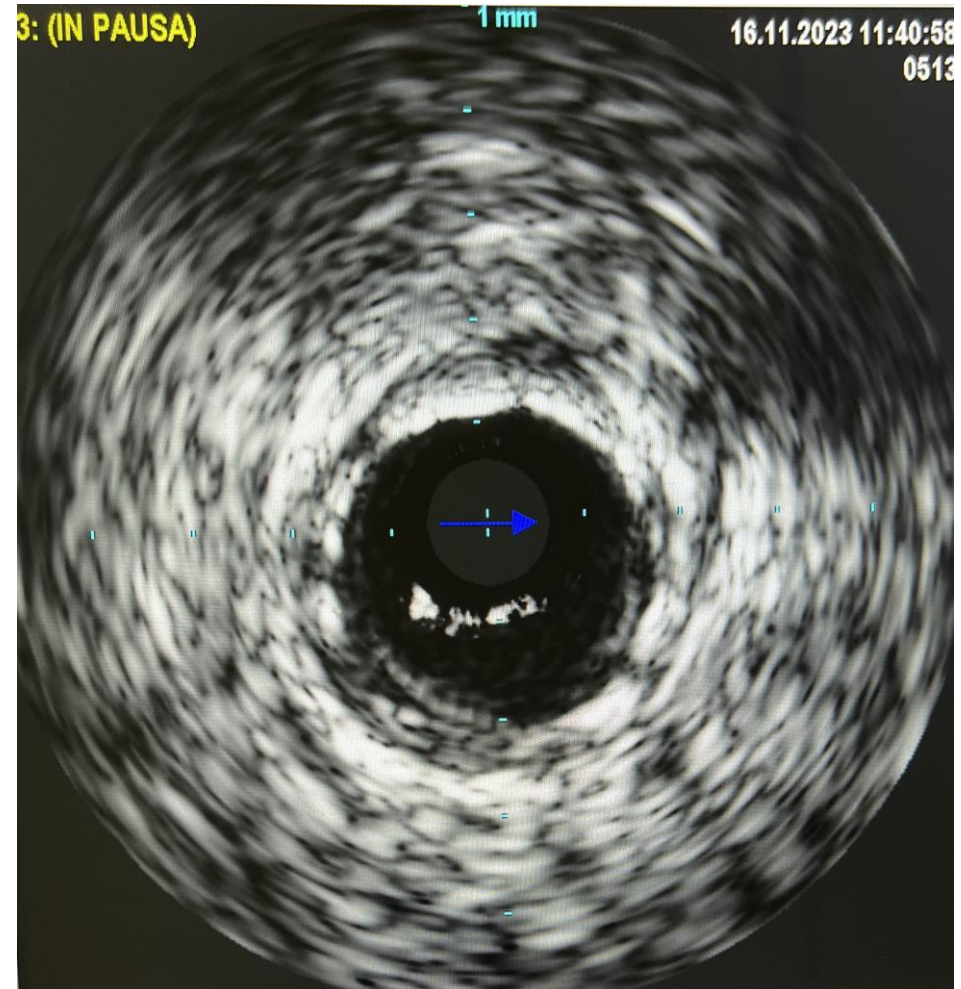
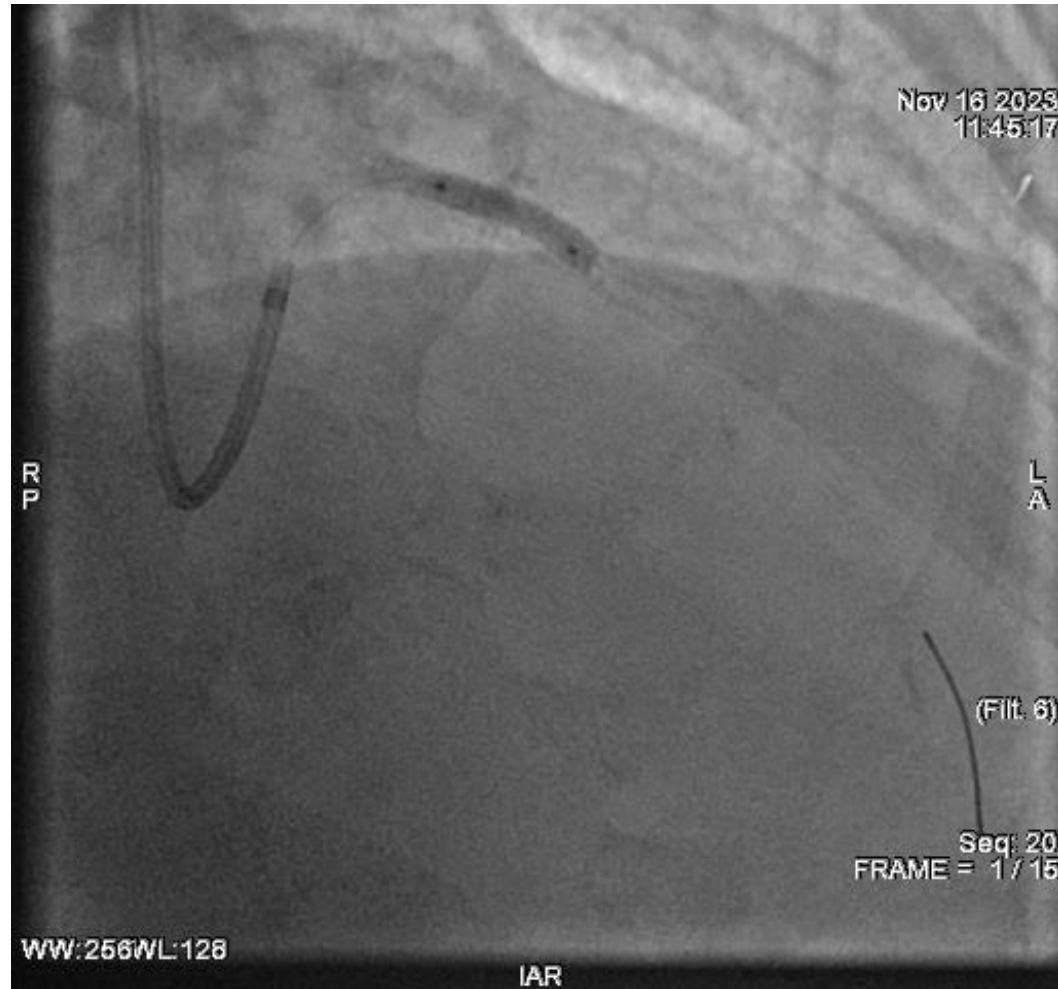
**Viper-wire cut to simplify the procedure**

## PCI with orbital atherectomy and IVUS guidance



**3.0 x 23 mm zotarolimus DES deployed with IVUS documentation of malapposition. Despite the inability to protect the side branch during atherectomy, result on D1 was good**

## PCI with orbital atherectomy and IVUS guidance



After an additional post-dilatation, satisfying IVUS result was obtained

# Final result

