# Optimizing PCI in Calcified Lesion With Rotational Atherectomy Ablation Guided by OCT

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# Disclosure

I do not have any potential disclosure

# Introduction

- PCI of severely calcified coronary lesions is known to result in lower procedural success rates, higher complication rates, and worse long-term clinical outcomes
- These may be due to resistant plaque and surface irregularities, which may result in failed device delivery, incomplete stent expansion, and increased risk of stent failure
- OCT provides detailed calcification assessment to guide appropriate calcium modification methods, such as Rotational Atherectomy

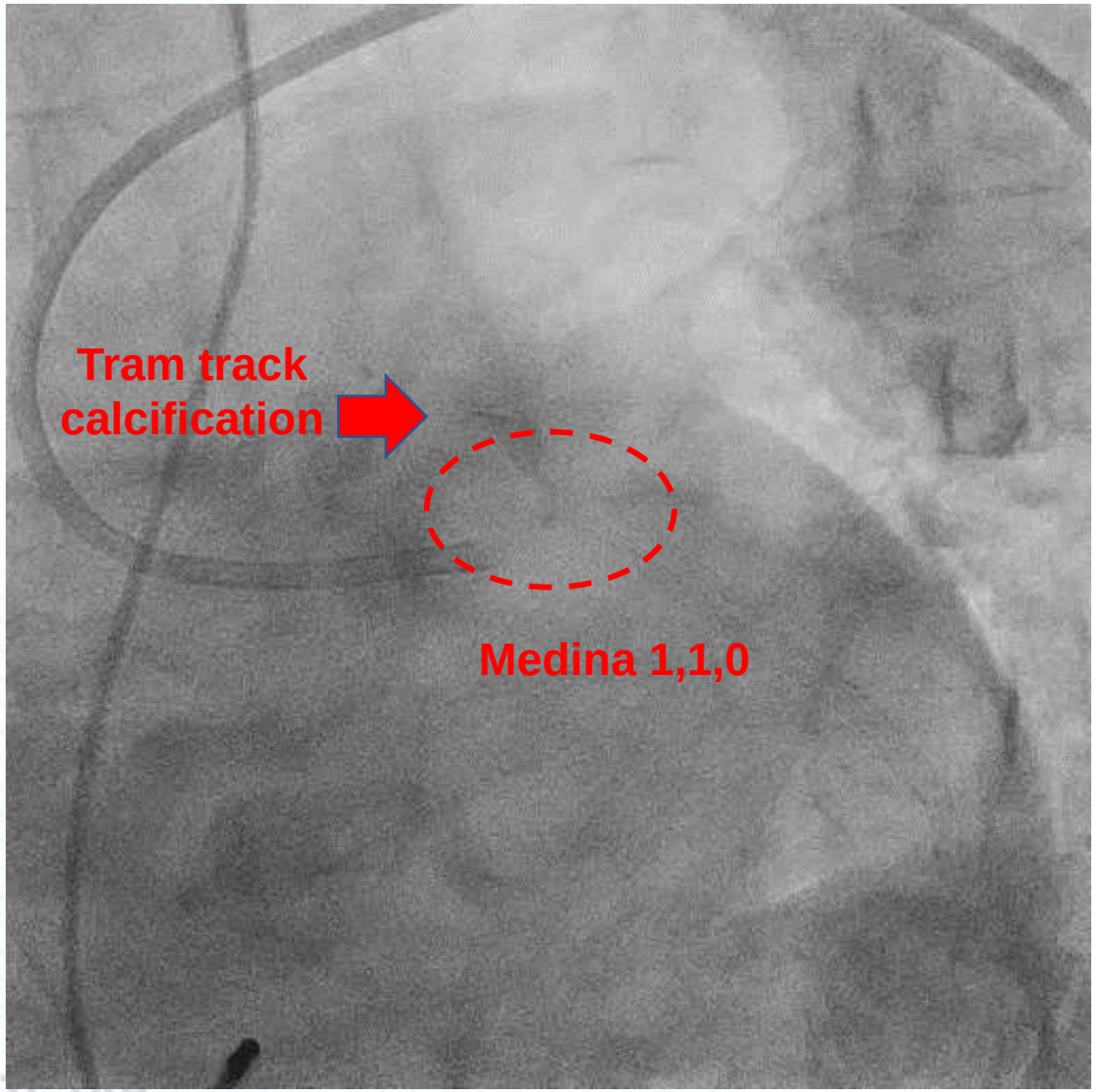
1.Ueki Y,et al.The value of Intracoronary Imaging and Coronary Physiology When Treating Calcified lesions .Radcliffe cardiology 2019,2.Chen MY,et al.J Taiwan Cardiovasc Interv 2019;8

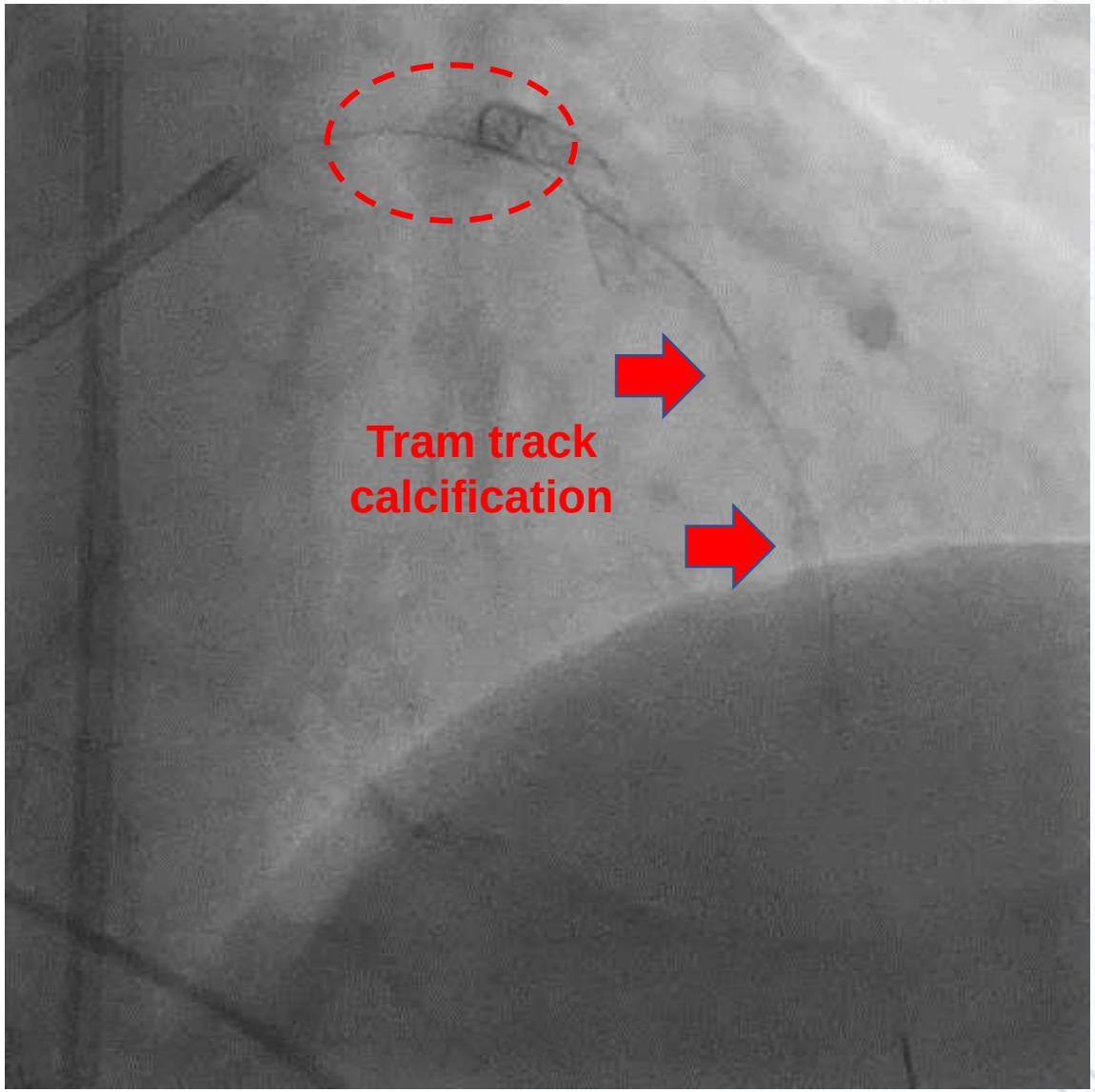
# Clinical Presentation

- Male, 75-year-old
- Presenting with **angina** CCS II-III (known as CAD LM-3VD, refused CABG)
- History:
    - s/p PCI 1 DES RCA (6 years ago) & PCI 1DES LCx (one year ago)
    - s/p PPM (1 year ago)
- Risk factors: Smoker, hypertension, dyslipidemia
- Echocardiography : LVEF 65%, normokinetic
- Lab : Trop (-), Cr: 1.8 mg/dl, Hb:13.3 mg/dl

RCA: stent patent

# Left Coronary Angiography



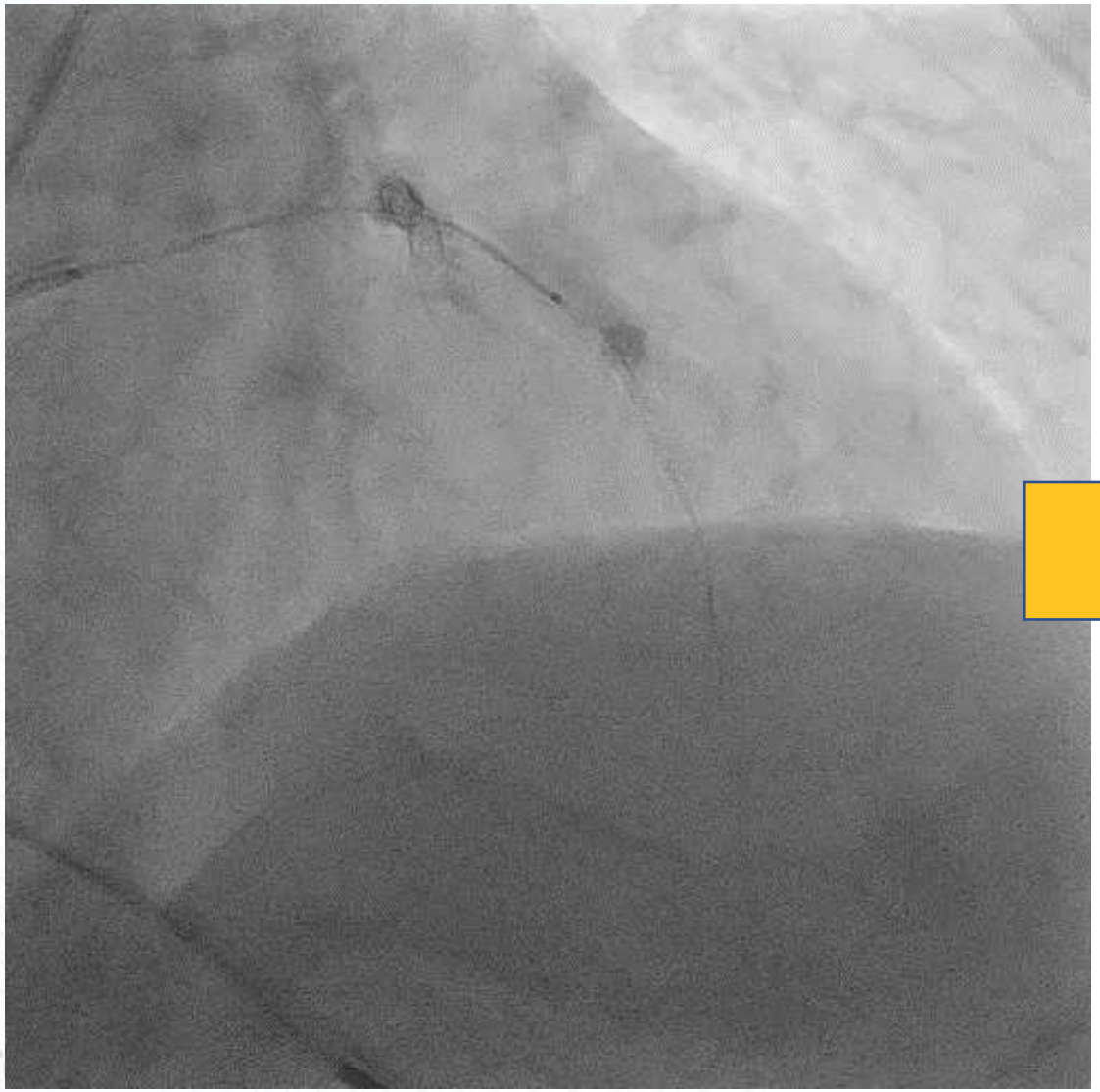



# PCI plan

## LM – LAD crossover stenting with:

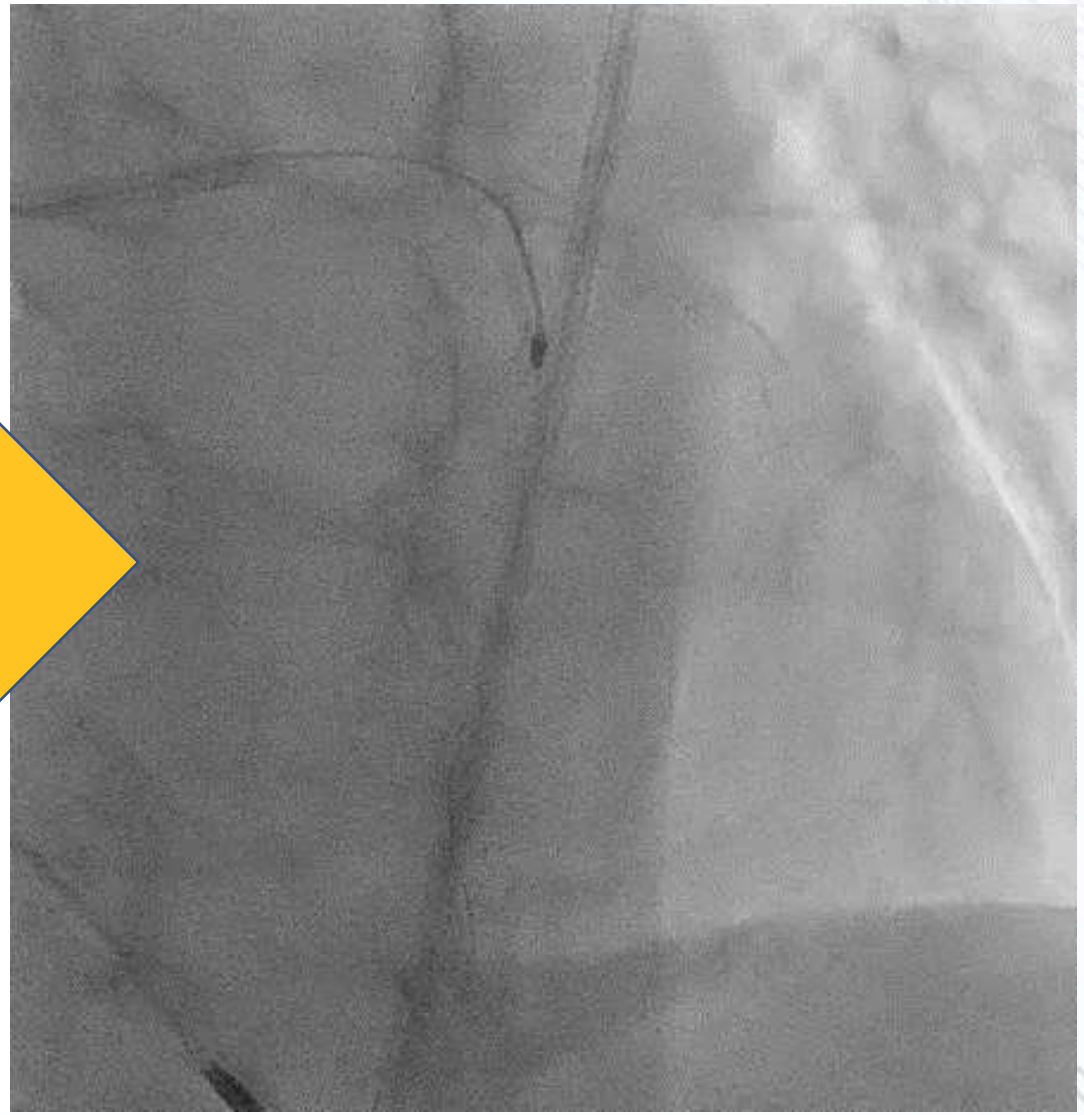
1. OCT evaluation
2. Calcium modifying technique based on OCT calcium volume index

# Difficulty in OCT catheter delivery



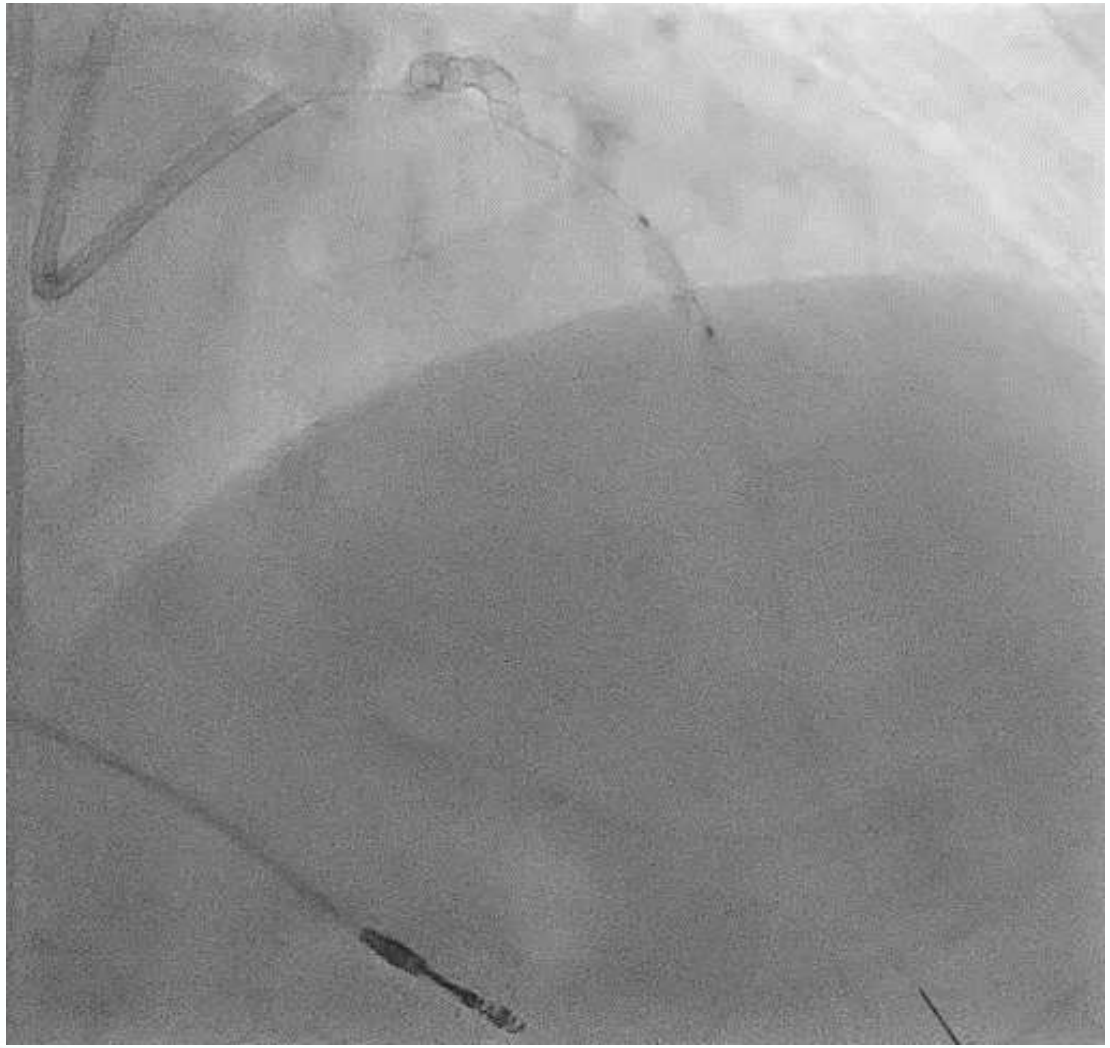
# Rotational atherectomy

**Rotaburr 1.5 mm/180 K RPM**

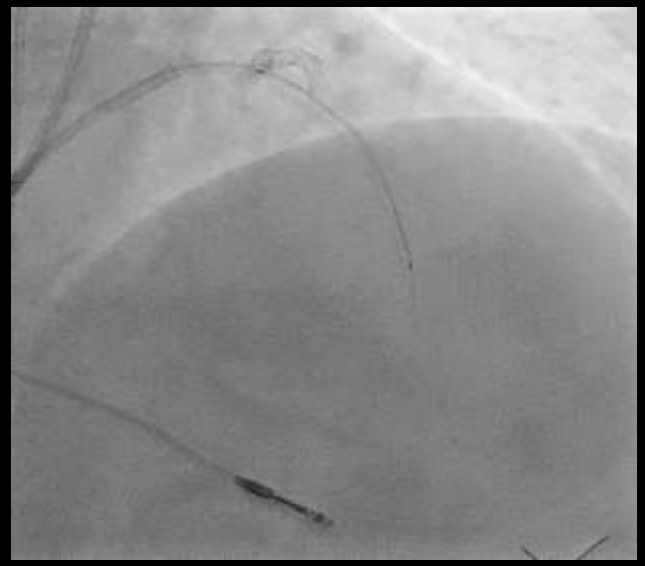


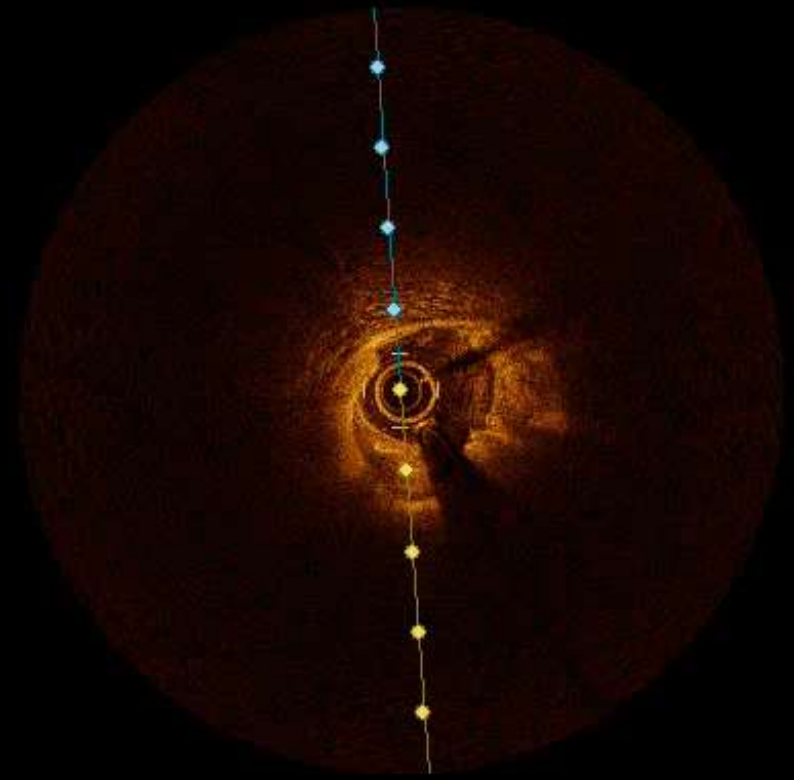
# Predilate

## 2.5/15mm NC Balloon



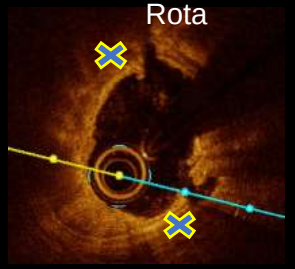
# LM – LAD OCT evaluation
## After RA + 2.5mm NCB

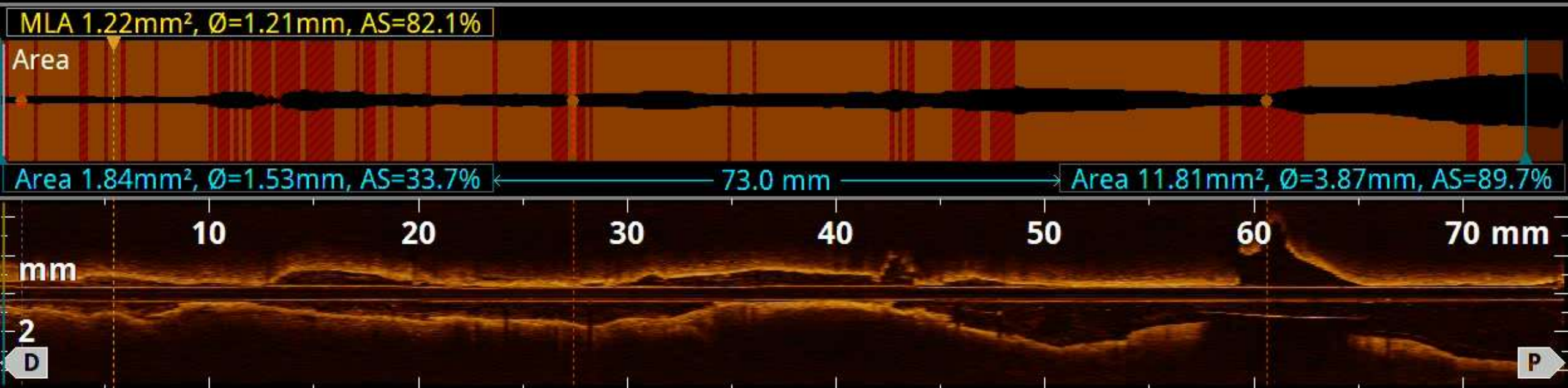




Ca thickness 1.02 mm,length 5.9 mm


Ca Fracture Post Rota



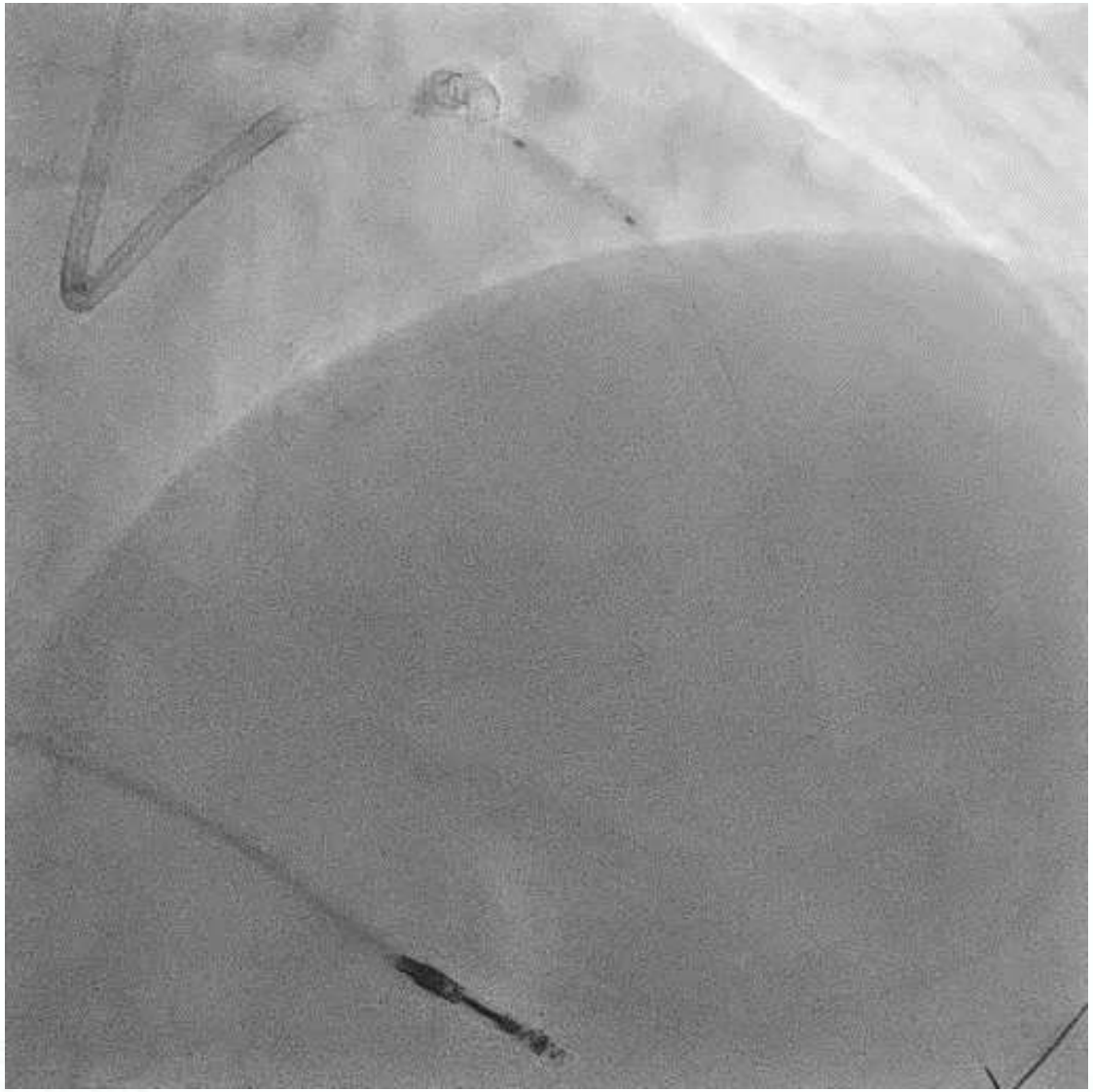



1 mm

Abbott

# Predilate

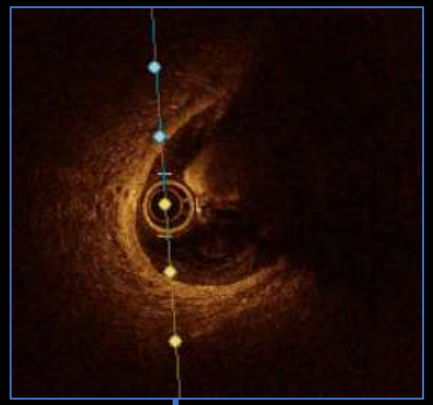
**3.5/15mm NC Balloon**



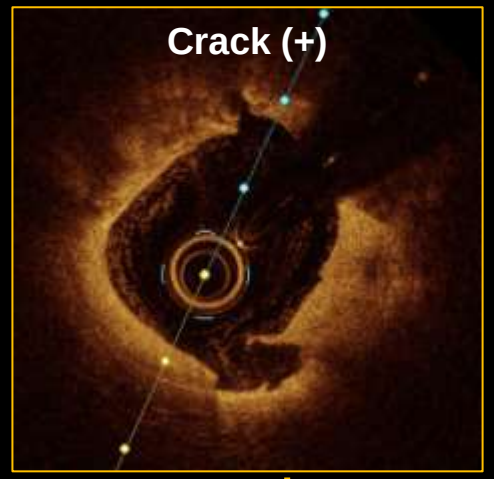
# OCT evaluation

## after lesion preparation

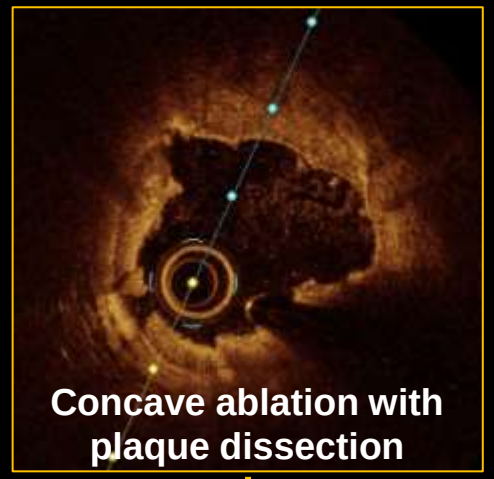
Distal LAD
d: 2.6mm (EEL)



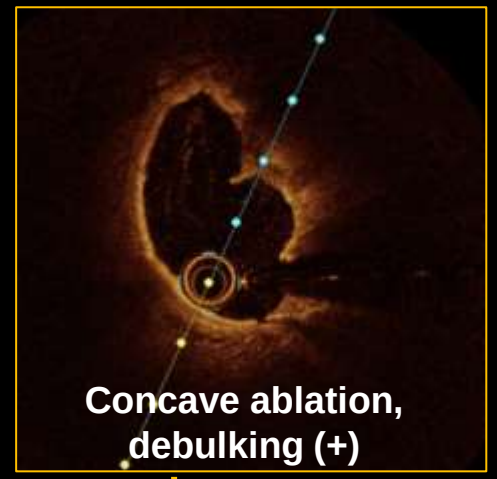
Crack (+)



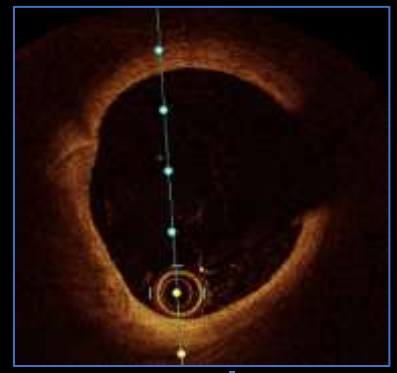
Concave ablation with plaque dissection

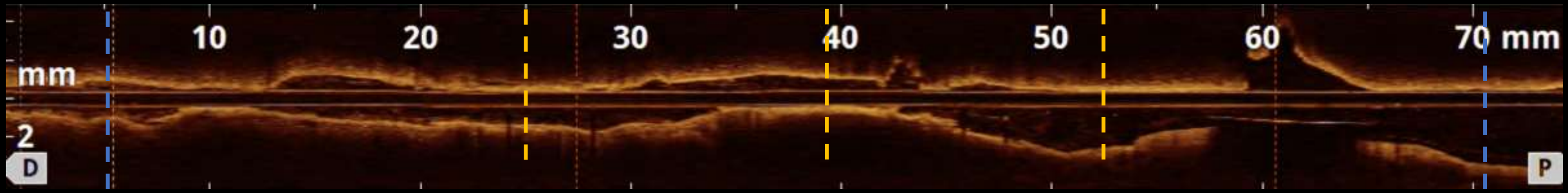


Concave ablation, debulking (+)



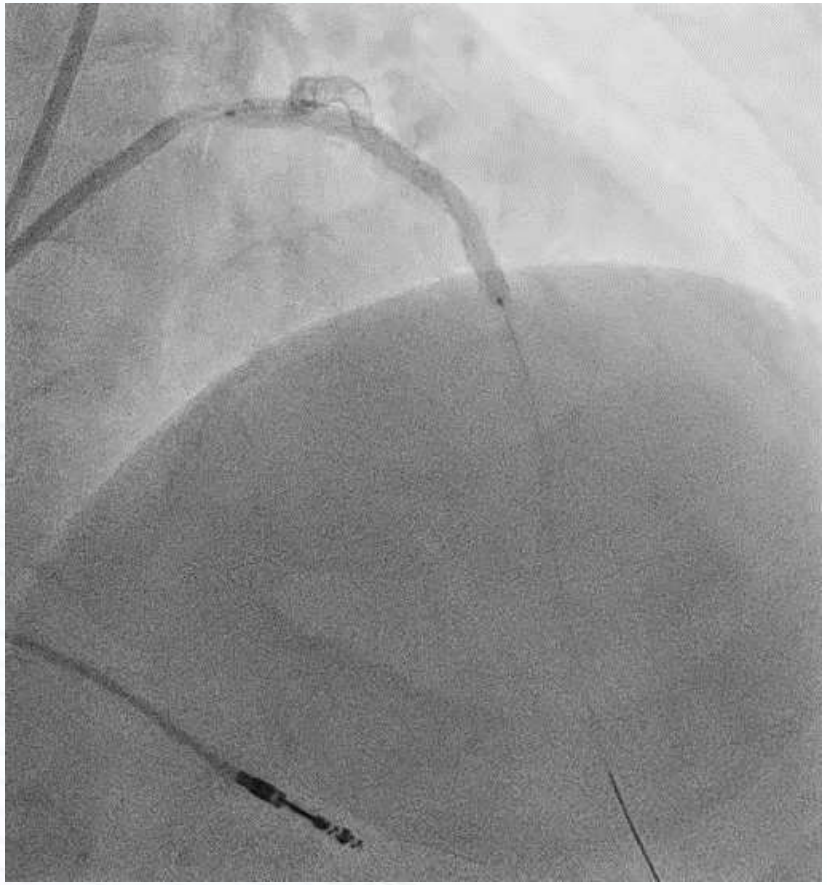
LM
d:3.6mm (lumen)





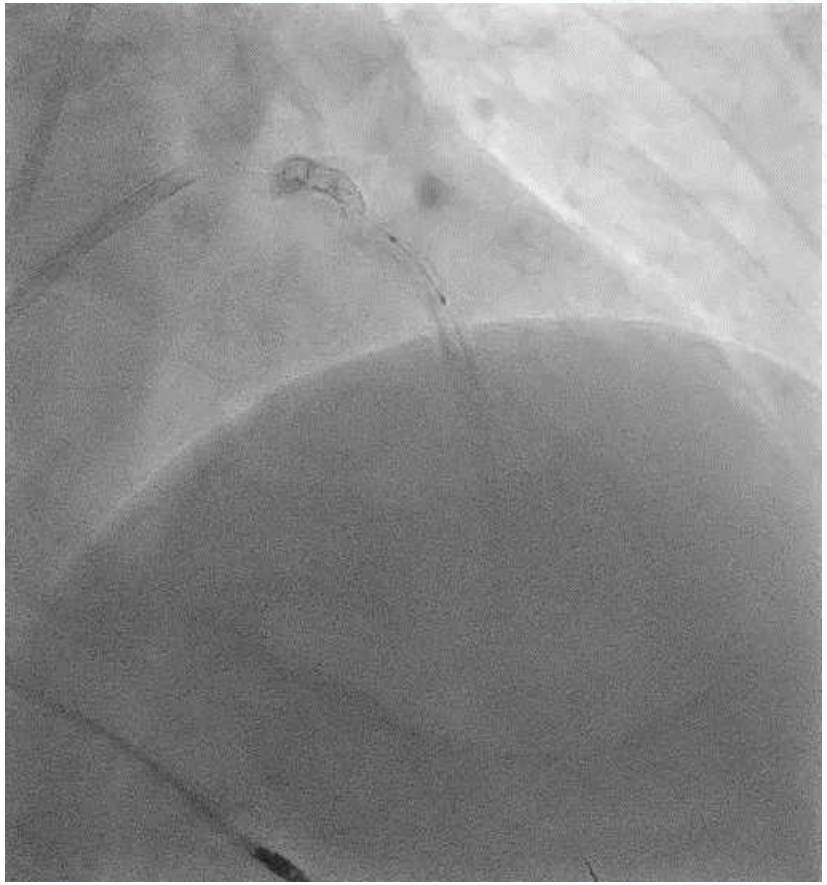
# Stent implantation

**Crossover stenting mLM – mLAD**
**3.0 / 46 mm DES**

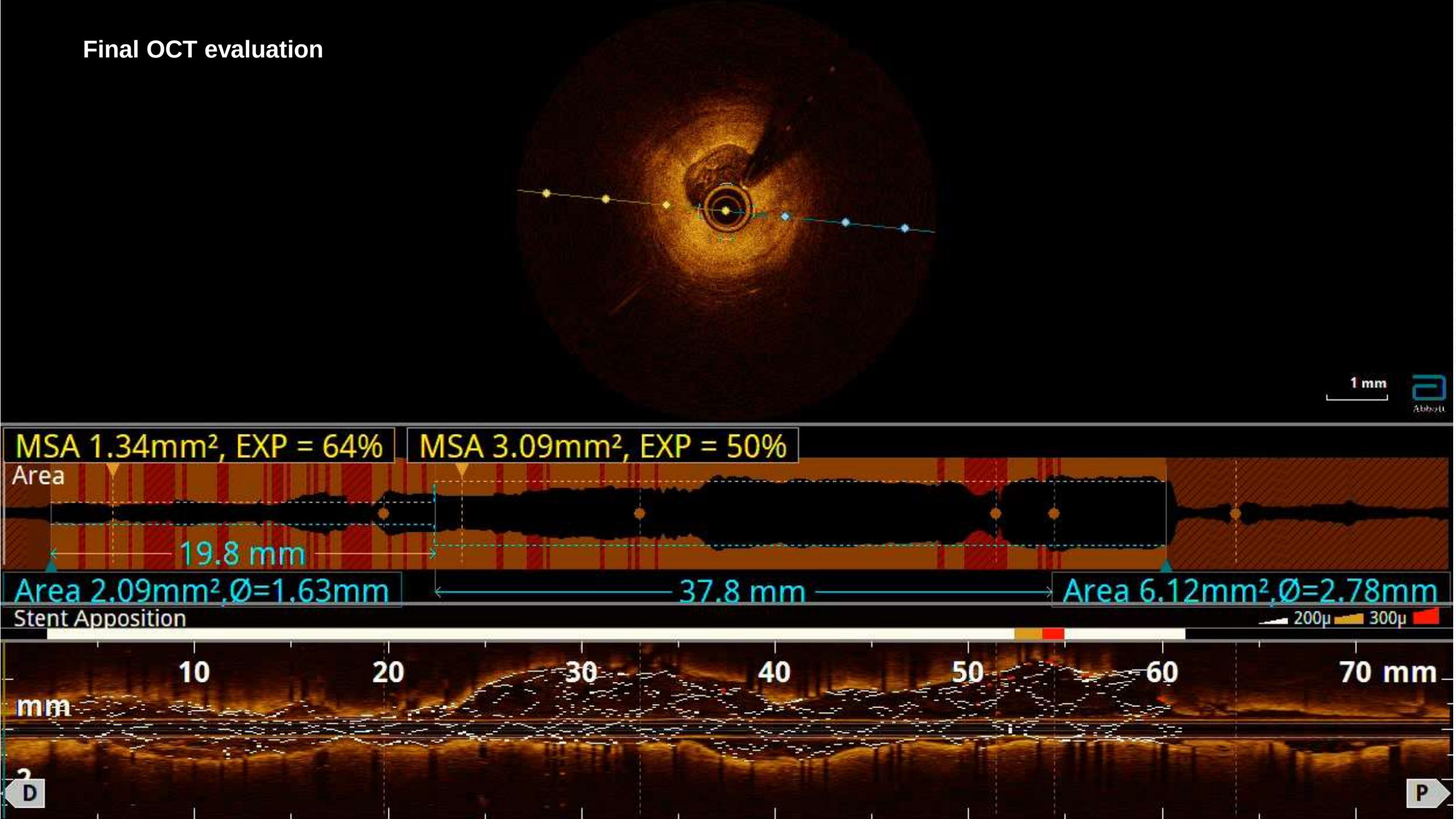


**mLAD-dLAD**
**2.5 / 29 mm DES**

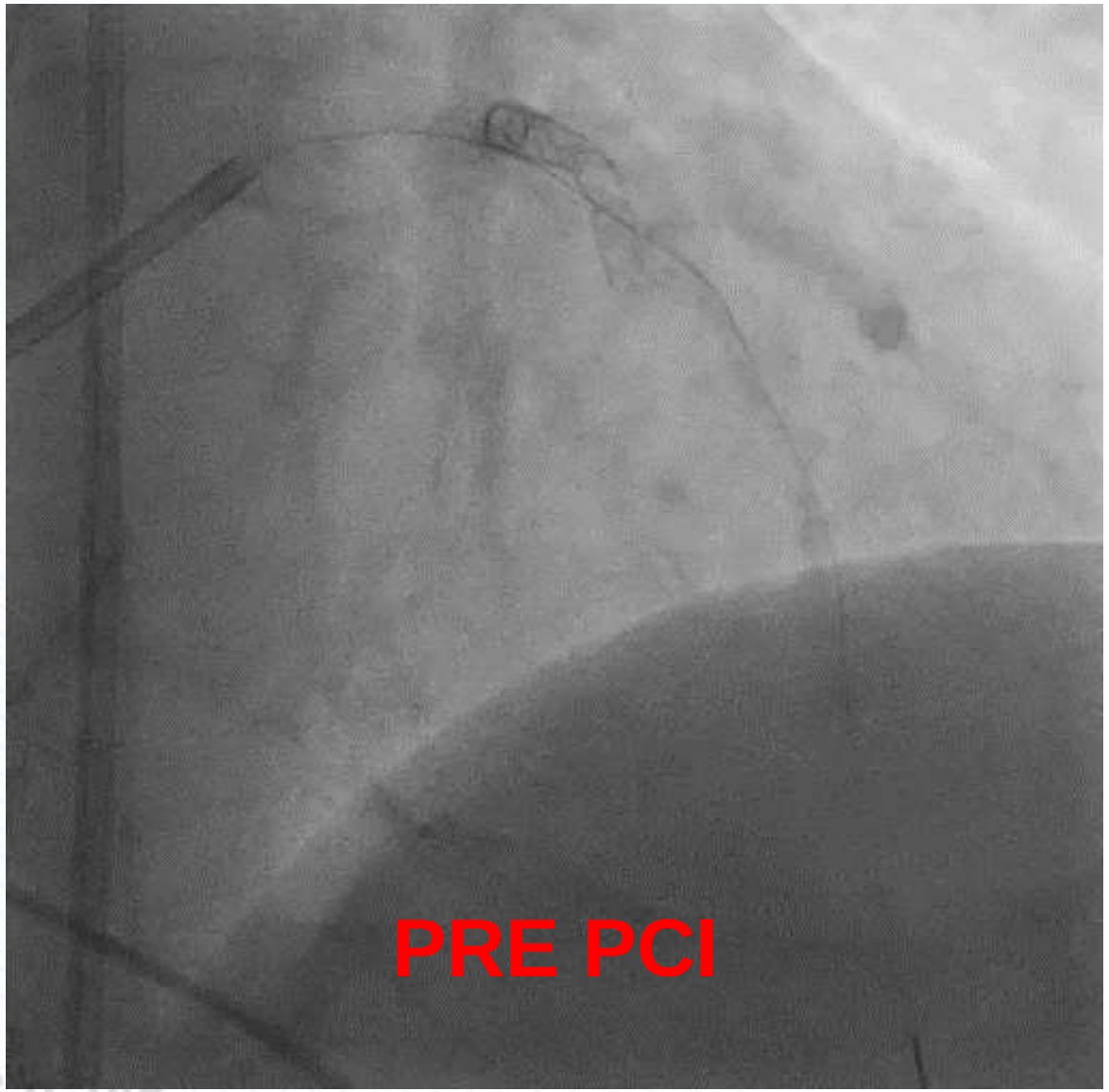
**POT & DOT**
**3.5 mm NCB**

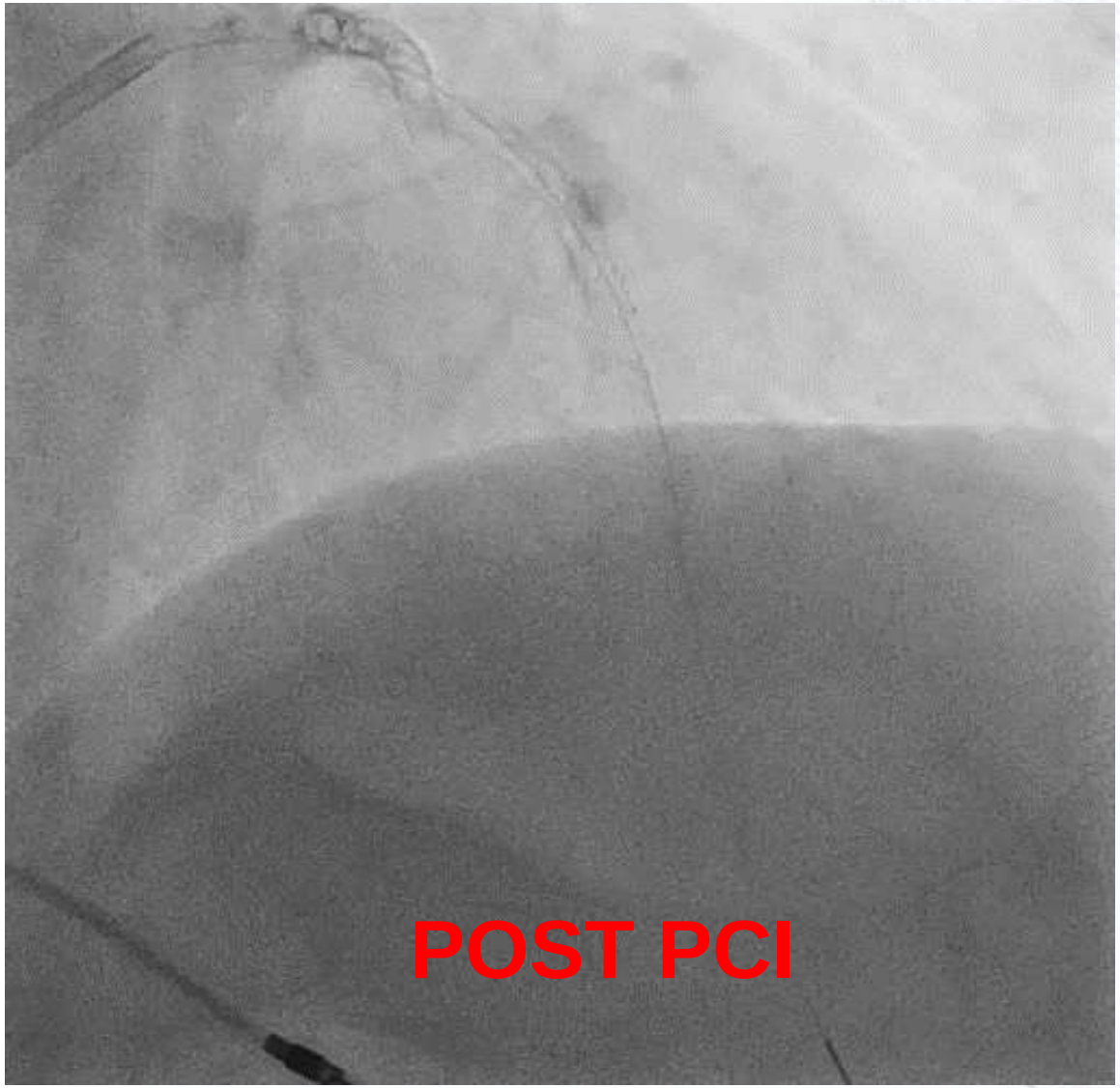


# Final OCT evaluation



# Final Results



# Take Home Message

- Rotational atherectomy is fundamental to facilitate lesion debulking and crossing where balloons will not track (balloon uncrossable lesions)
- OCT provides detailed assessment of lesion preparation adequacy
- Optimal plaque modification before stenting is crucial to achieve optimal stent expansion, especially in calcified lesions