

# **Guide Extension Catheters: A Strong Support from a Parent-Child Relationship**

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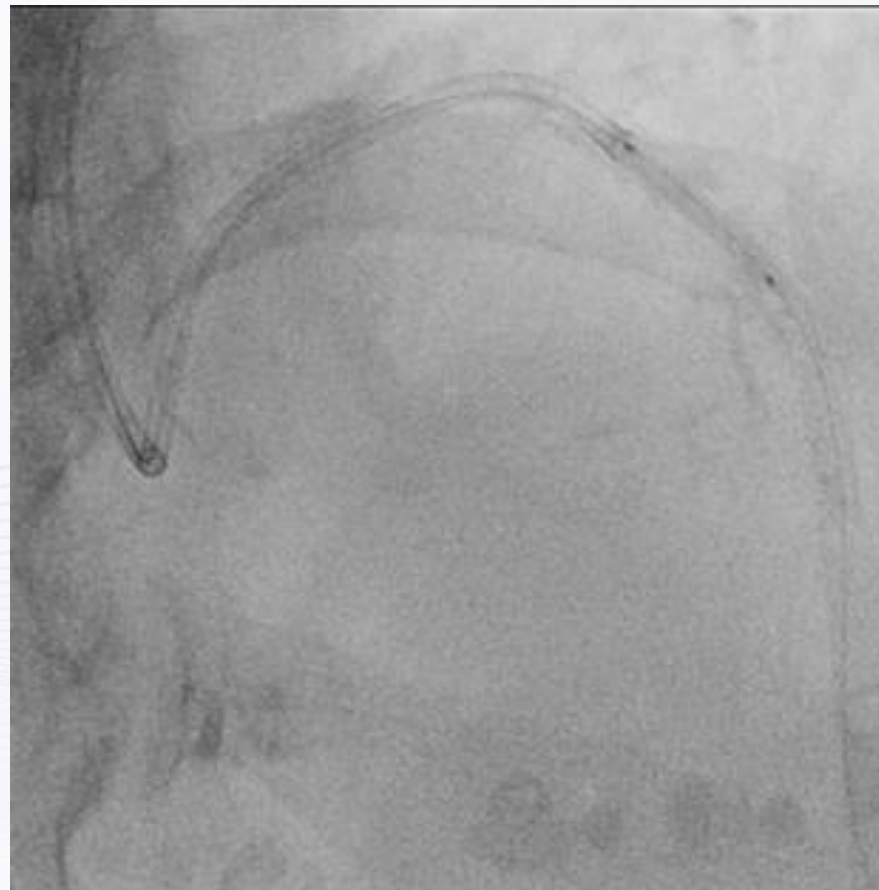
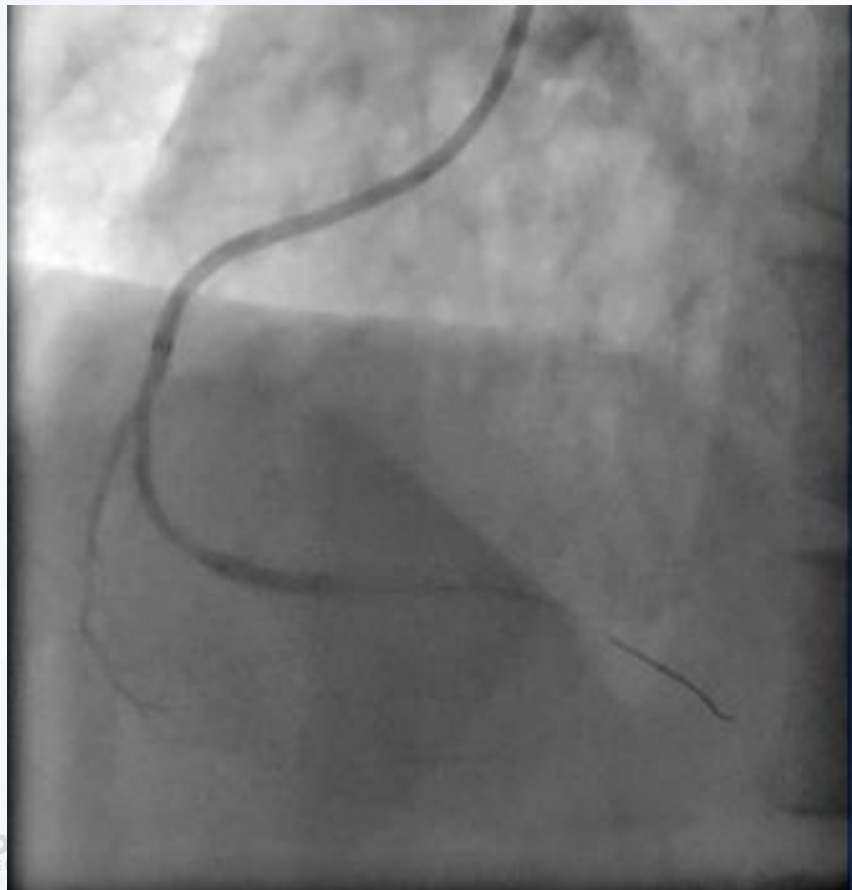
# What is Needed for Complex PCI?

- Strong and calm mind
- Hemodynamic stability
- Strong guide catheter back-up force
- Intravascular imaging guidance
- Aggressive lesion modification
- To obtain larger MSA with adequate stent sizing & post-dilation
- Final surveillance with intravascular imaging

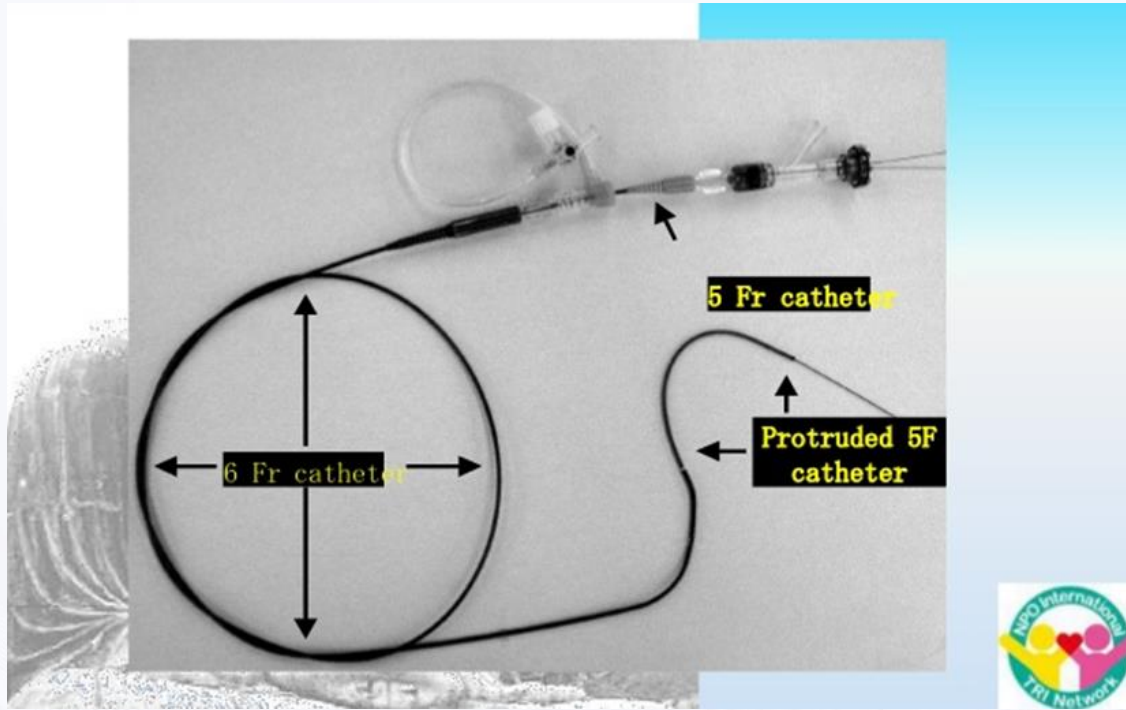
# What is Needed for Complex PCI?

- **Strong guide catheter back-up force**
  - Co-axial,
  - Larger sized,
  - Stronger guide catheter : Amplatz, EBU, XB...
  - Long introducer (femoral) sheath
  - Deep intubation of catheter
  - Anchoring technique: side or distal anchoring

## Deep Intubation of GC (Judkins)



# 1<sup>st</sup> generation of “Mother and Child” Catheter

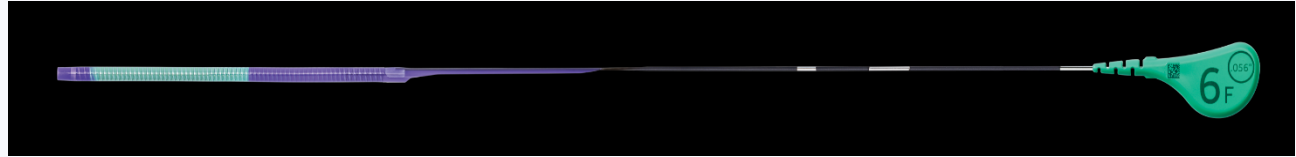


- Cumbersome
- Required removal and reconnect of hemostatic valve

# 2<sup>nd</sup> generation of “Mother and Child” Catheter

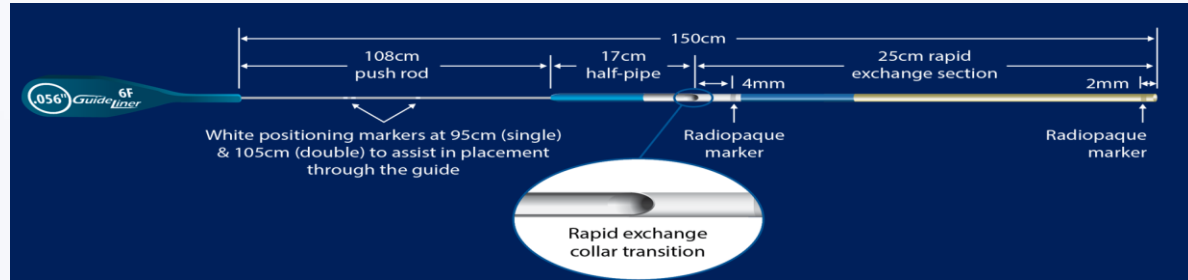
## Telescope

*More Deliverable*



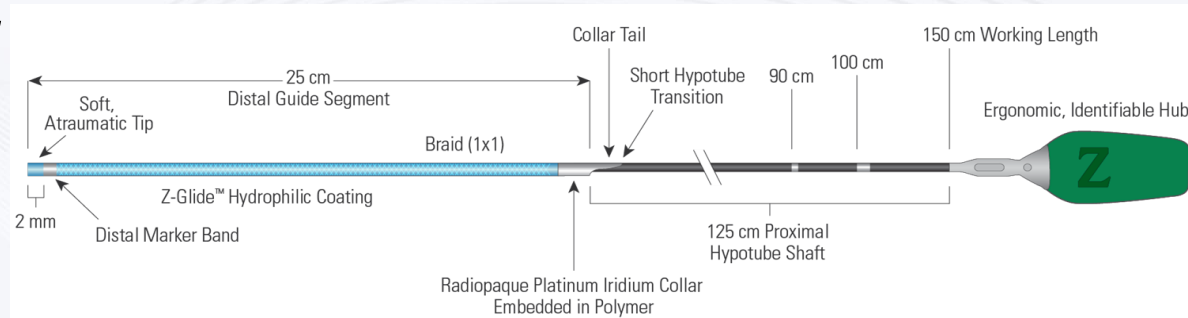
## GuideLiner

*More Flexible*



## GuideZilla II

*More Pushable*



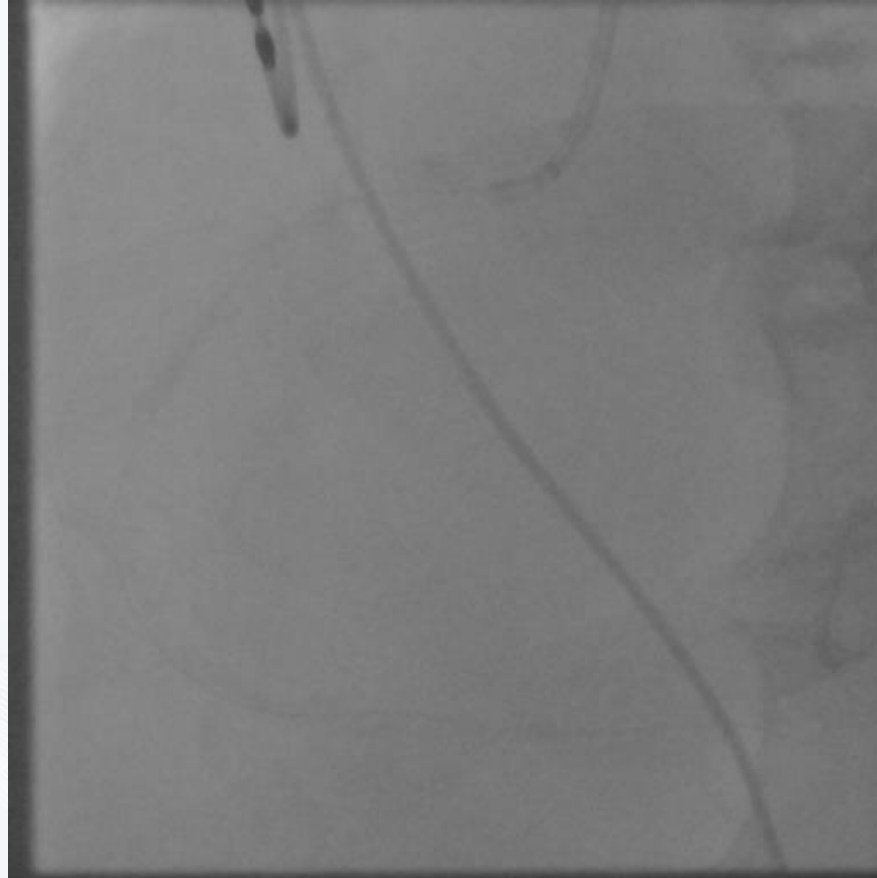
# Clinical Indication of Guide-Extension Catheter

- Presence of vessel angulation and tortuosity
- Presence of severe calcification

***Whenever You Need It !!***

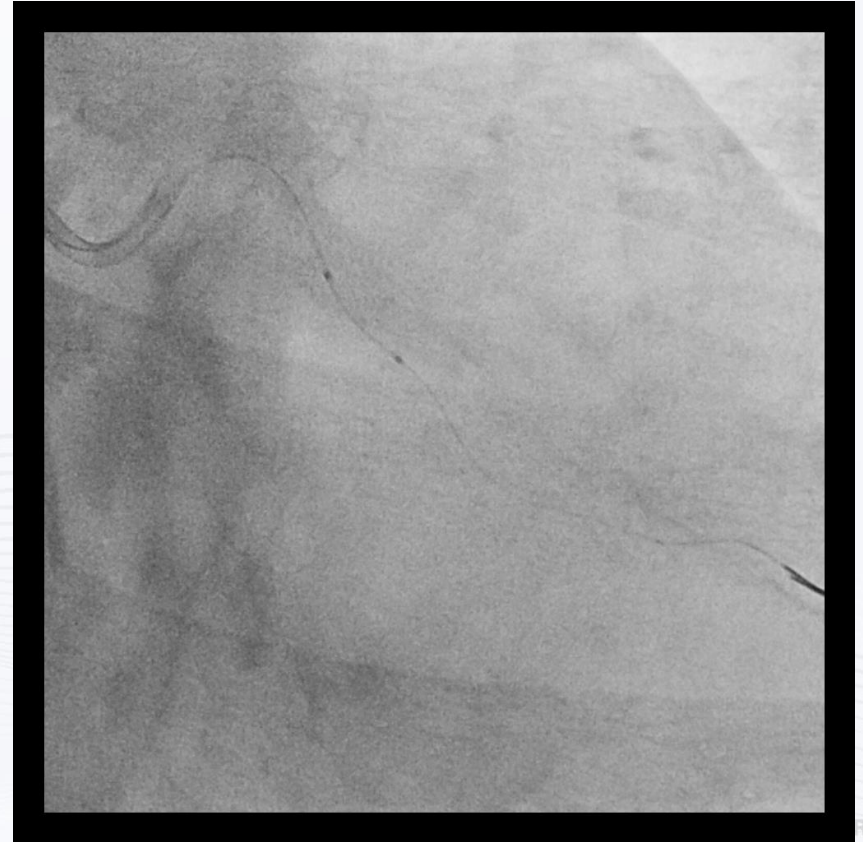
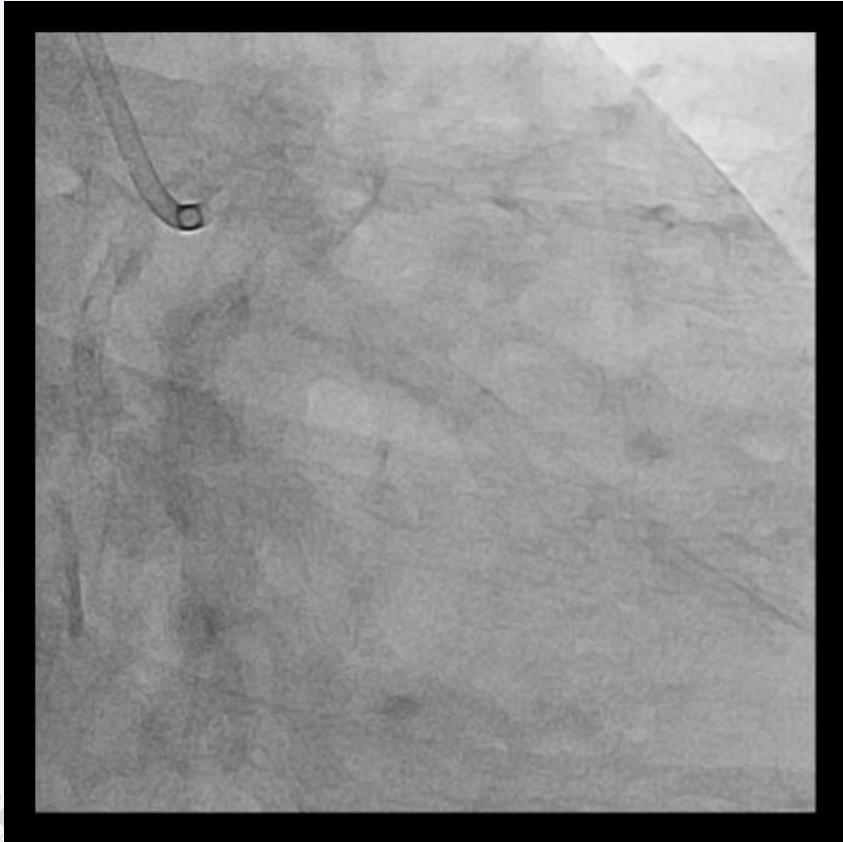
- Intracoronary imaging catheter delivery
- Delivery of the burr and enabling safe rotational atherectomy in tortuous calcific lesion

# Intubation of Guide Extension Catheter : Balloon- Guided

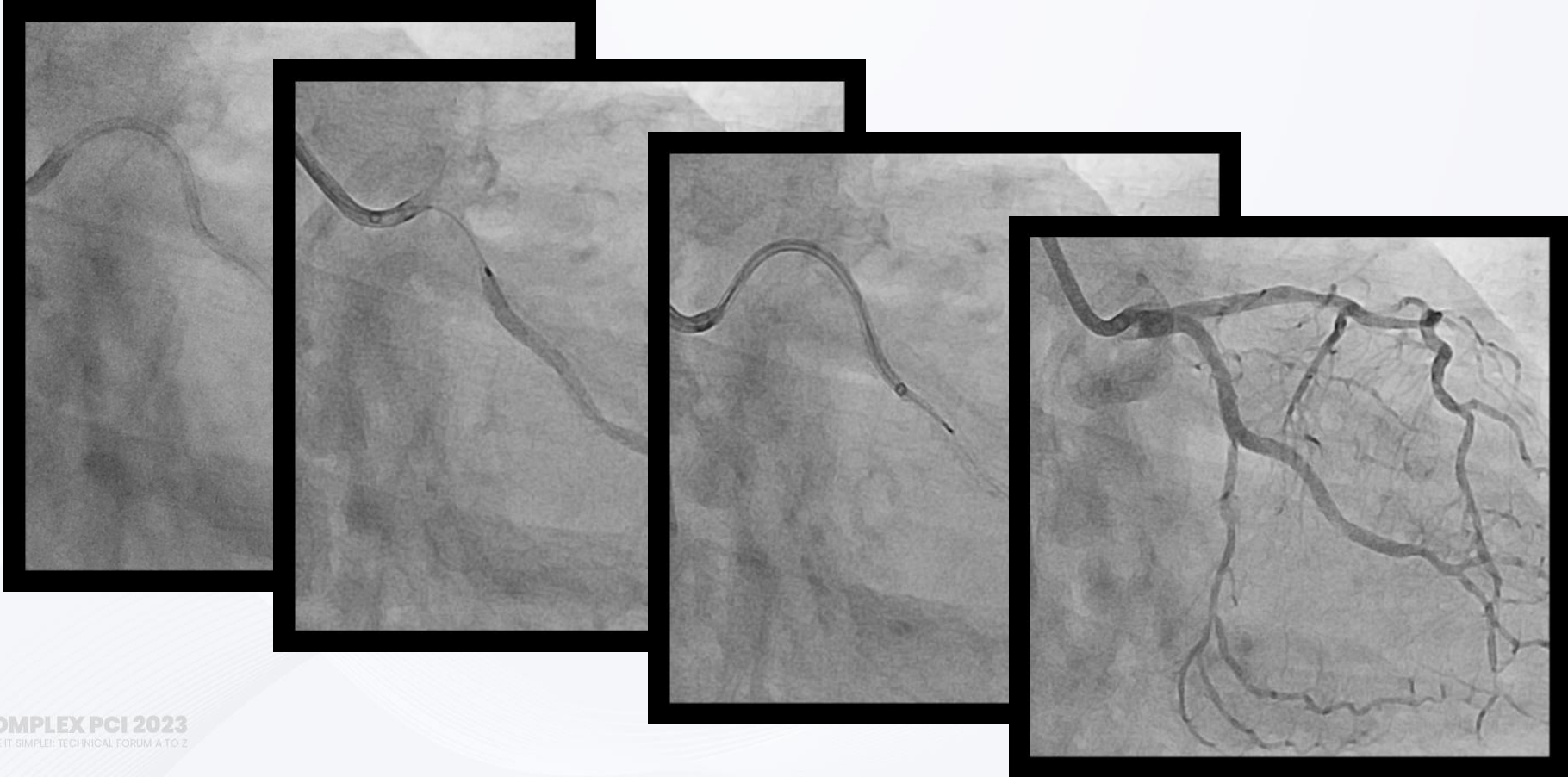




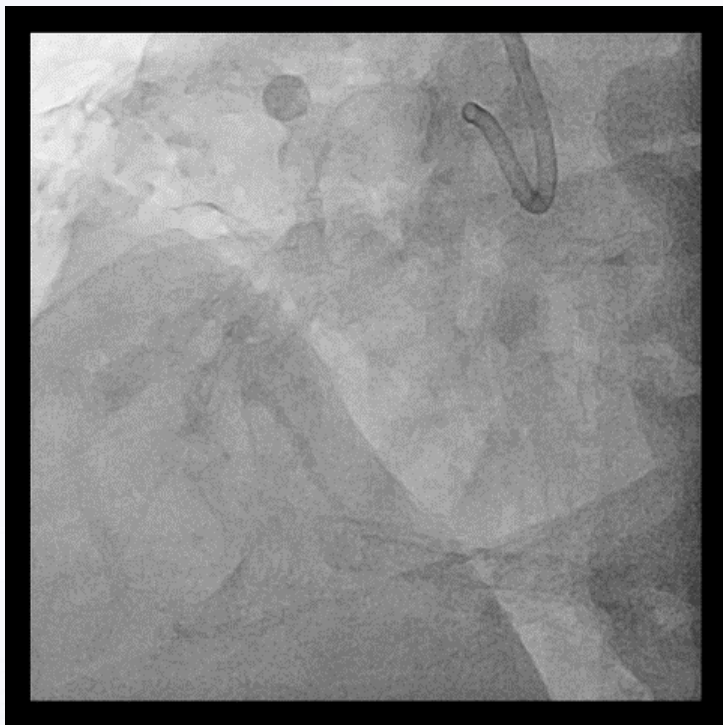
## Tortuous and Calcified LCX



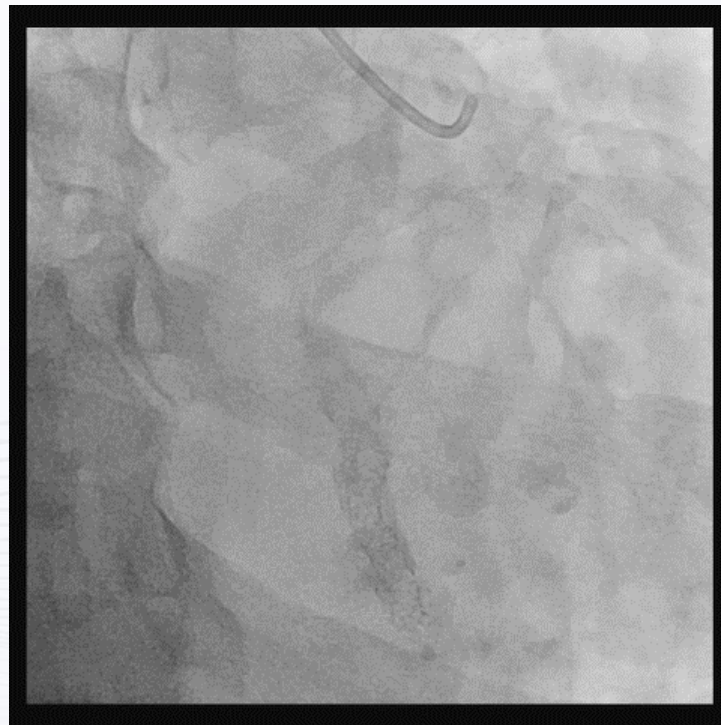
# Tortuous and Calcified LCX



# Calcium Nodule in RCA : M/66 with Angina

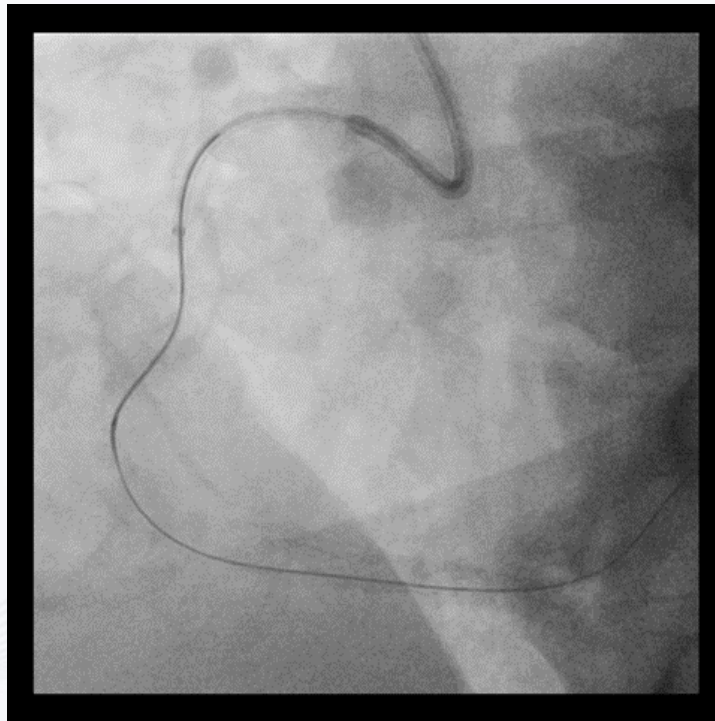


LAO



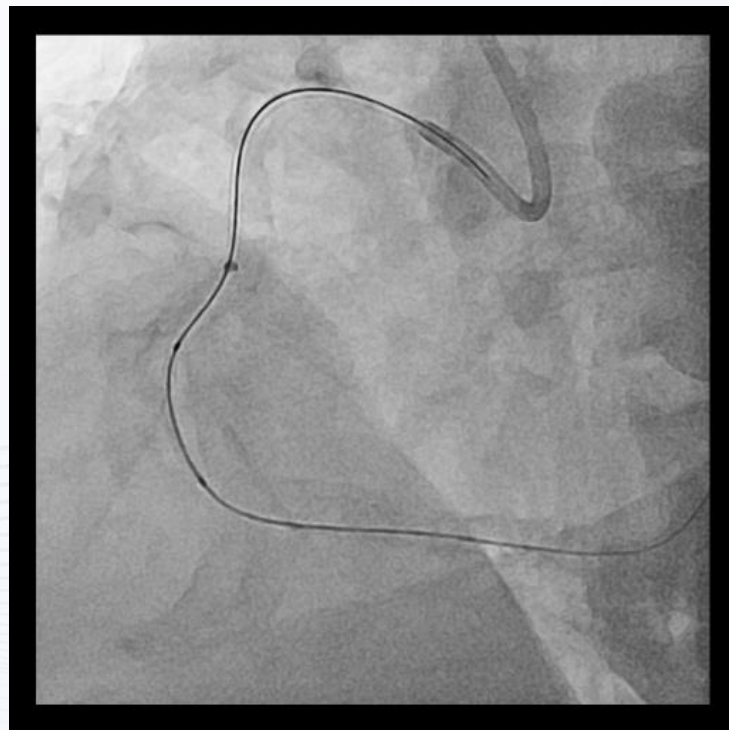
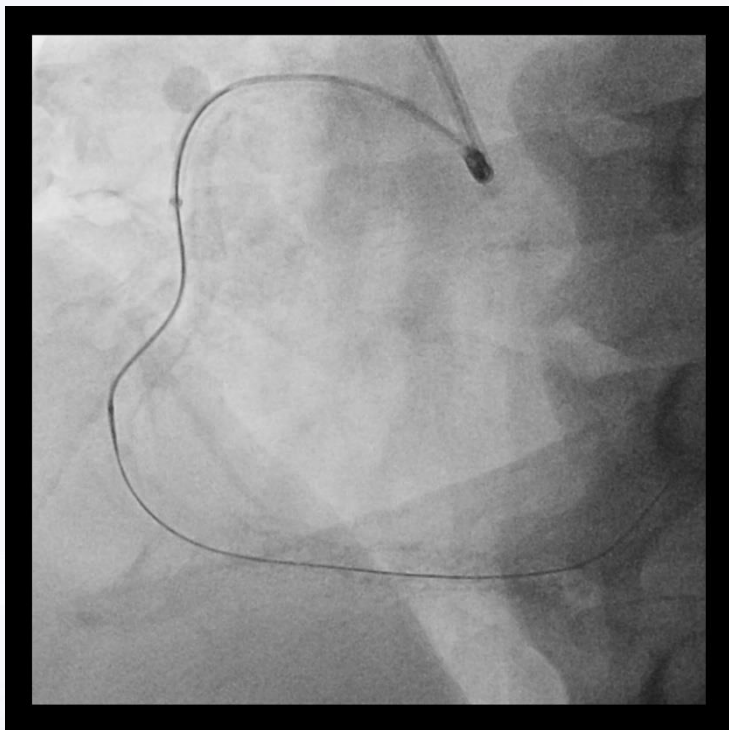
RAO

# Wiring



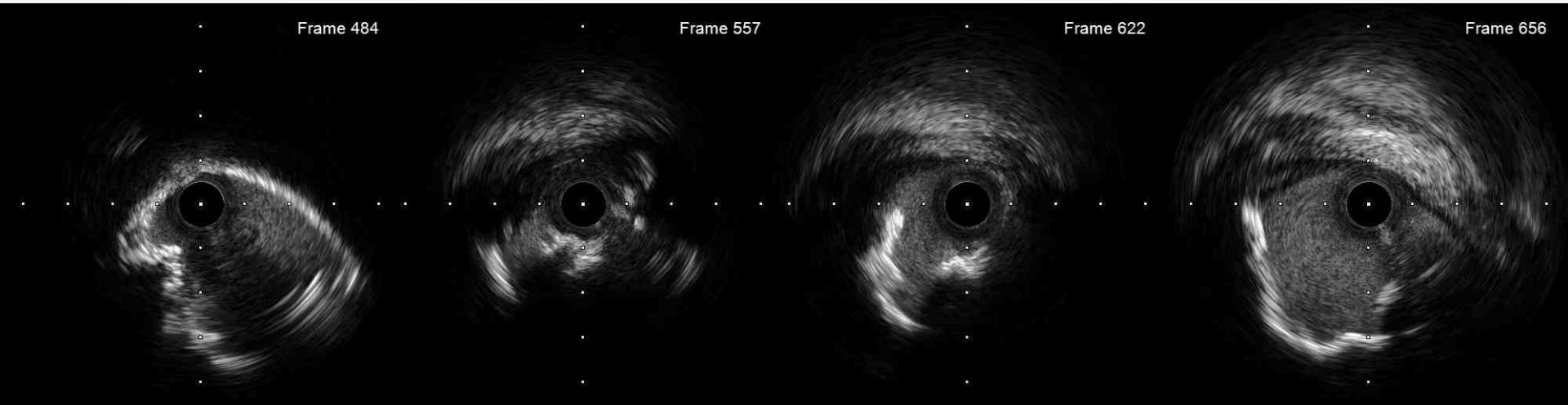
7FR AL1 short tip GC + Guidezilla (6Fr) + Corsair + Fielder XT-R

# Pre-Balloon



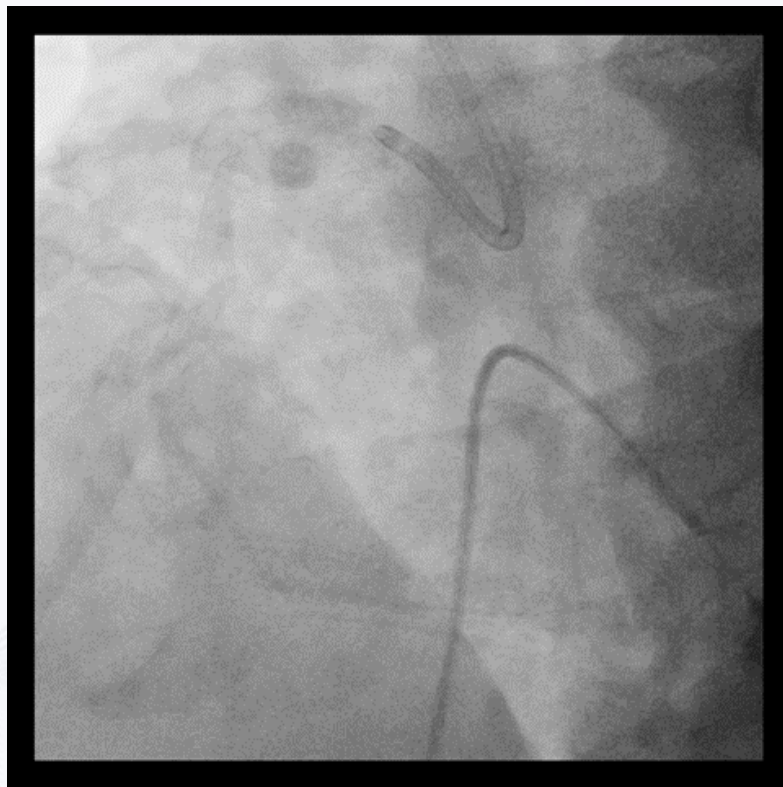
1.0(5) upto 16 atm (1.16), 2.0(20) upto 24 atm (2.1)

# Post-Balloon IVUS



Diffuse Multiple Heavy Calcified Nodule

## Rotablation (1.5mm burr)

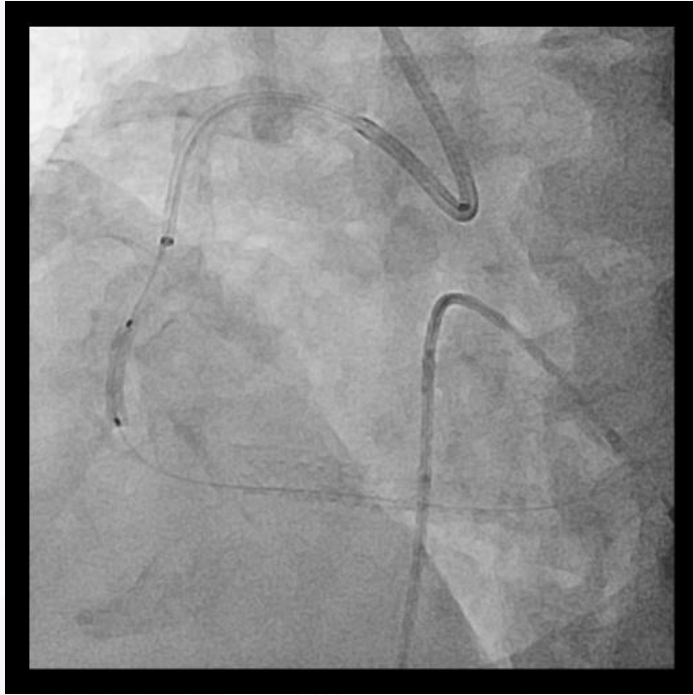


# Post-Rotablation



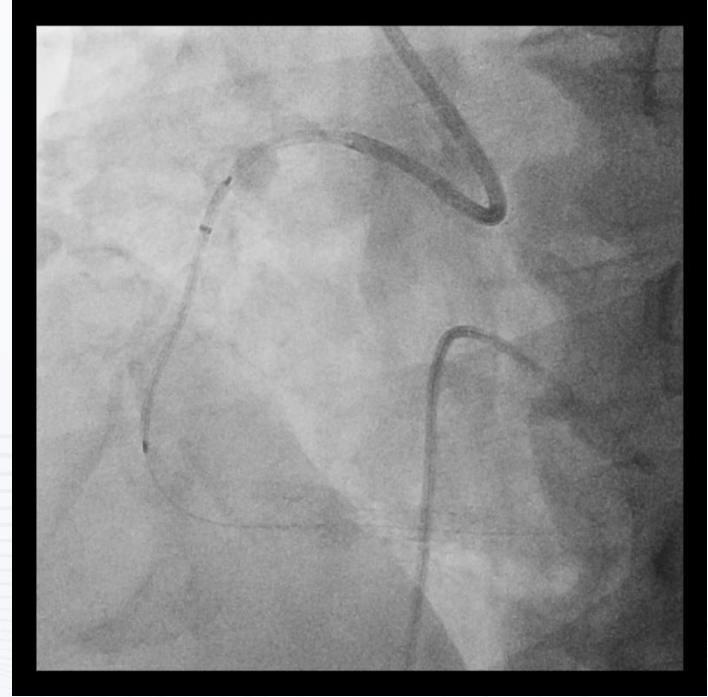


## Pre-NC Balloon



NC 3.0 \* 15mm upto 14 atm (3.05)

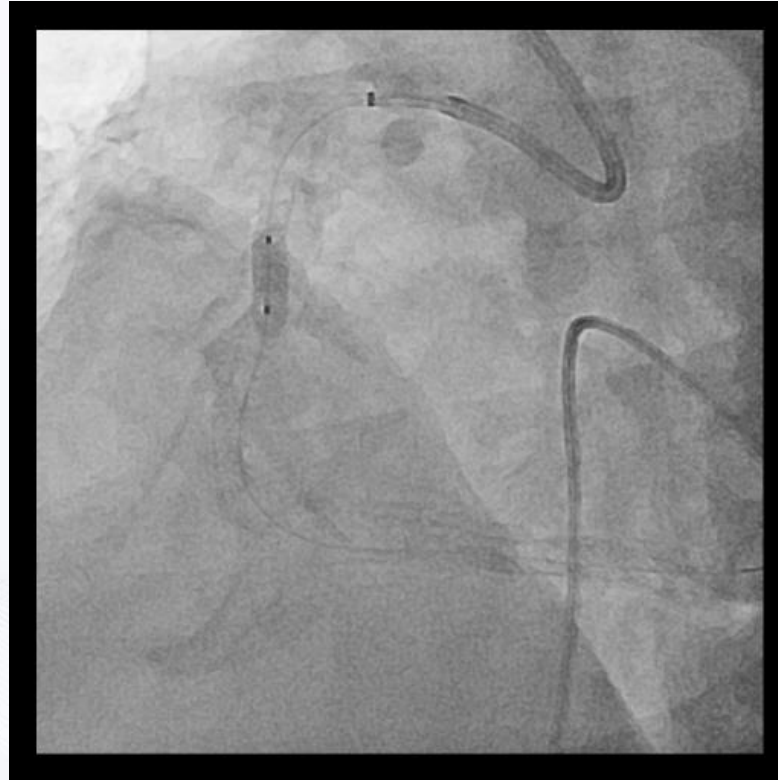
## Stenting with GuideZilla Support



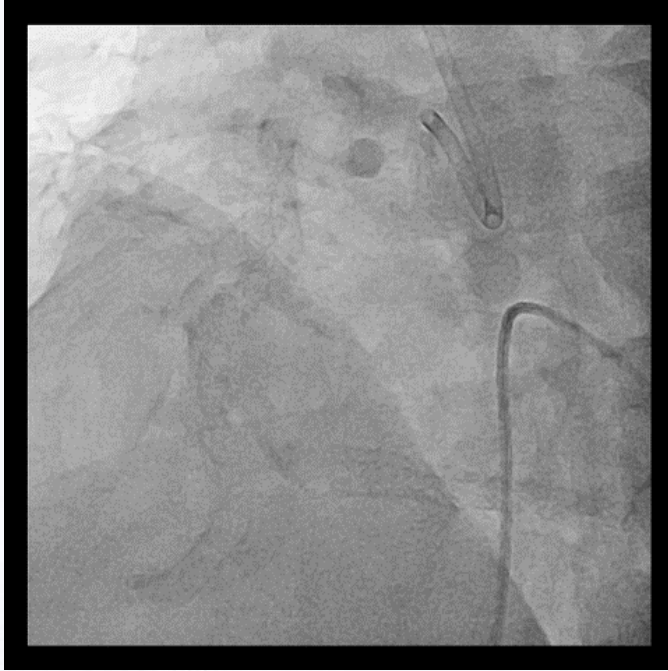
DES 4.0 mm (38 mm)

# High-Pressure Post-dilation

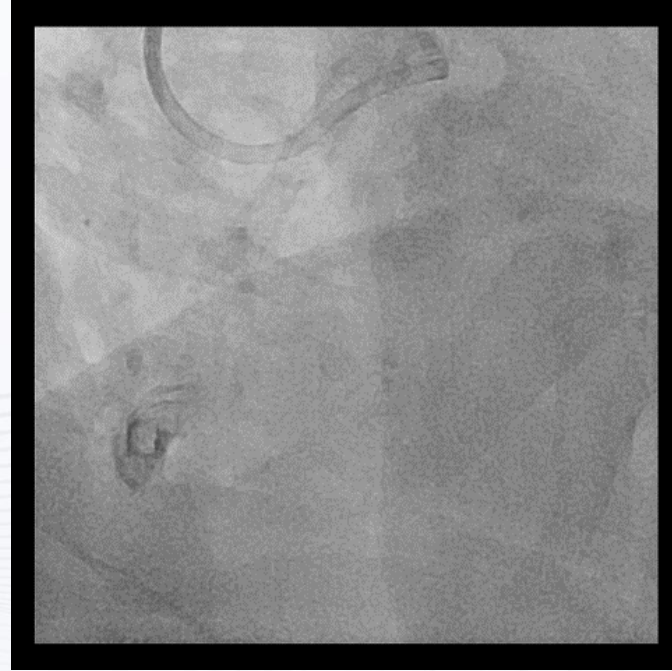
With Sapphire NC 4.0 up to 4.5 mm (28 atm)



# Final Angiography

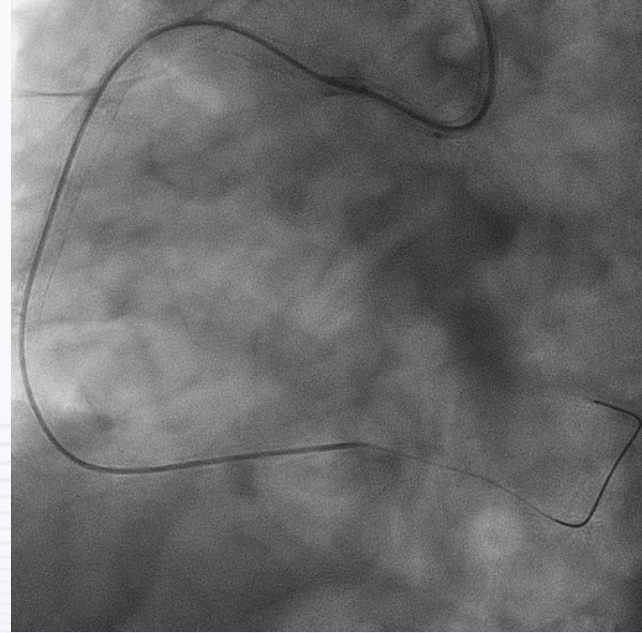
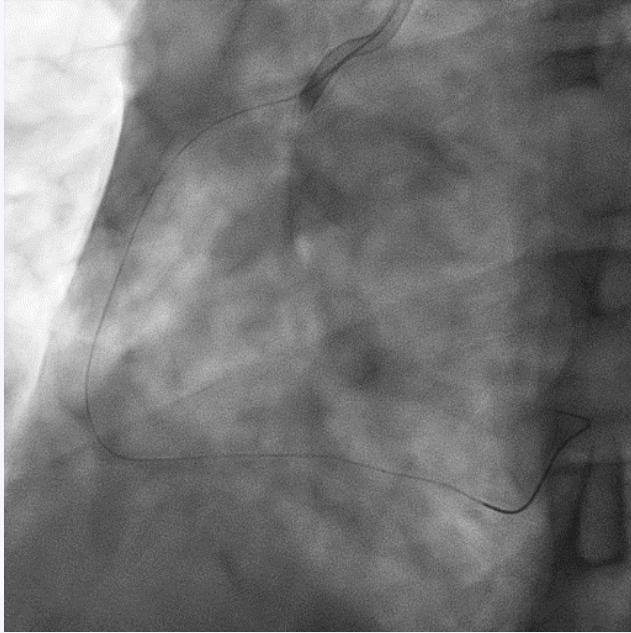


**LAO**



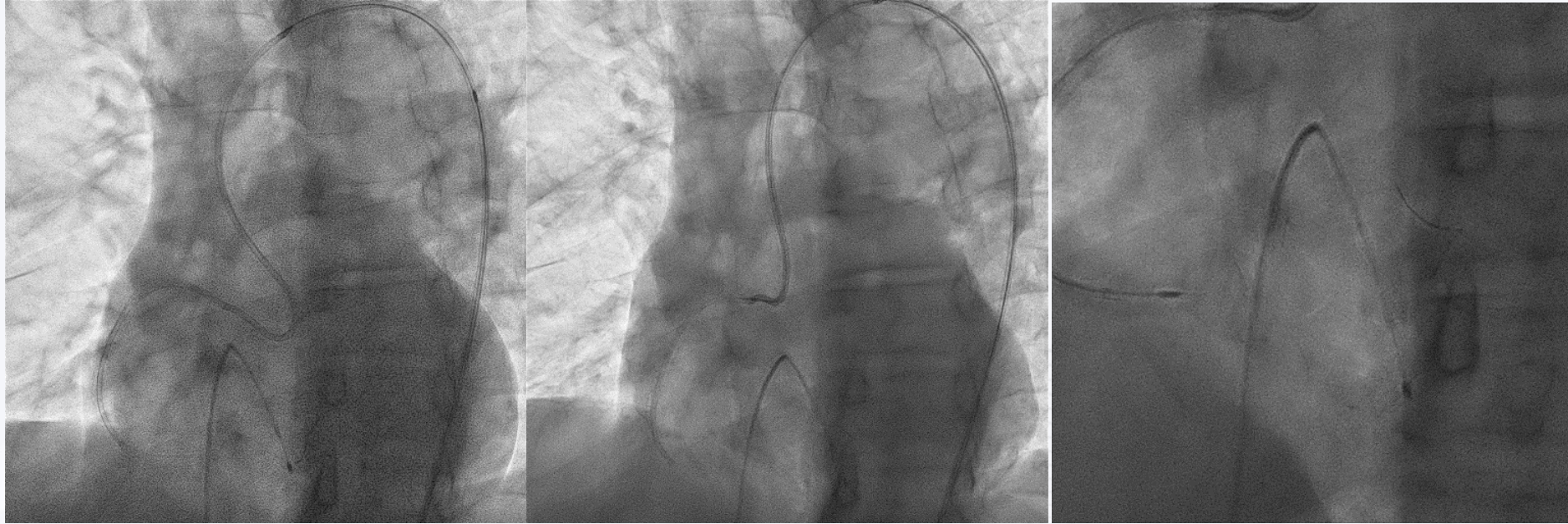
**RAO**

# Rotablation via Guide-Extension Catheter



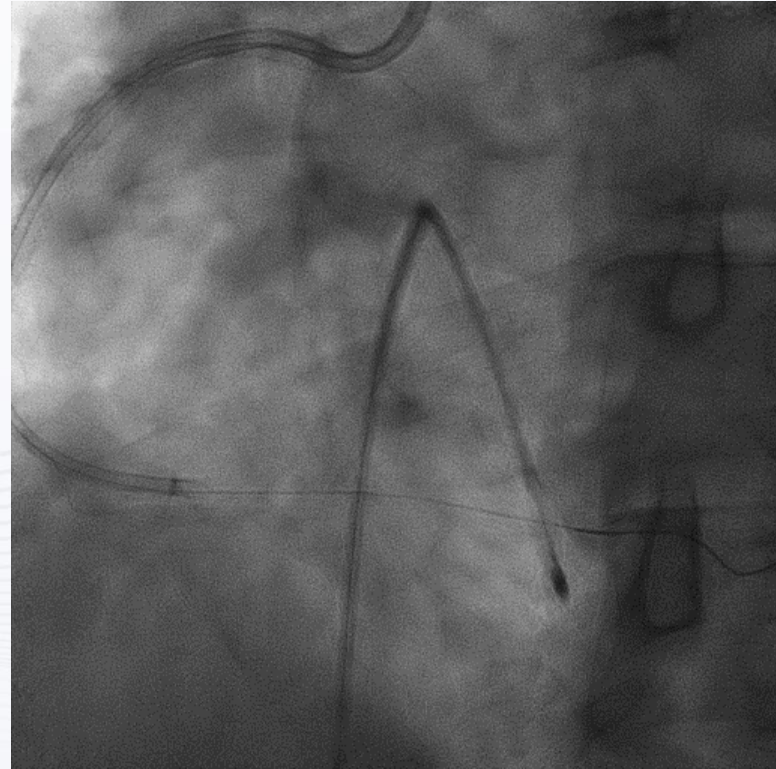
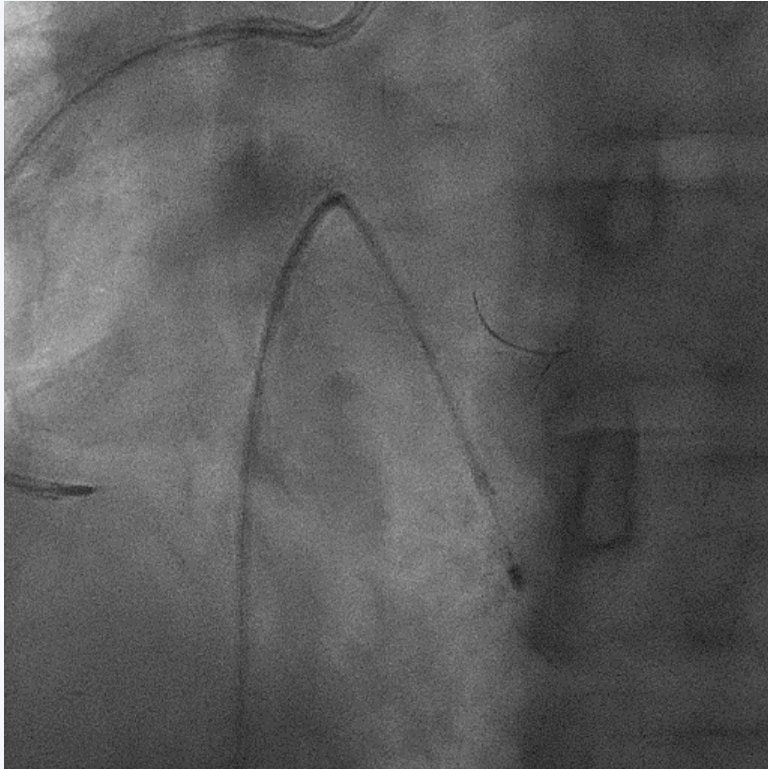
- dRCA CTO, PL showing ring calcium
- After stenting at RCA os and pmRCA, we could not pass the lesion using microcatheter

# Rotablation via Guide-Extension Catheter

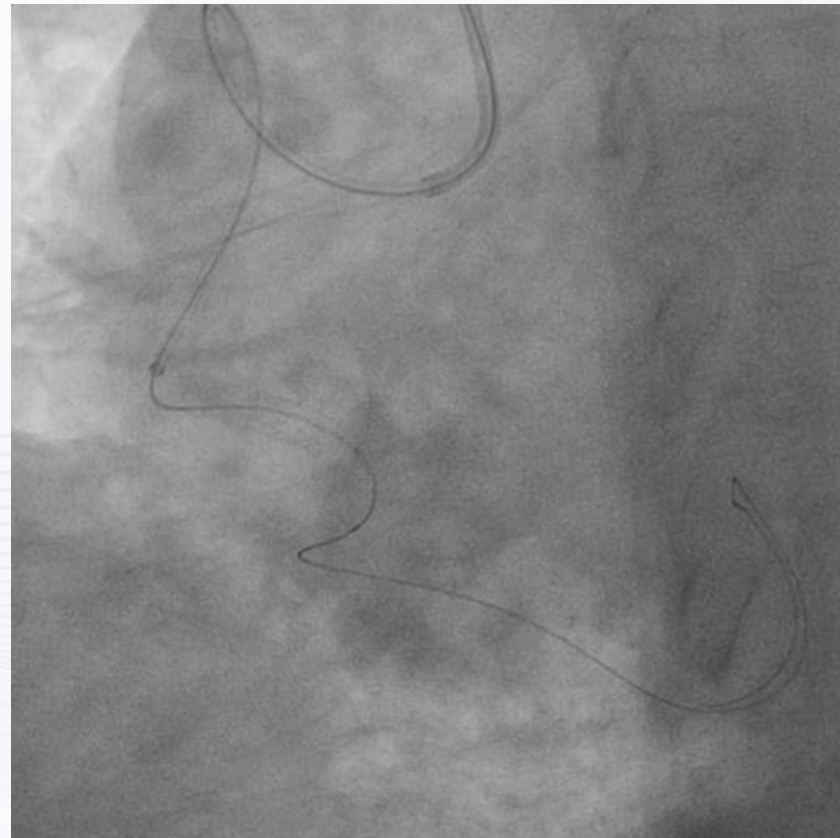
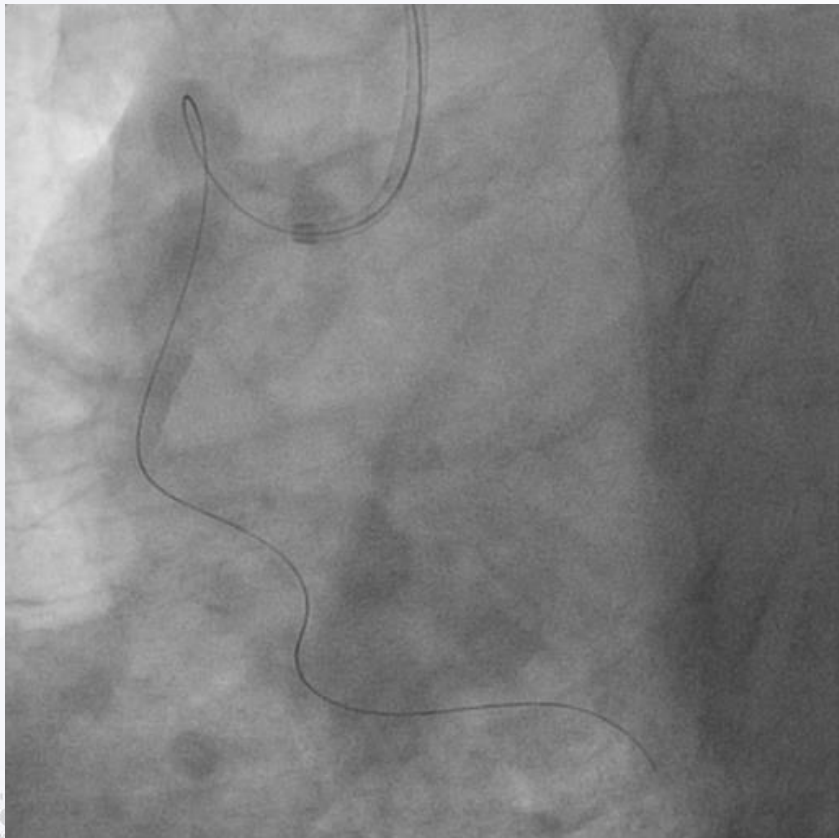


Rotablation (1.25 mm burr) via guide zilla (7Fr)

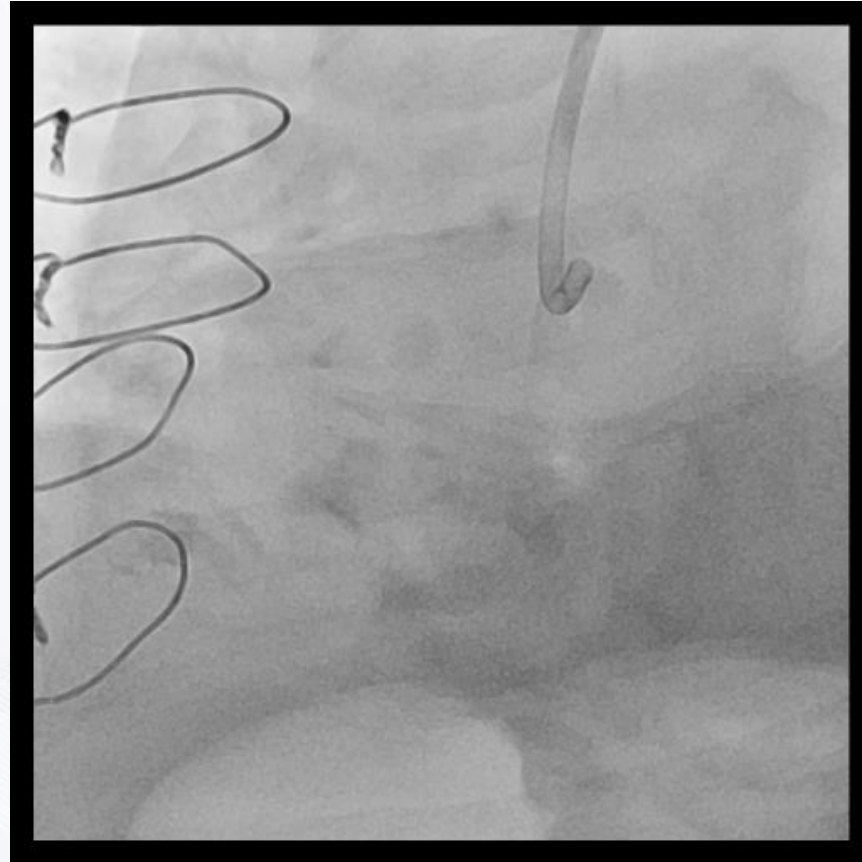
# Rotablation via Guide-Extension Catheter



# Very Tortuous RCA

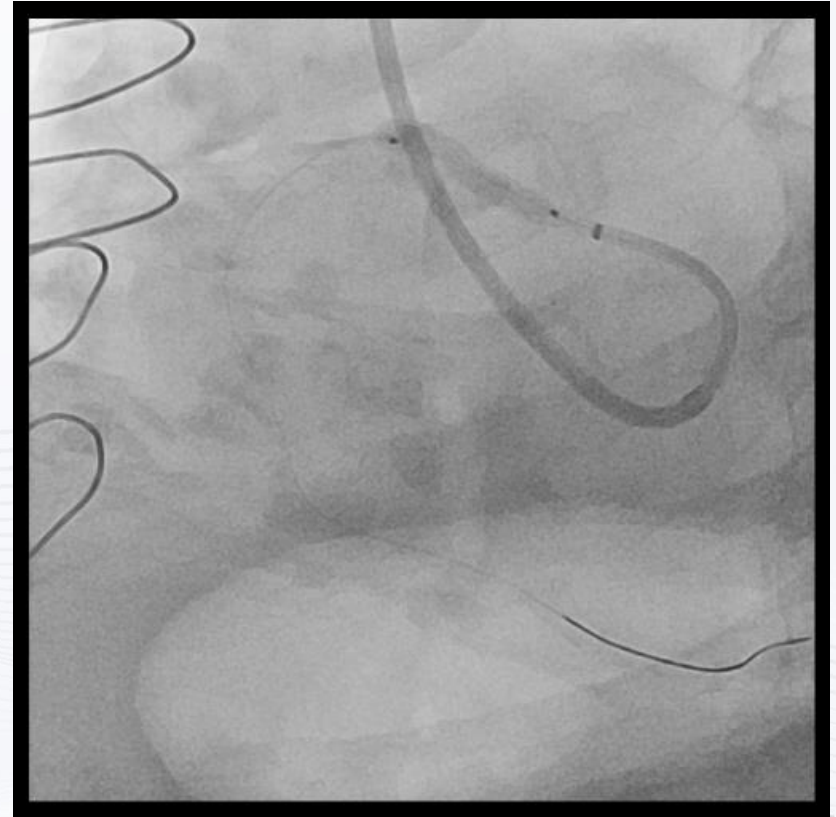


# In case of Ostial Disease, Hard to Engage

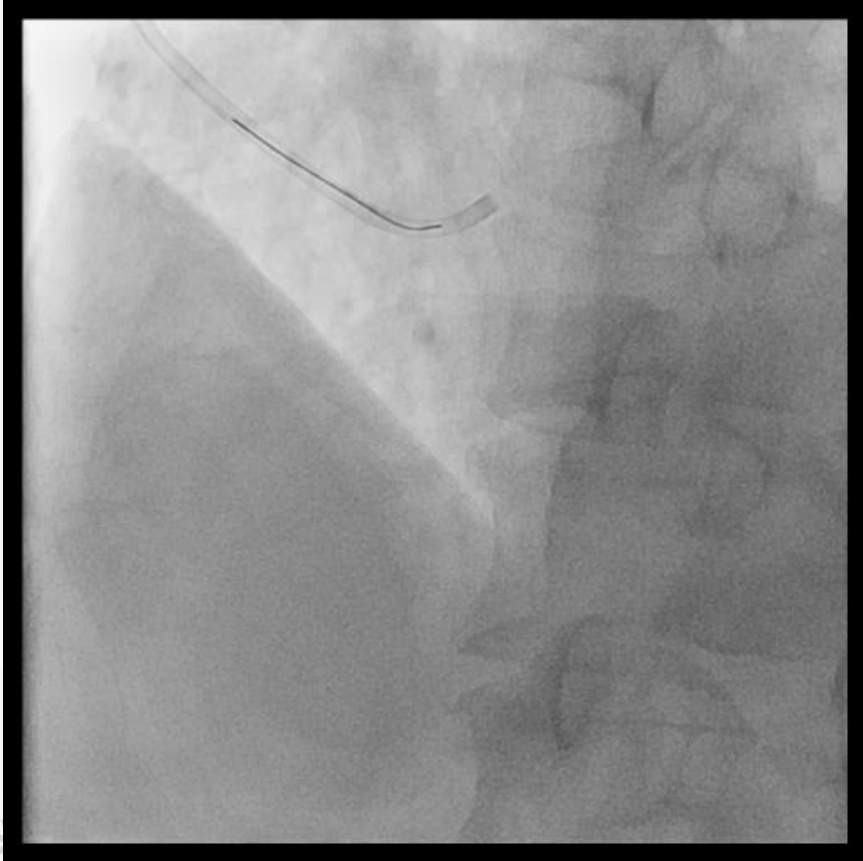




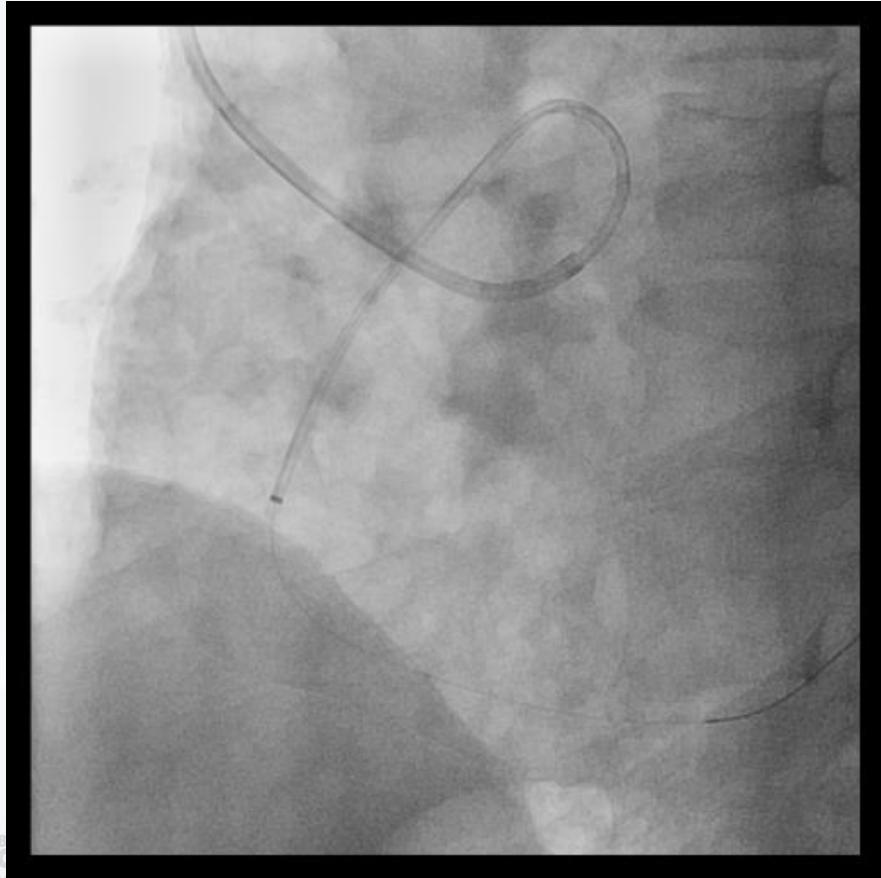
# In case of Ostial Disease, Hard to Engage



# Anomalous Origin RCA



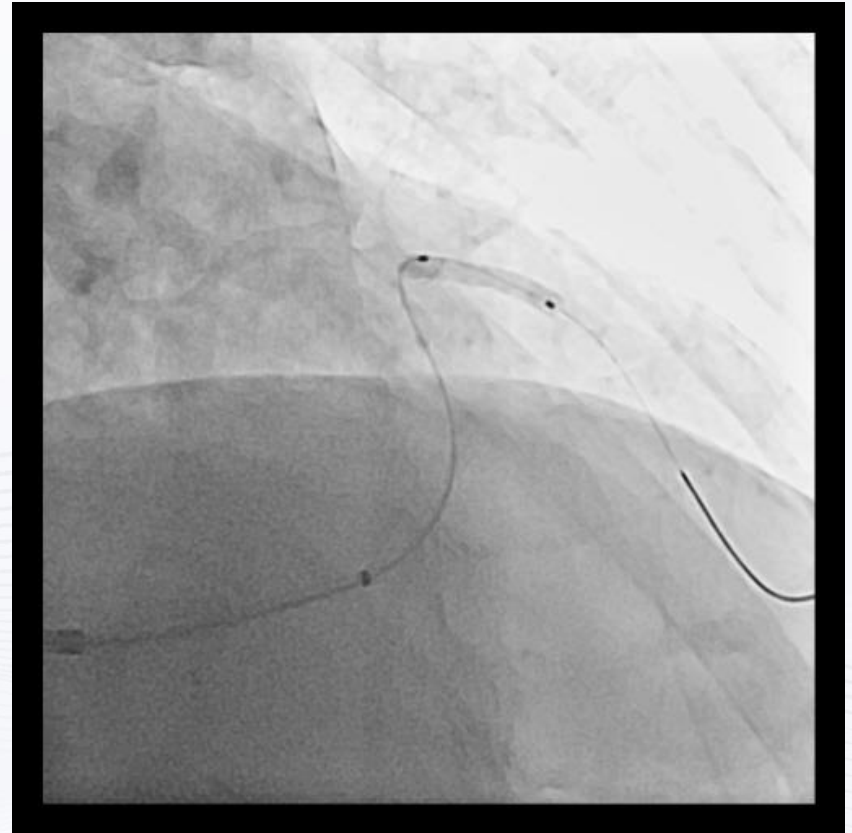
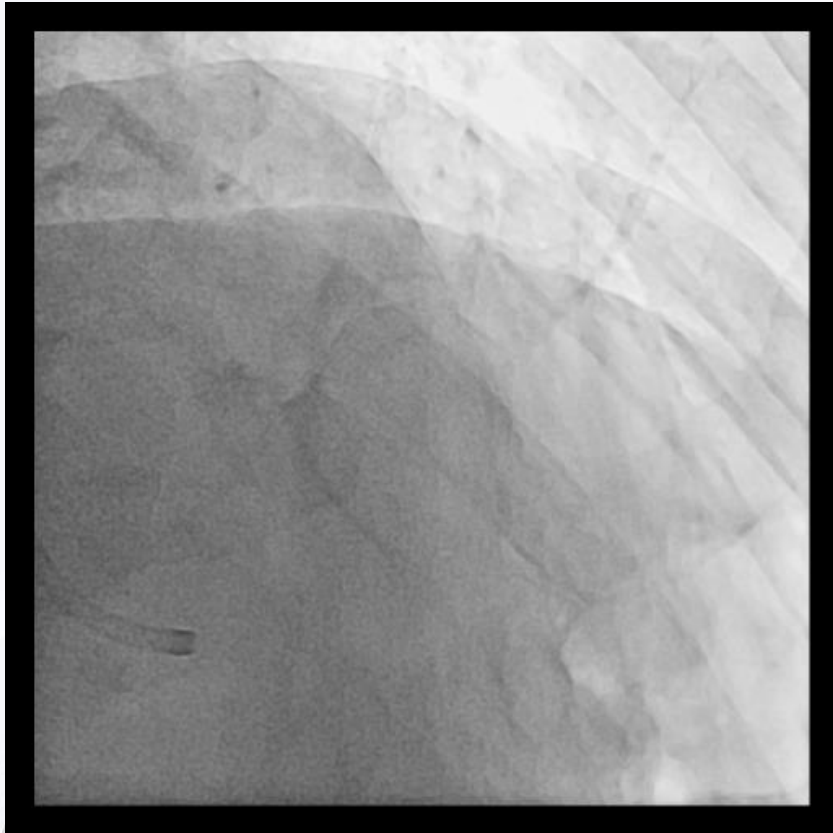
# Anomalous Origin RCA



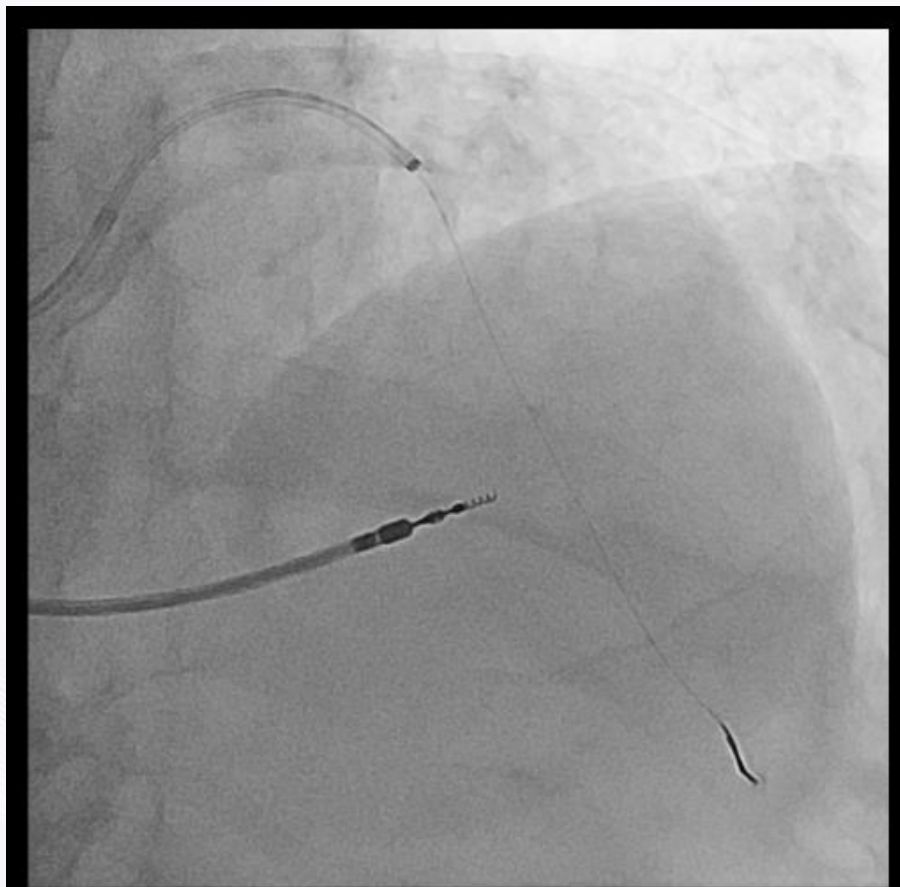
# Anomalous Origin LM



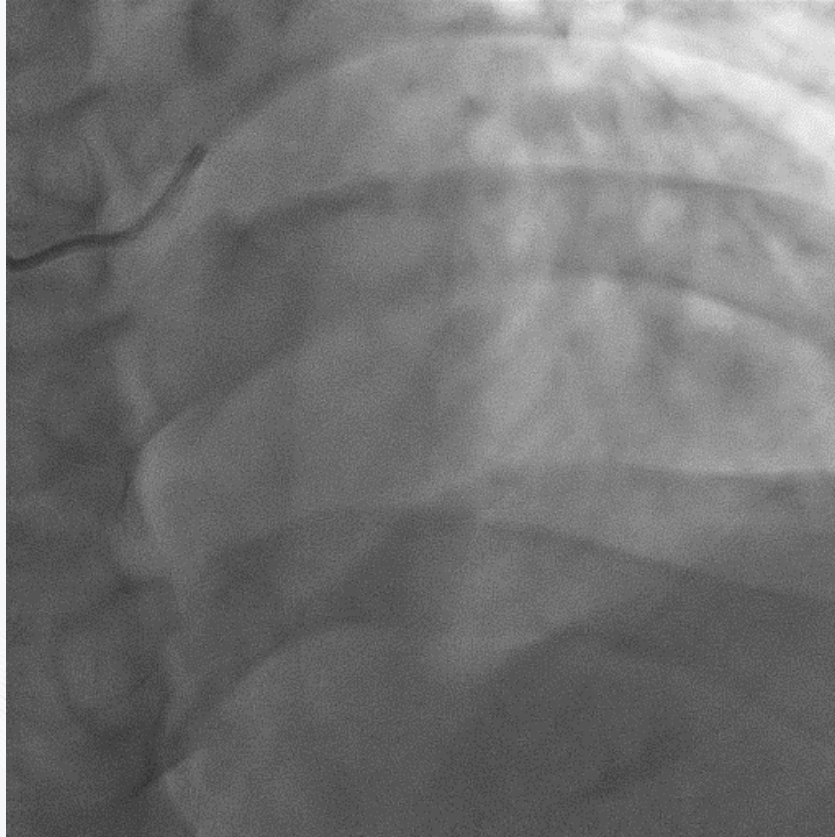
# Anomalous Origin LM



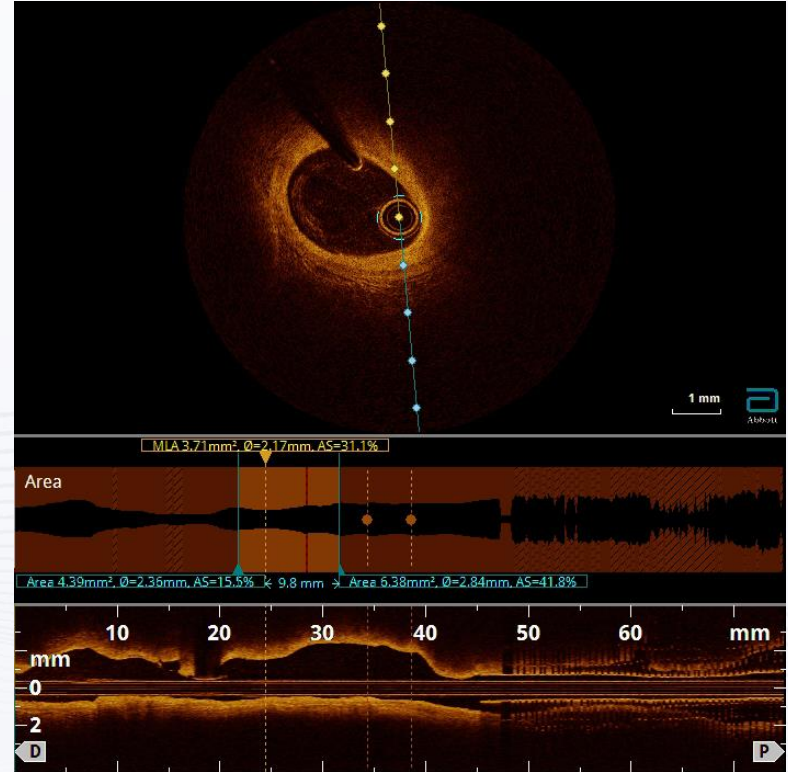
# Selective Angiography



# OCT Imaging with Minimal Contrast Use



# OCT Imaging with Minimal Contrast Use



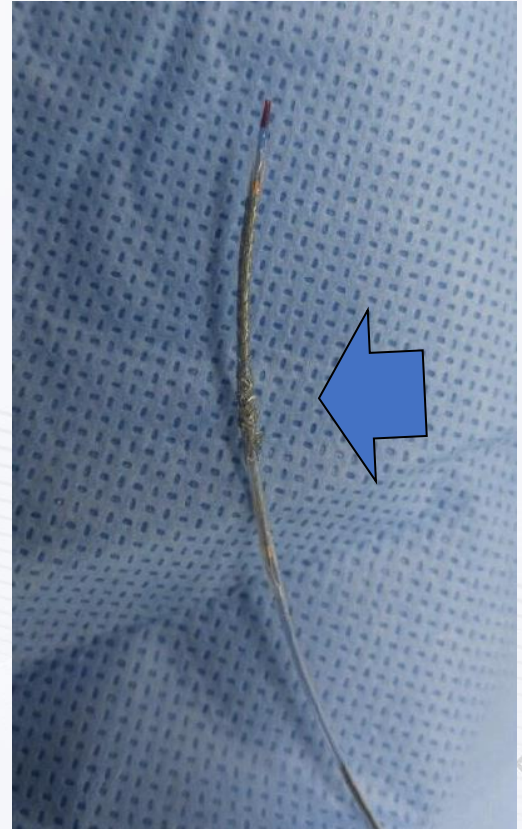
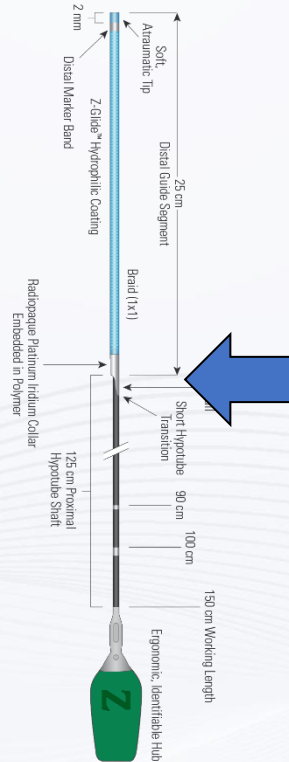
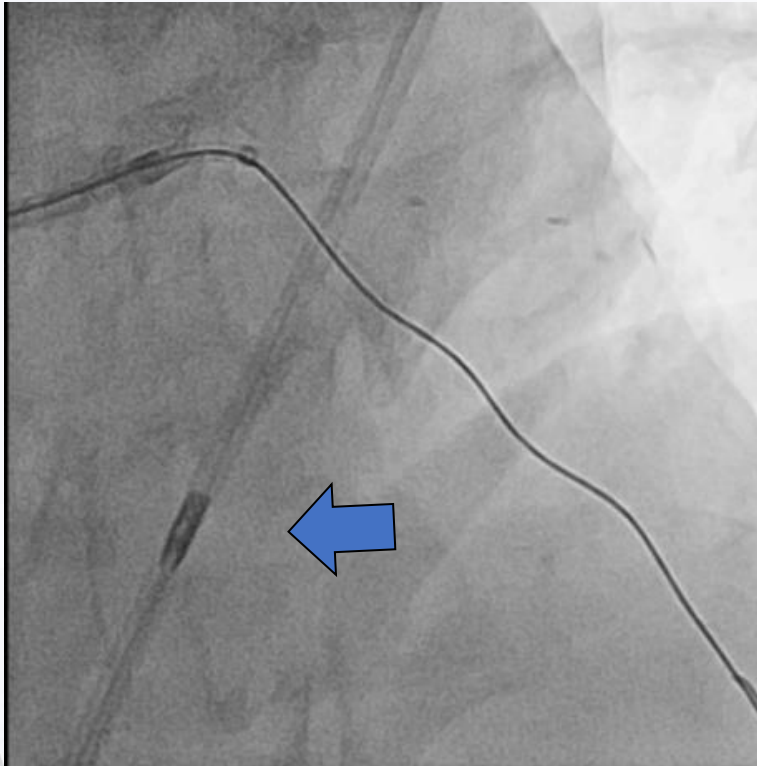


# Complication during Use of Guide-Extension Catheter

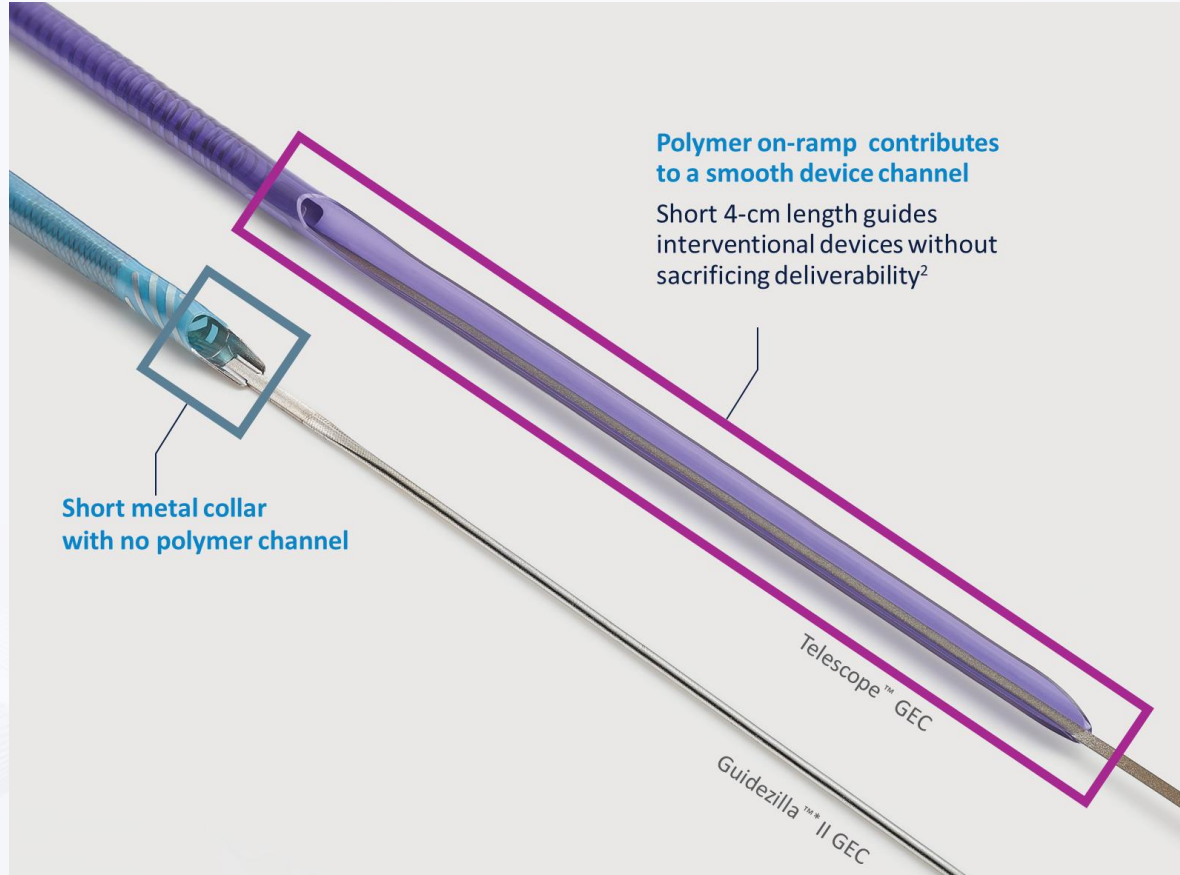
- Stent deformation
- Damage of the balloon / stent catheter
- Coronary dissection
- Pressure damping
- Air embolism
- Dislodgement of the distal marker

# Stent Deformity

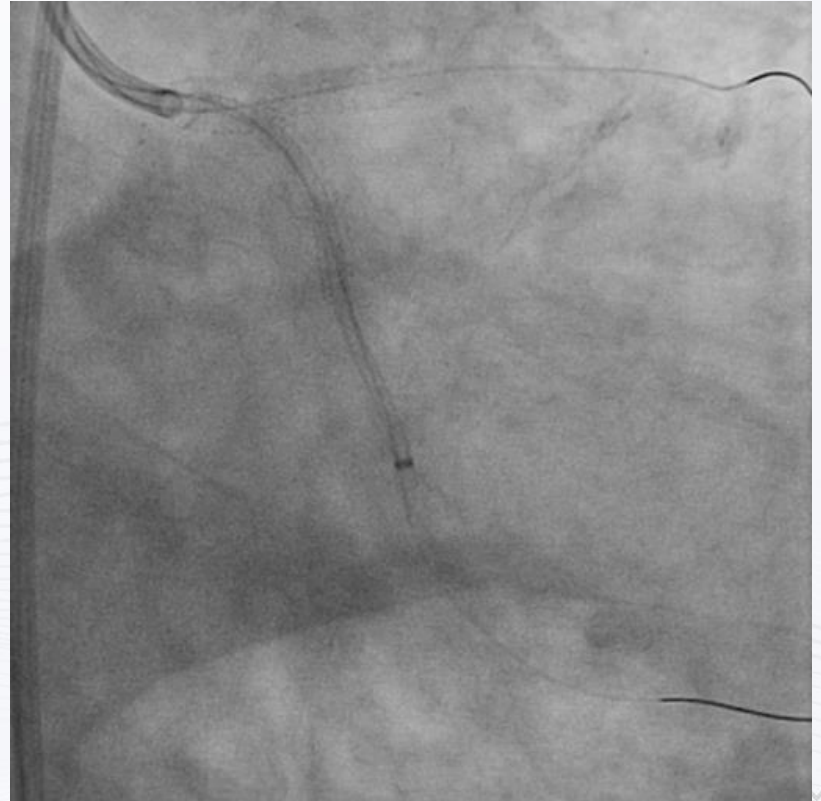
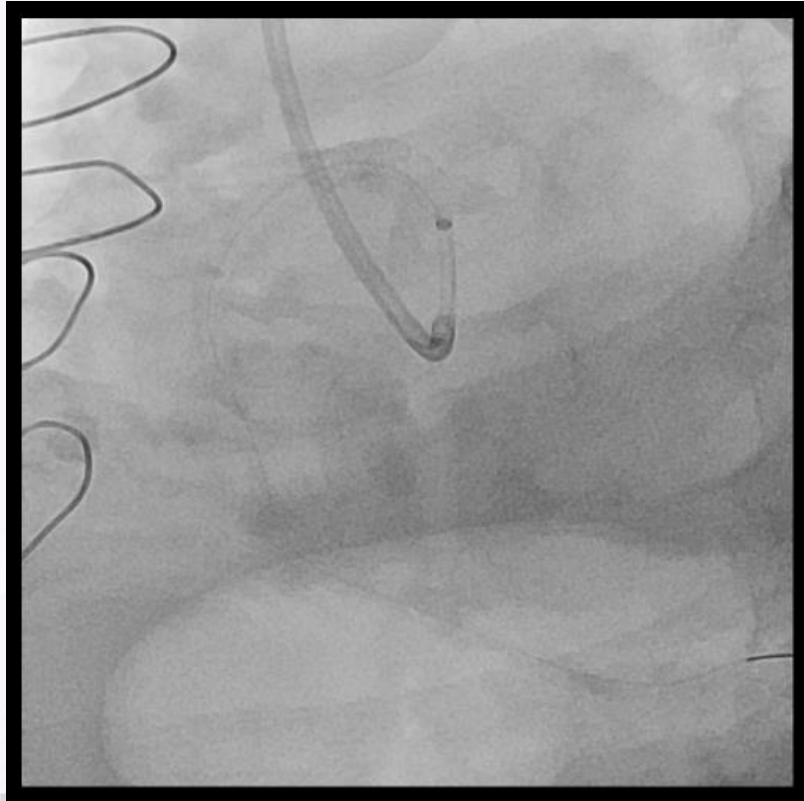
When you feel resistance, Do **Not** Push !!



# Be Aware During Entering Entry Port : Check Fluoroscopy



# No Forceful Injection !



# Cautions in Pressure Monitoring

## Deep Intubation



## Pressure Damping



# Summary

- Strong back-up force is needed for calcified, tortuous lesion PCI.
- Guide extension catheter can overcome limitations of poor guide support and enable procedures otherwise not possible.
- Gentle manipulation with hemodynamic monitoring is crucial for the safe and successful procedure.