

# IVUS Guided CTO PCI

Essential But How ?

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# Application of IVUS guided CTO PCI



## ◆ Antegrade approach

Examination from side branch

- Orientation of CTO entry
- Checking the position of guide wire

Examination from subintimal space

- Penetration from subintimal space to true lumen
- IVUS guided wiring into true lumen

## ◆ Retrograde approach

- Orientation of the retrograde wire
- Decision of the position for Reverse CART

# Application of IVUS guided CTO PCI



## ◆ Antegrade approach

Examination from side branch

- Orientation of CTO entry
- Checking the position of guide wire

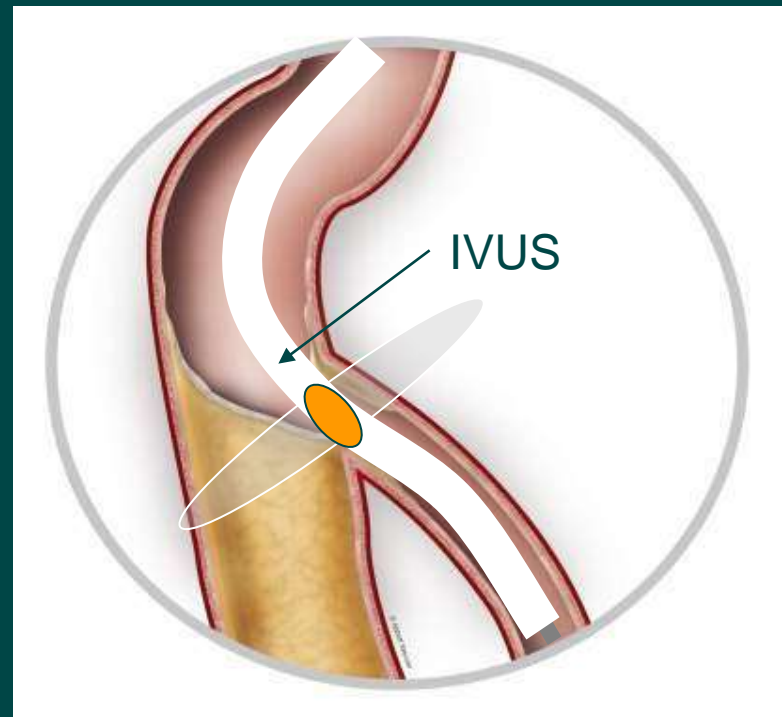
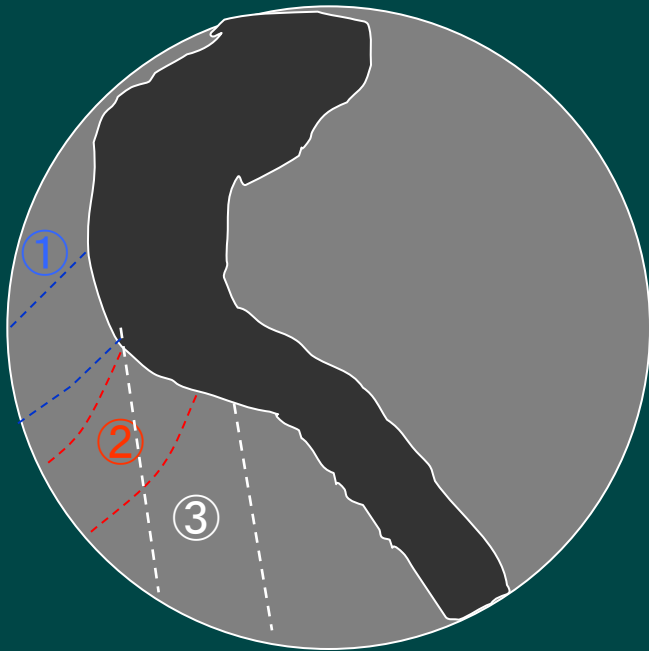
Examination from subintimal space

- Penetration from subintimal space to true lumen
- IVUS guided wiring into true lumen

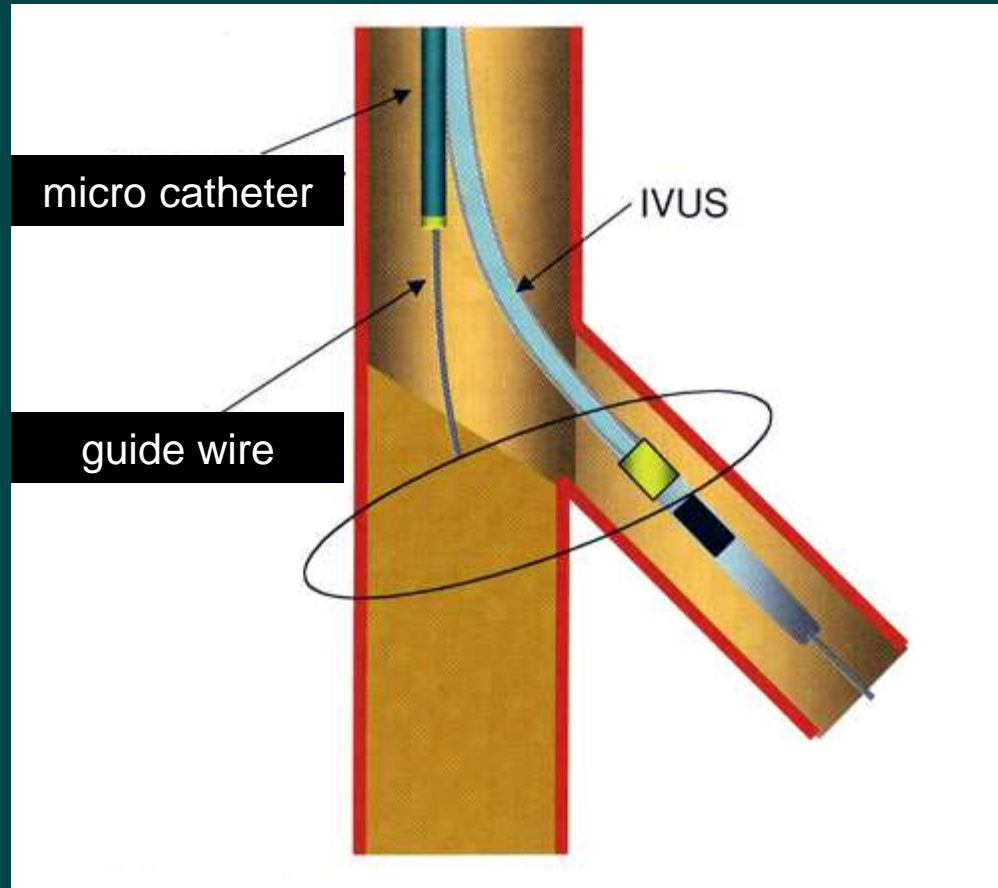
## ◆ Retrograde approach

- Orientation of the retrograde wire
- Decision of the position for Reverse CART

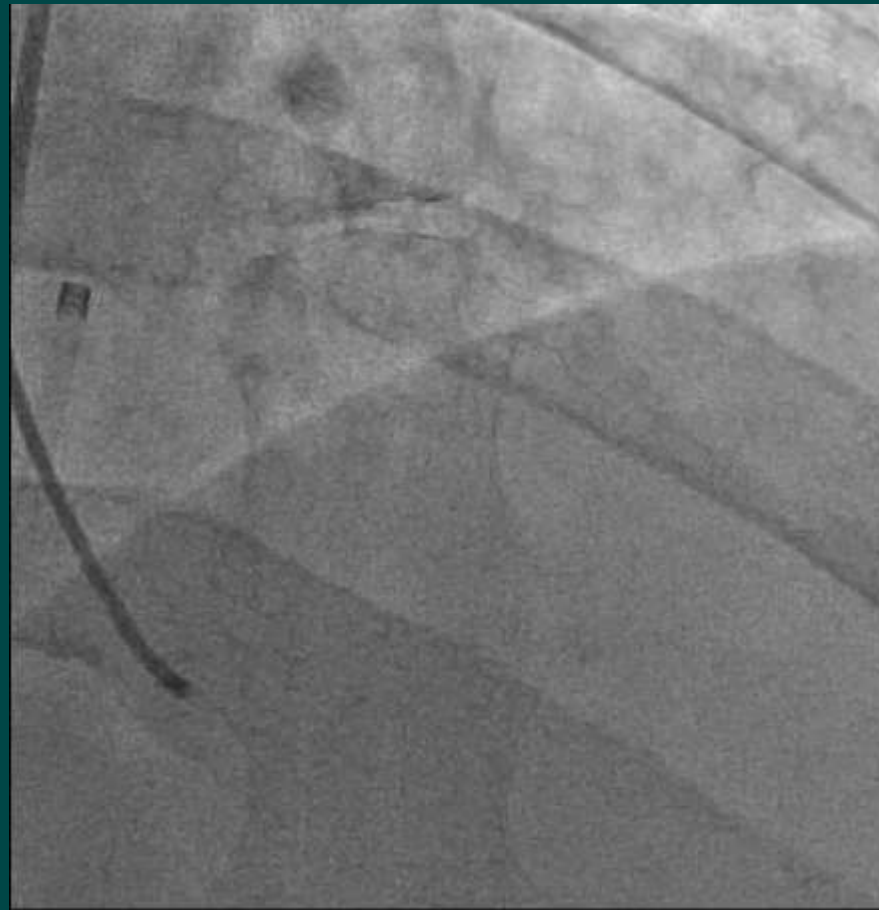
# Where is the entry point of CTO?



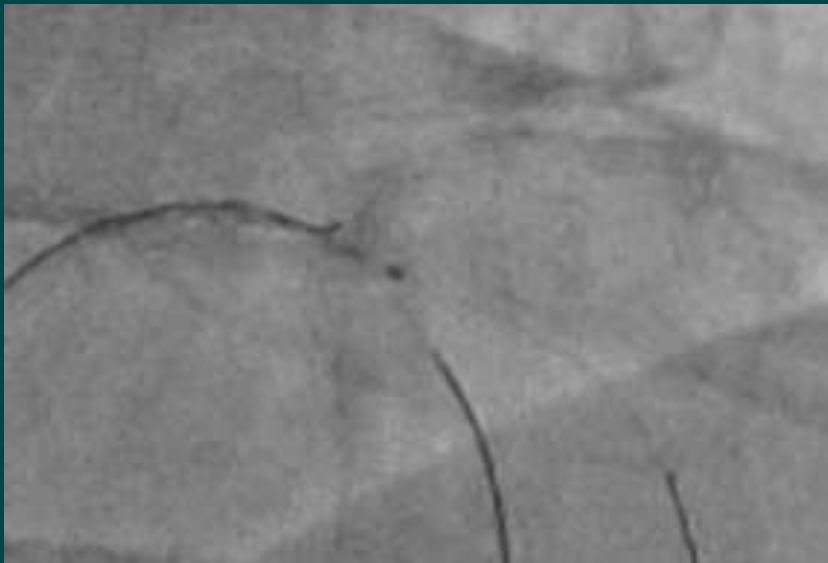
# IVUS guided wiring



# LAD CTO case non stump with side branch

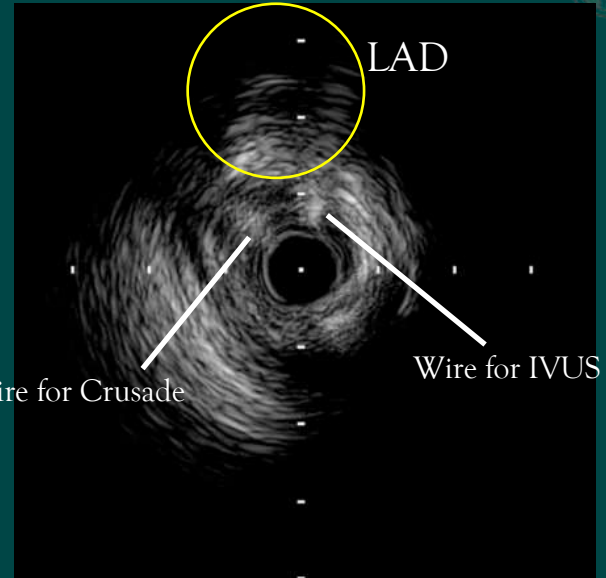


# LAD CTO case non stump with side branch



Wire for IVUS

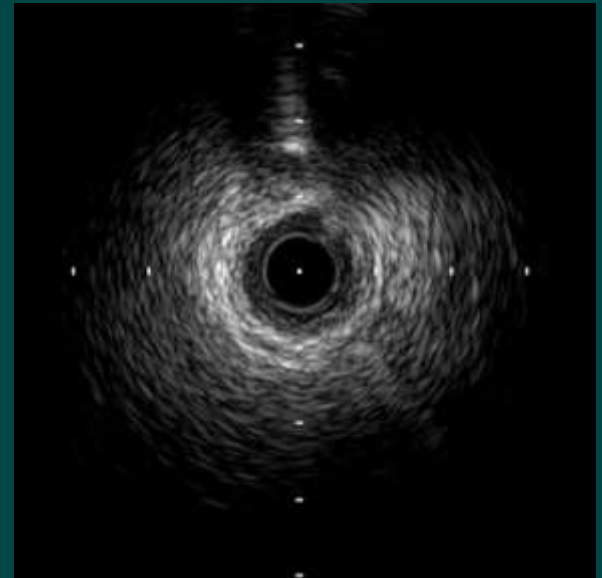
Wire for Crusade



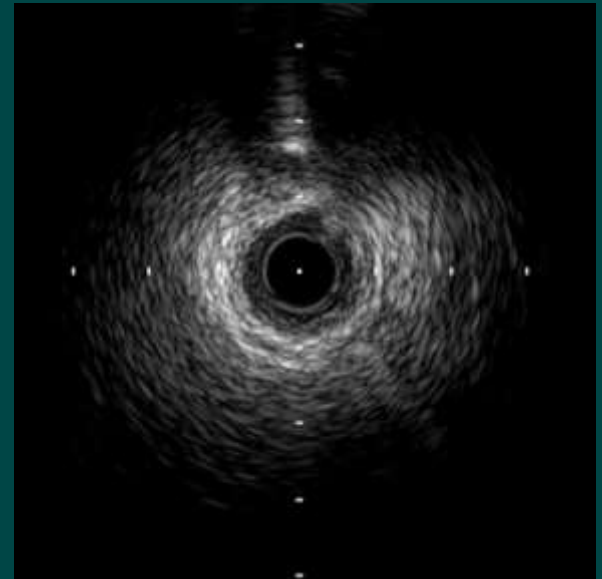
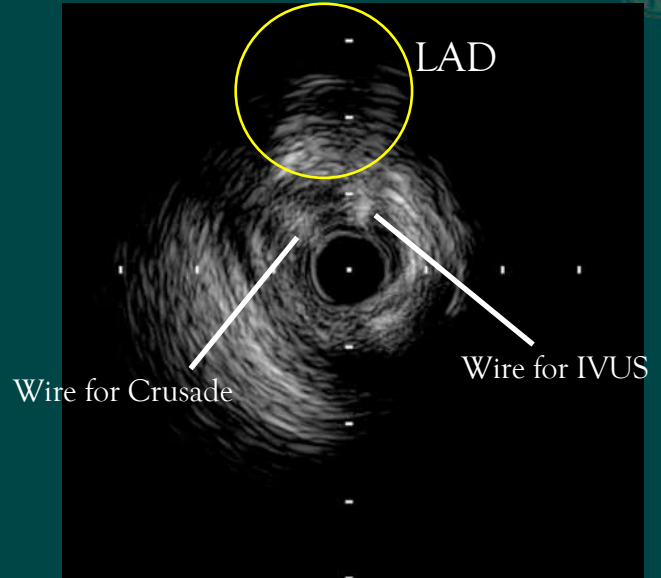
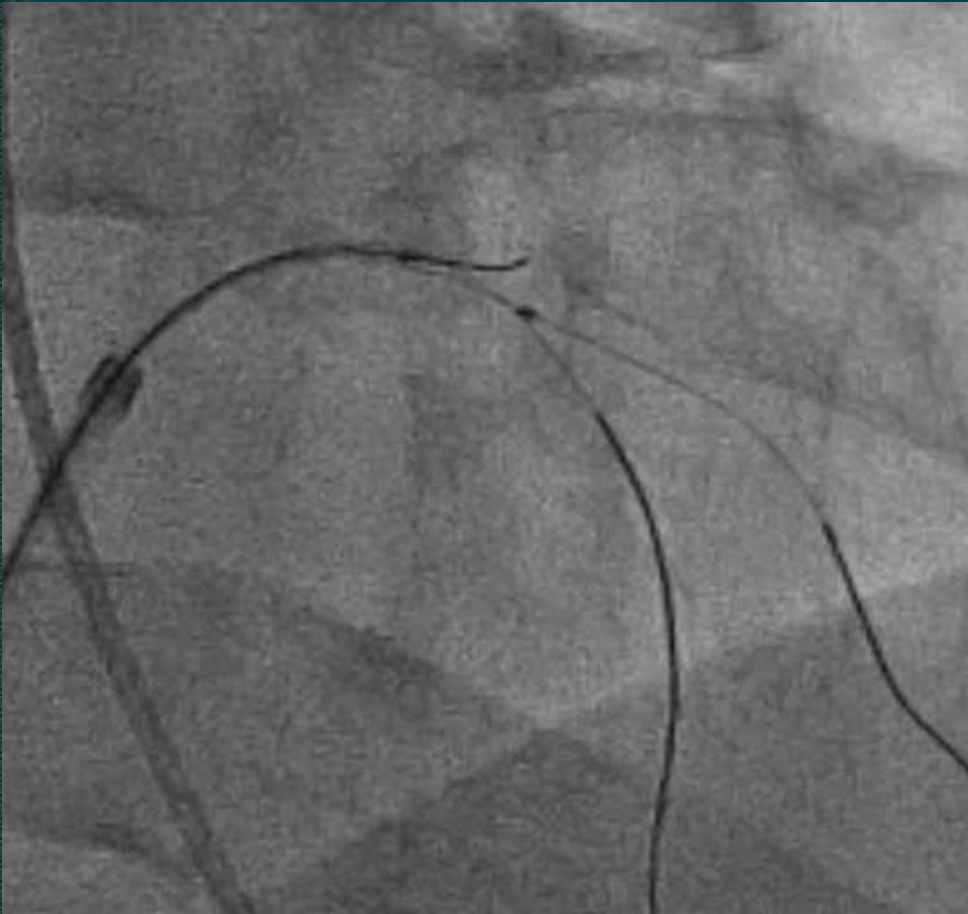
LAD

Wire for Crusade

Wire for IVUS

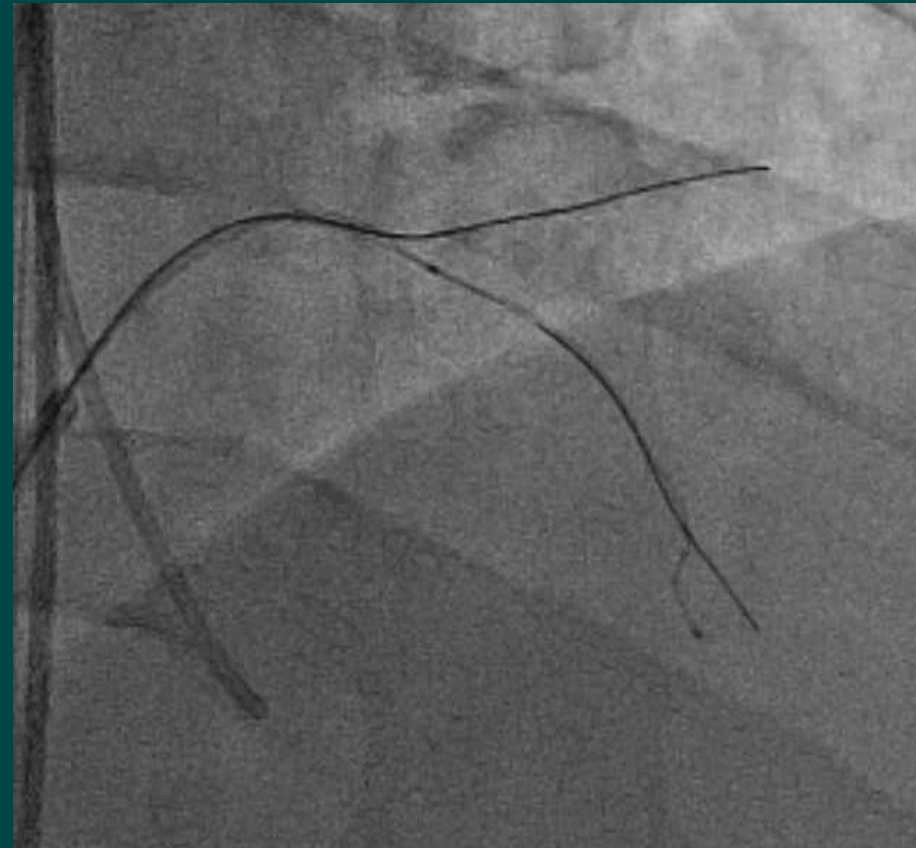
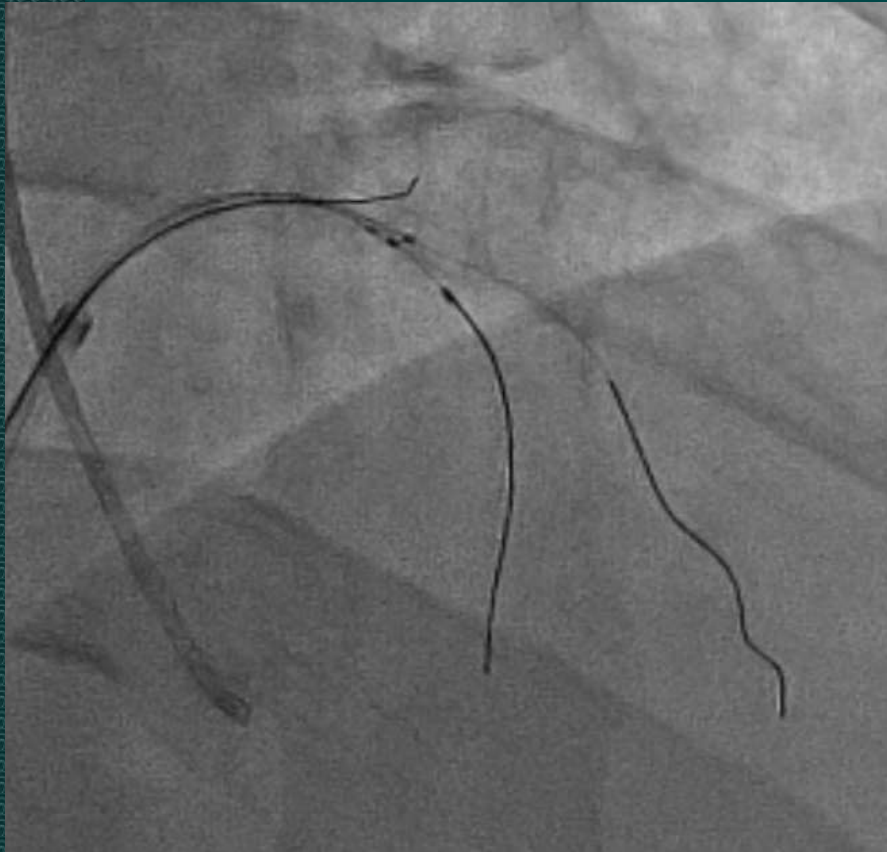


# LAD CTO case non stump with side branch





# LAD CTO case non stump with side branch



# Application of IVUS guided CTO PCI



## ◆ Antegrade approach

Examination from side branch

- Orientation of CTO entry
- Checking the position of guide wire

Examination from subintimal space

- Penetration from subintimal space to true lumen
- IVUS guided wiring into true lumen

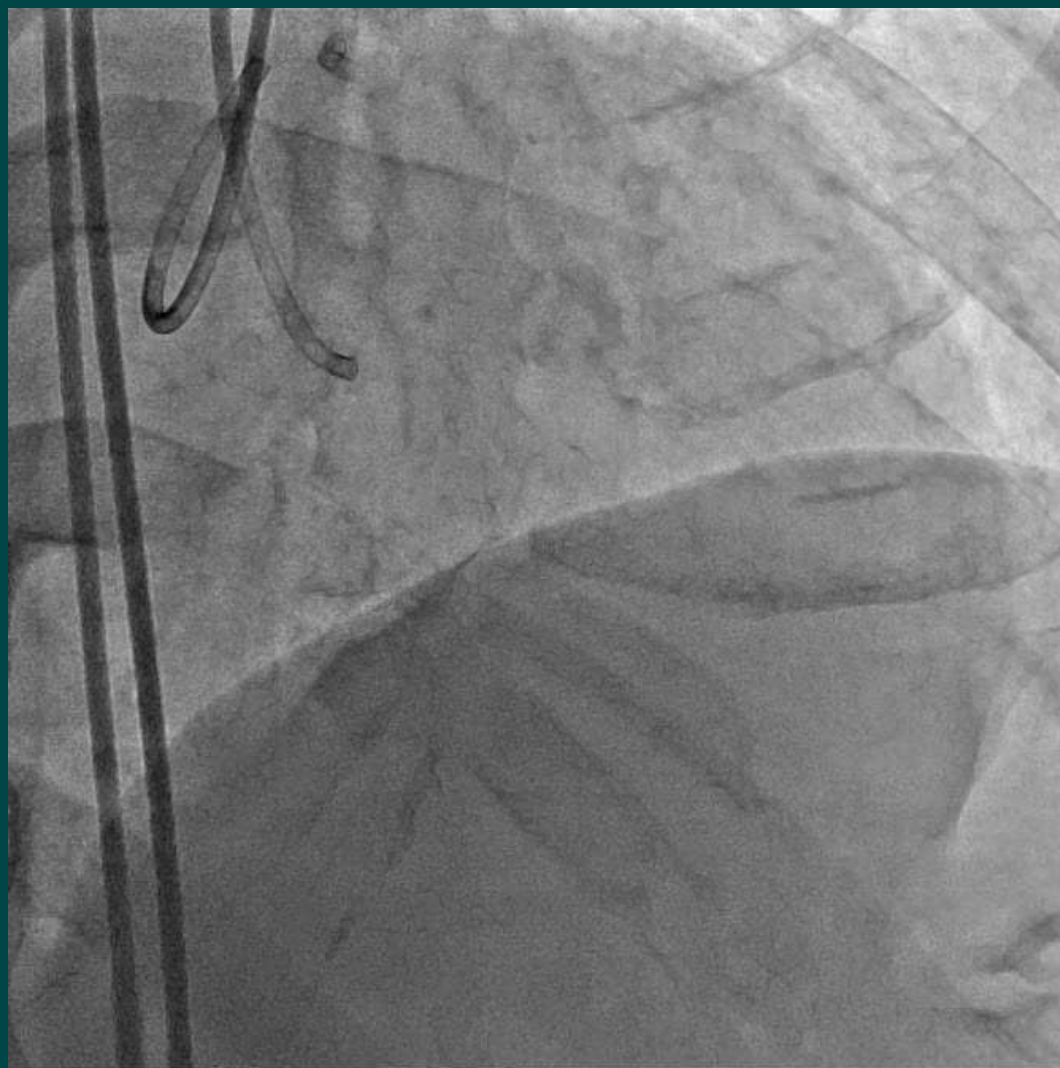
## ◆ Retrograde approach

- Orientation of the retrograde wire
- Decision of the position for Reverse CART



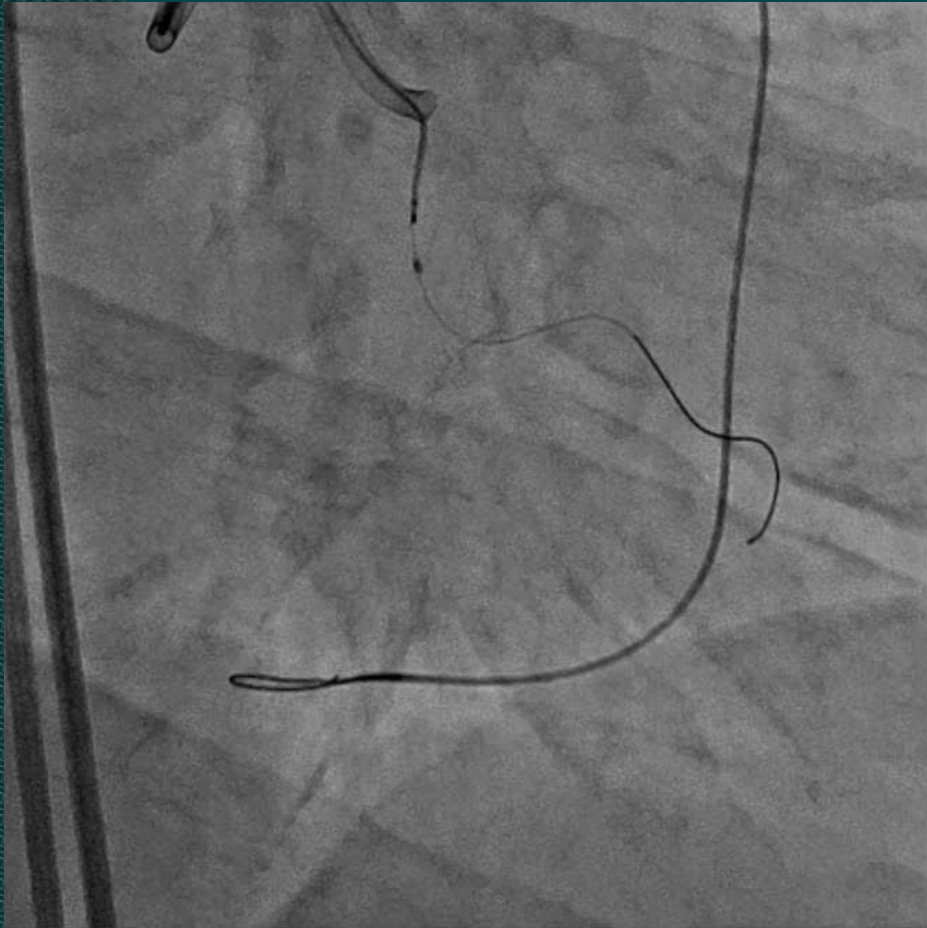
# RCA CTO case

## Where is the entry of CTO ?



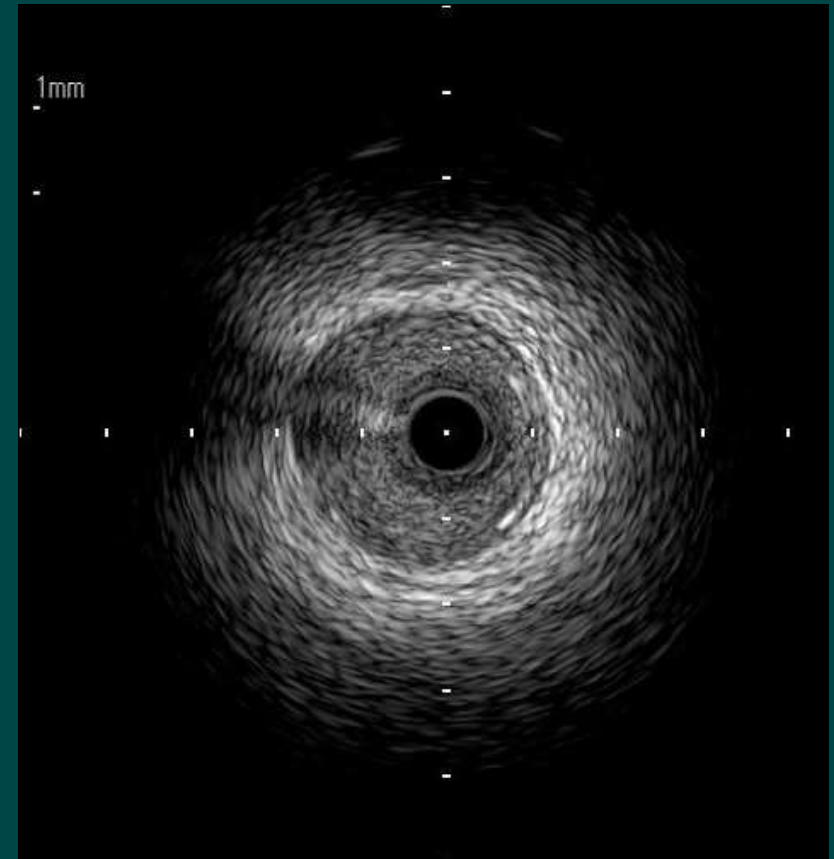
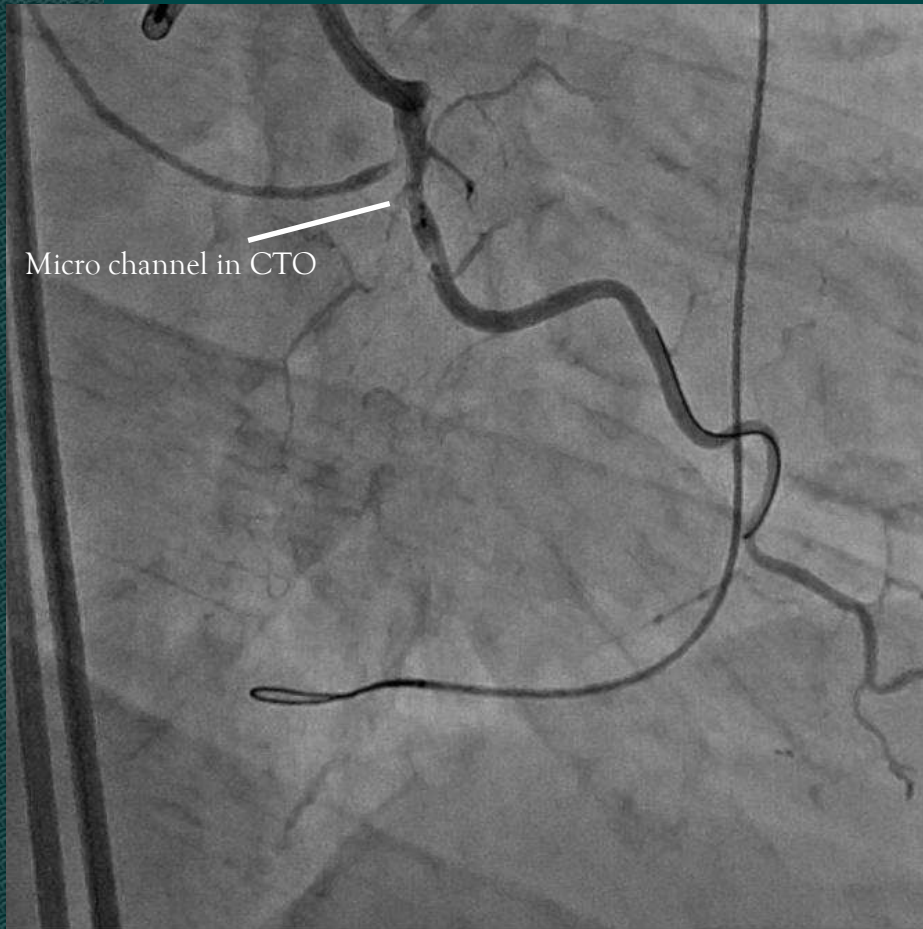
# RCA CTO case

## Where is the entry of CTO ?



# RCA CTO case

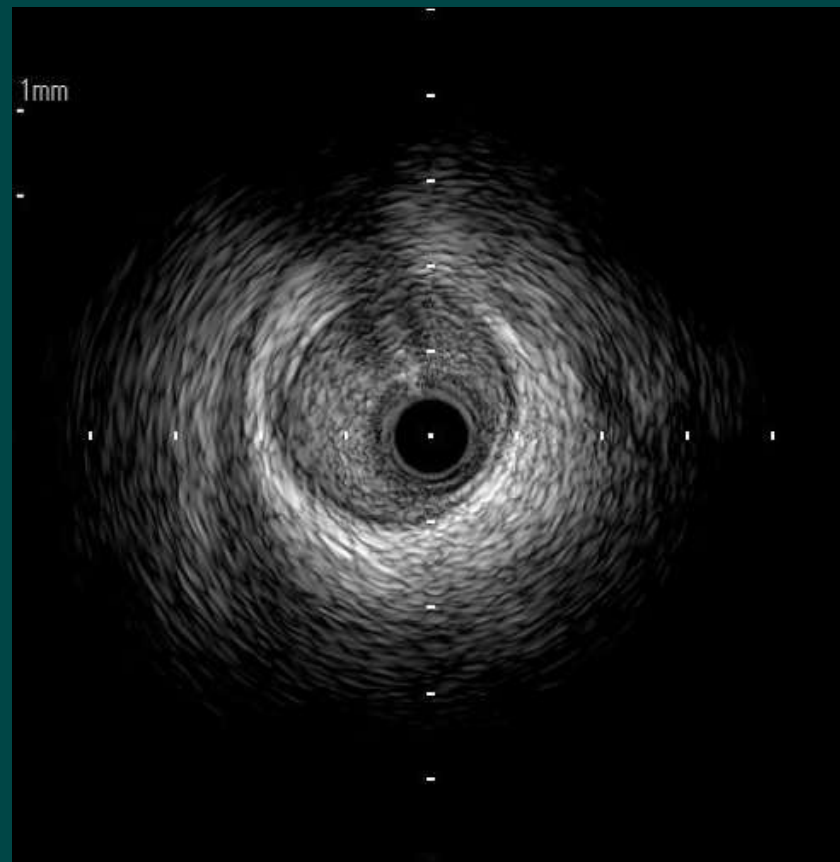
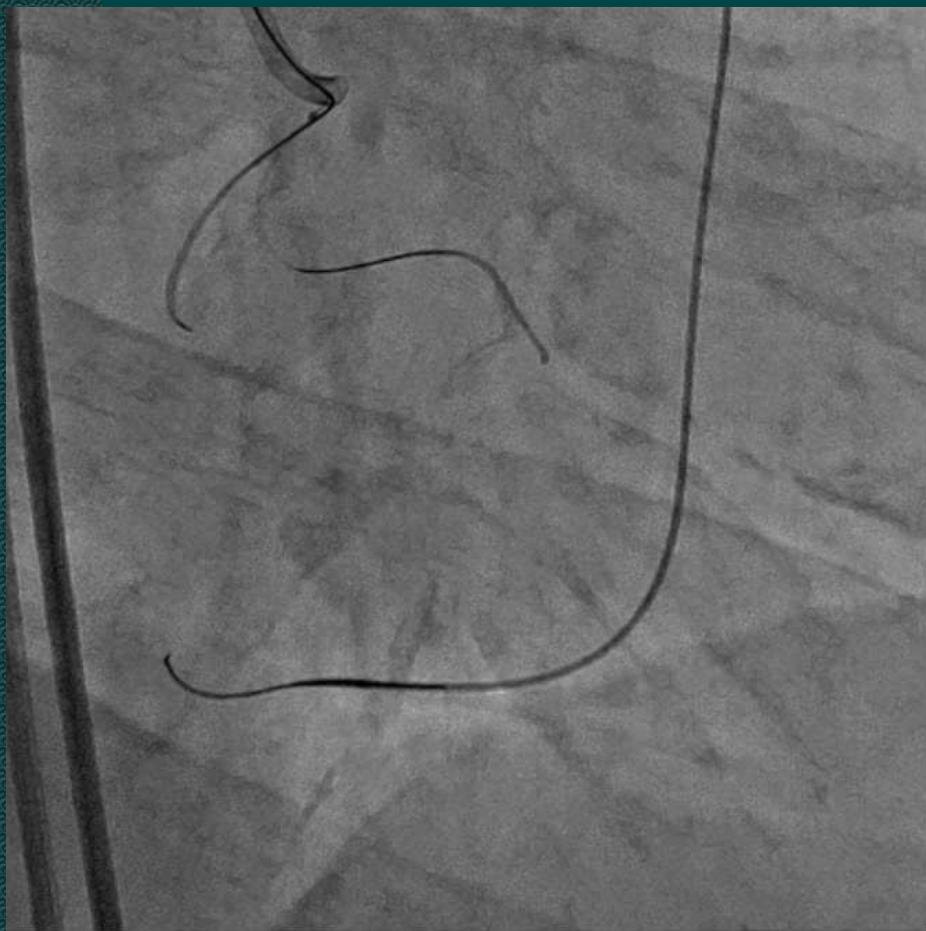
## Where is the entry of CTO ?





# RCA CTO case

## Where is the entry of CTO ?



# Application of IVUS guided CTO PCI



## ◆ Antegrade approach

Examination from side branch

- Orientation of CTO entry
- Checking the position of guide wire

Examination from subintimal space

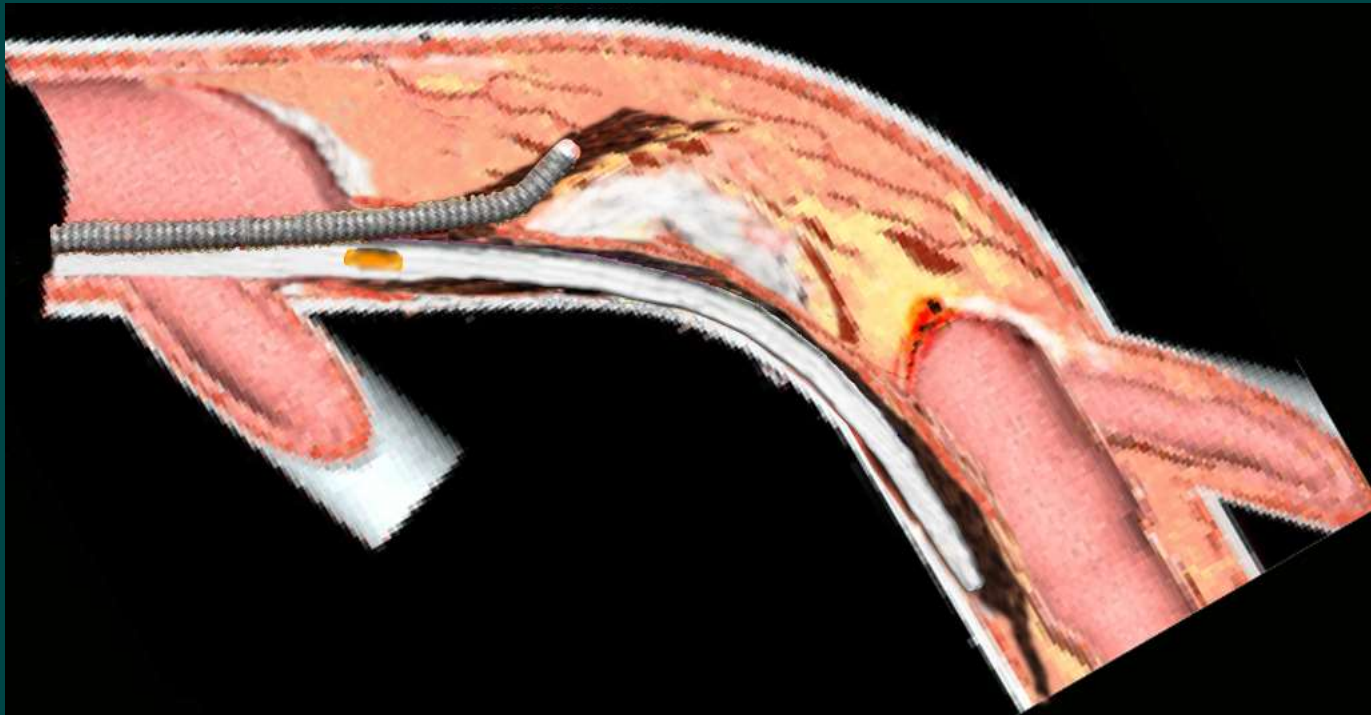
- Penetration from subintimal space to true lumen
- IVUS guided wiring into true lumen

## ◆ Retrograde approach

- Orientation of the retrograde wire
- Decision of the position for Reverse CART

# IVUS guided wiring

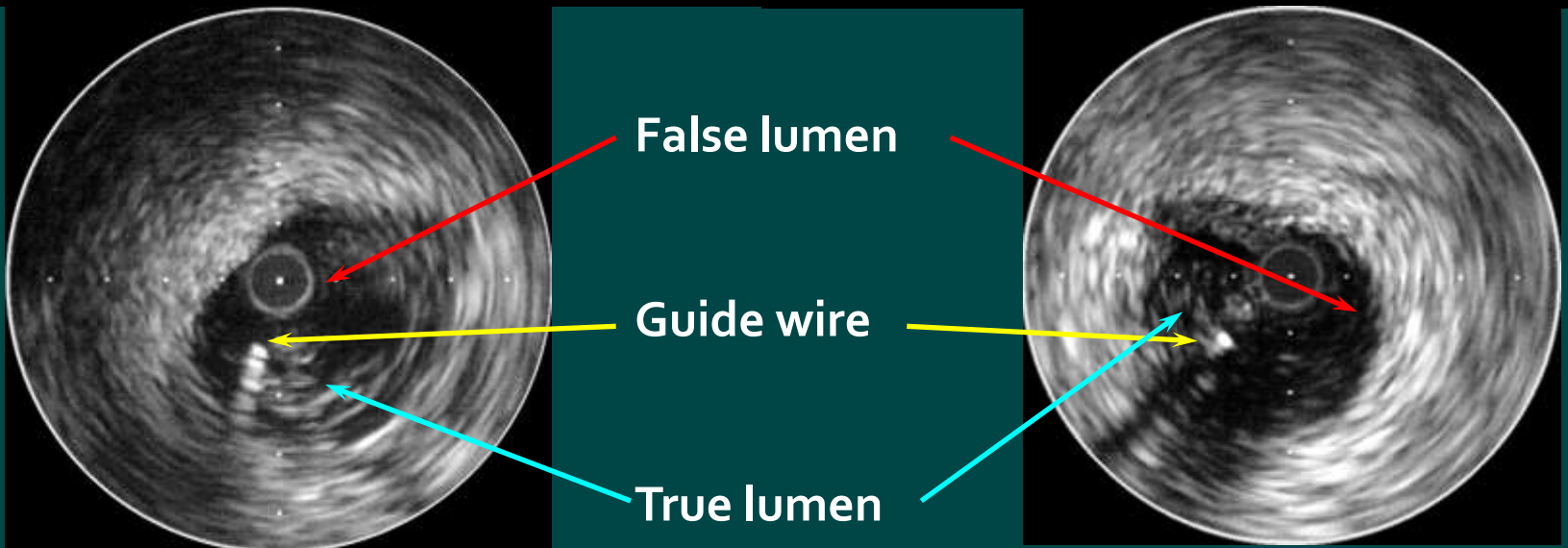
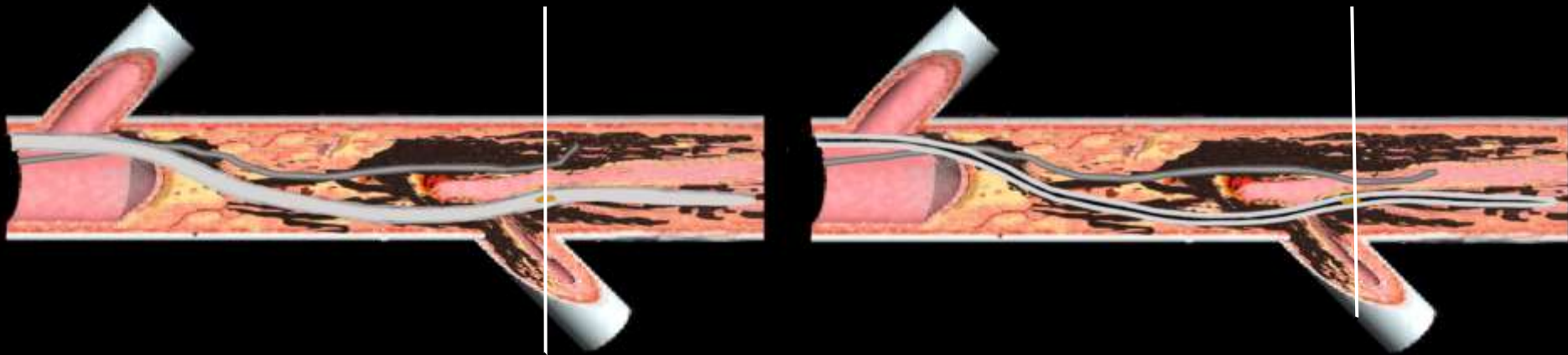
Penetration from subintimal space to true lumen





# IVUS guided wiring

Penetration from subintimal space to true lumen



# Application of IVUS guided CTO PCI



## ◆ Antegrade approach

Examination from side branch

- Orientation of CTO entry
- Checking the position of guide wire

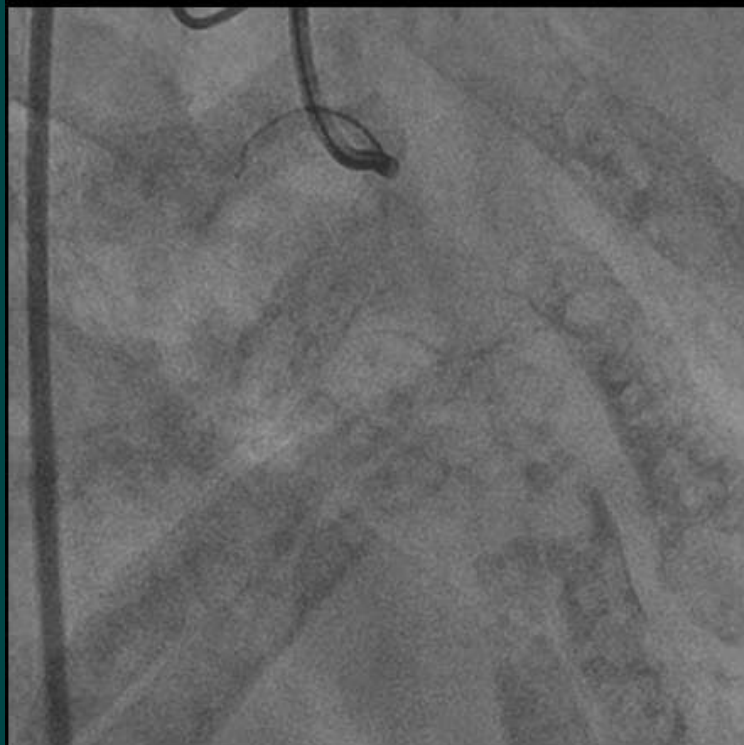
Examination from subintimal space

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## ◆ Retrograde approach

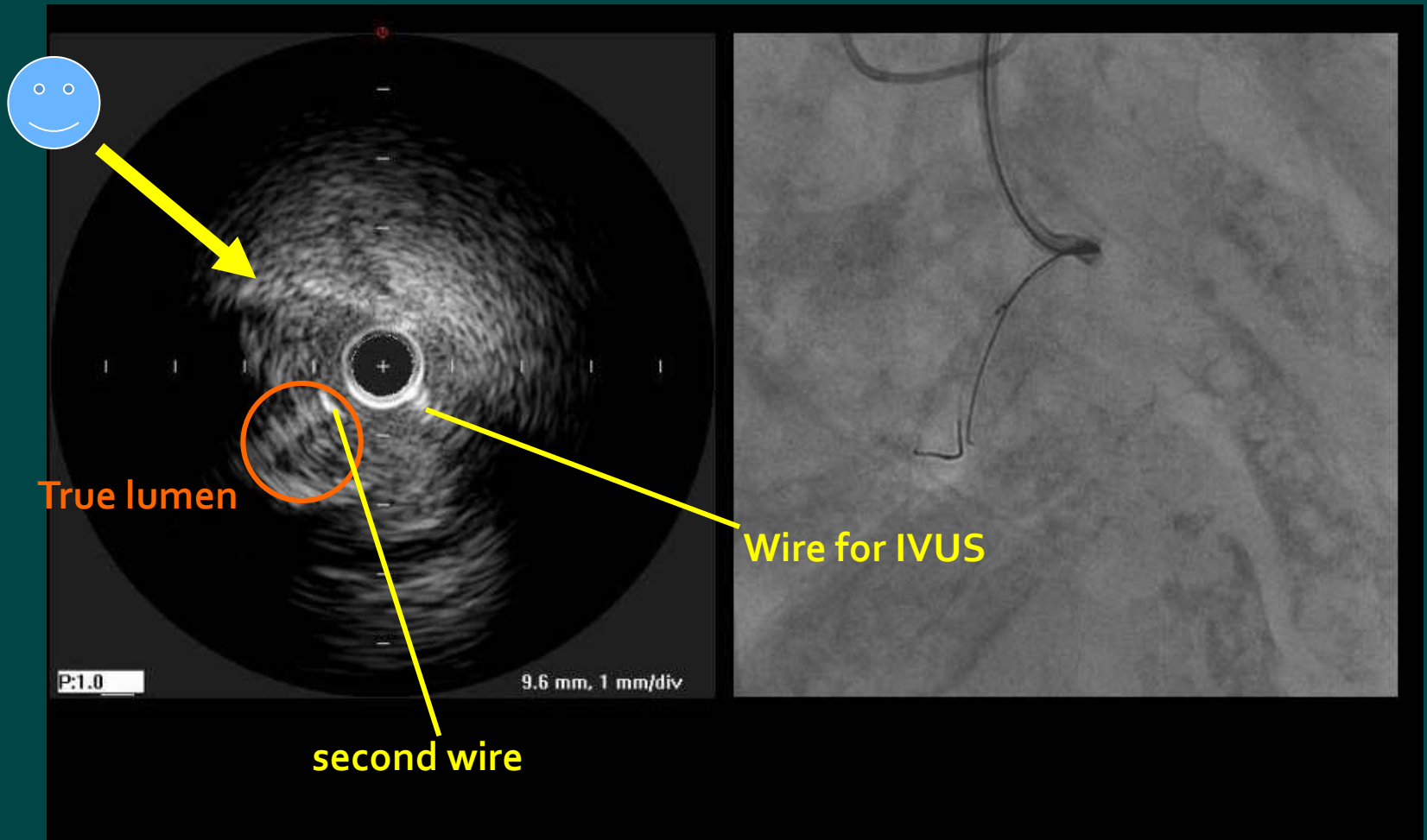
- Orientation of the retrograde wire
- Decision of the position for Reverse CART

# RCA CTO case



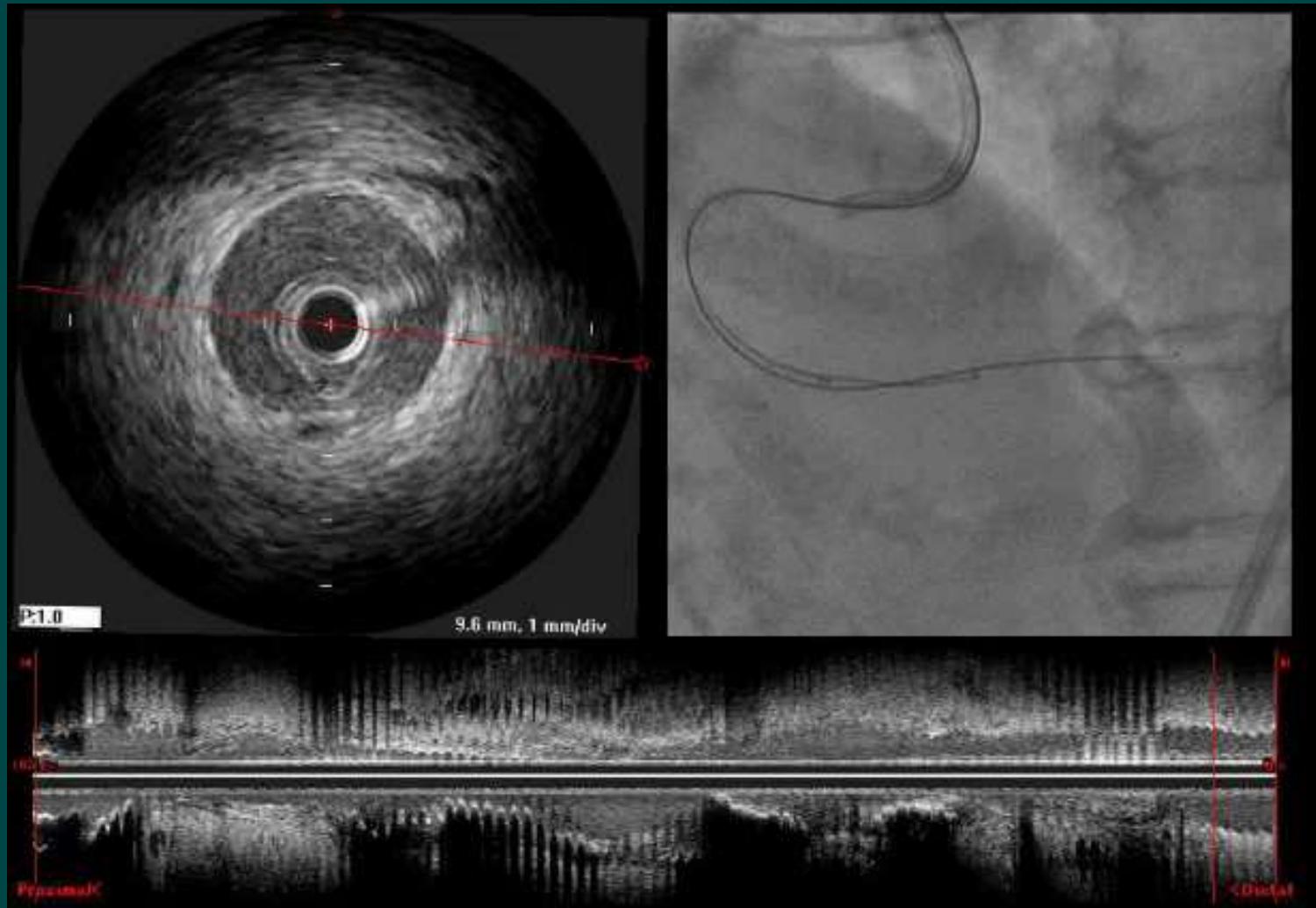
Dissection(+)

# IVUS guided wiring into true lumen



# IVUS guided wiring into true lumen

## Confirmation of Successful wiring



# Application of IVUS guided CTO PCI



## ◆ Antegrade approach

Examination from side branch

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Examination from subintimal space

- Penetration from subintimal space to true lumen
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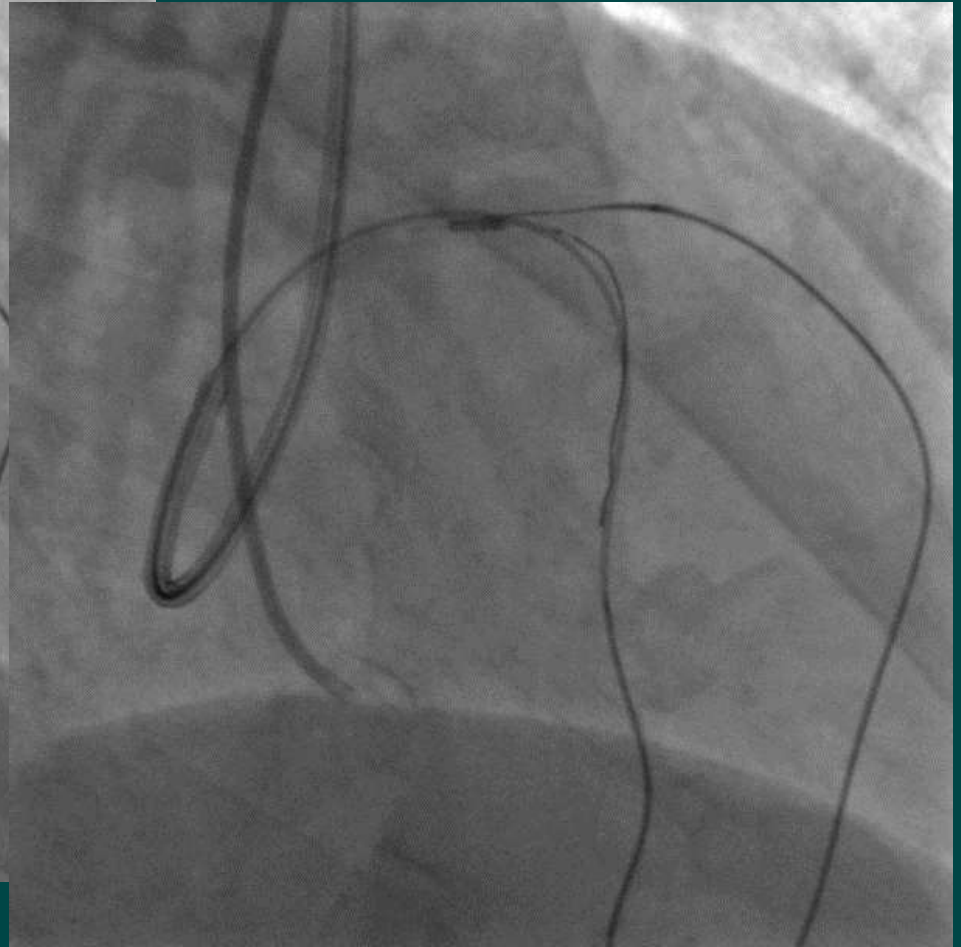
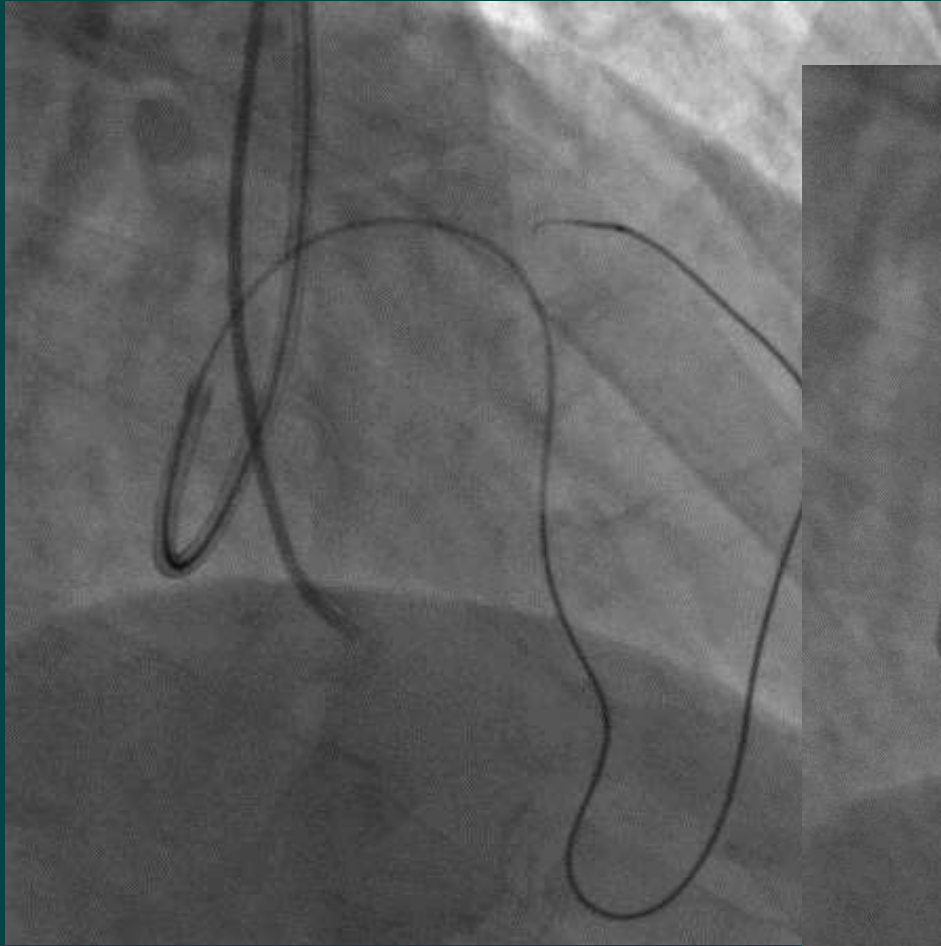
## ◆ Retrograde approach

- Orientation of the retrograde wire
- Decision of the position for Reverse CART

# LAD CTO case

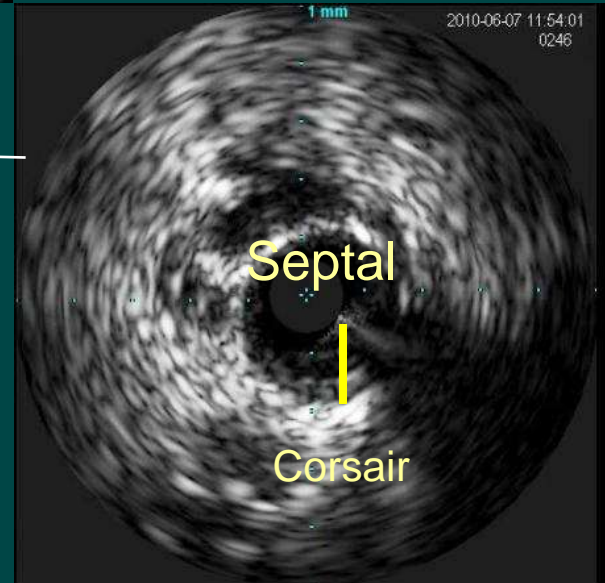
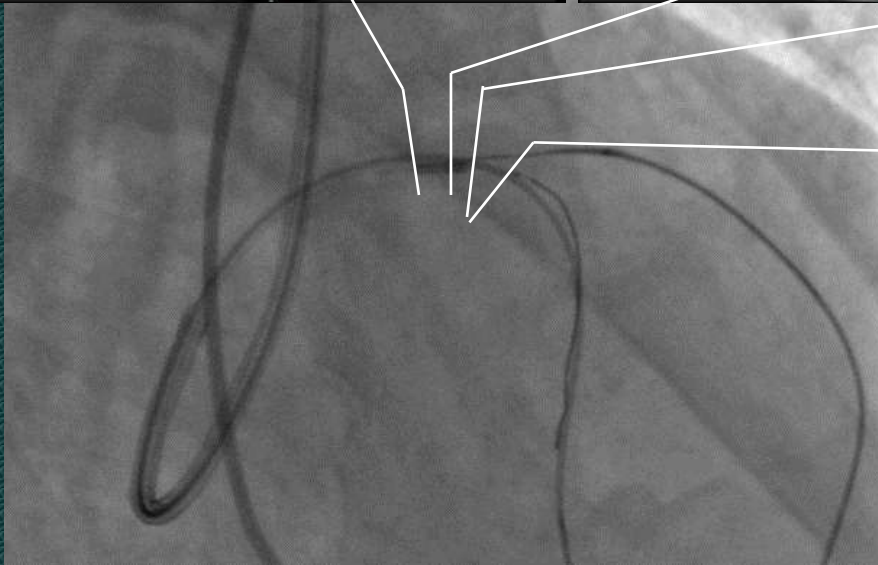
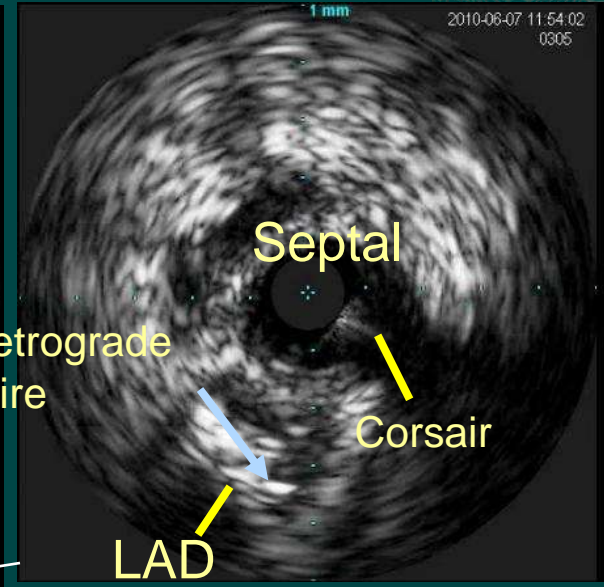
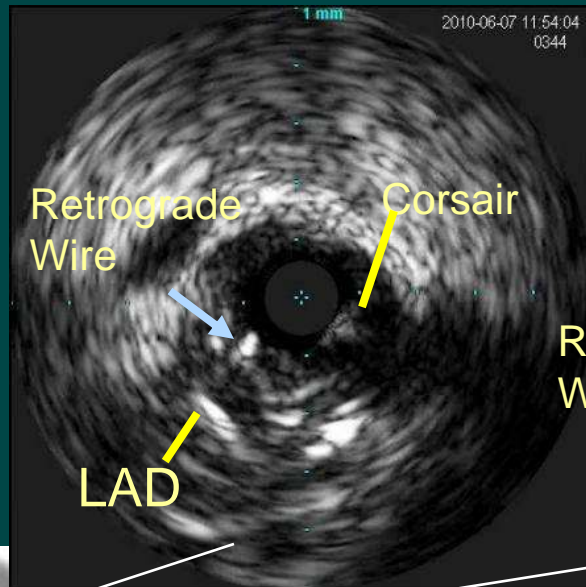
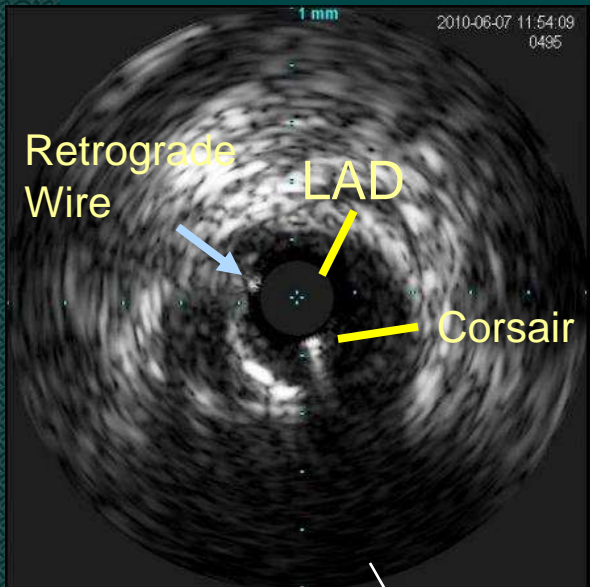


# Retrograde wiring via ipsilateral collateral

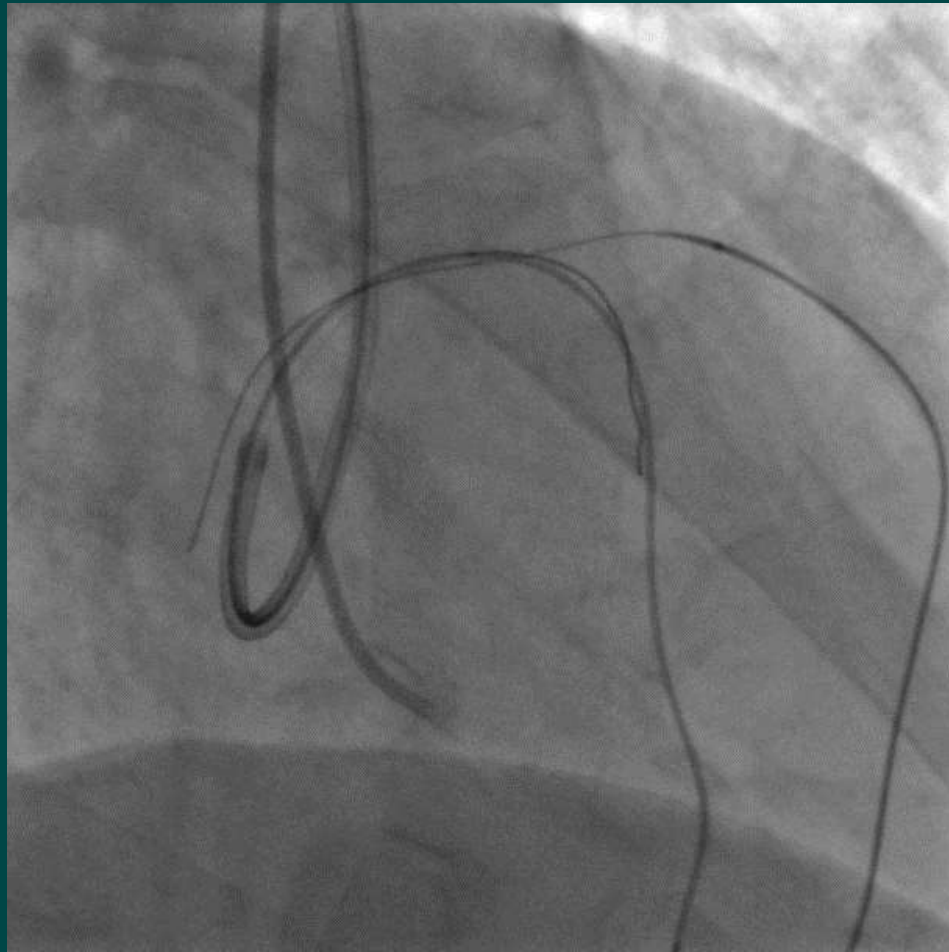




# Orientation of the wires



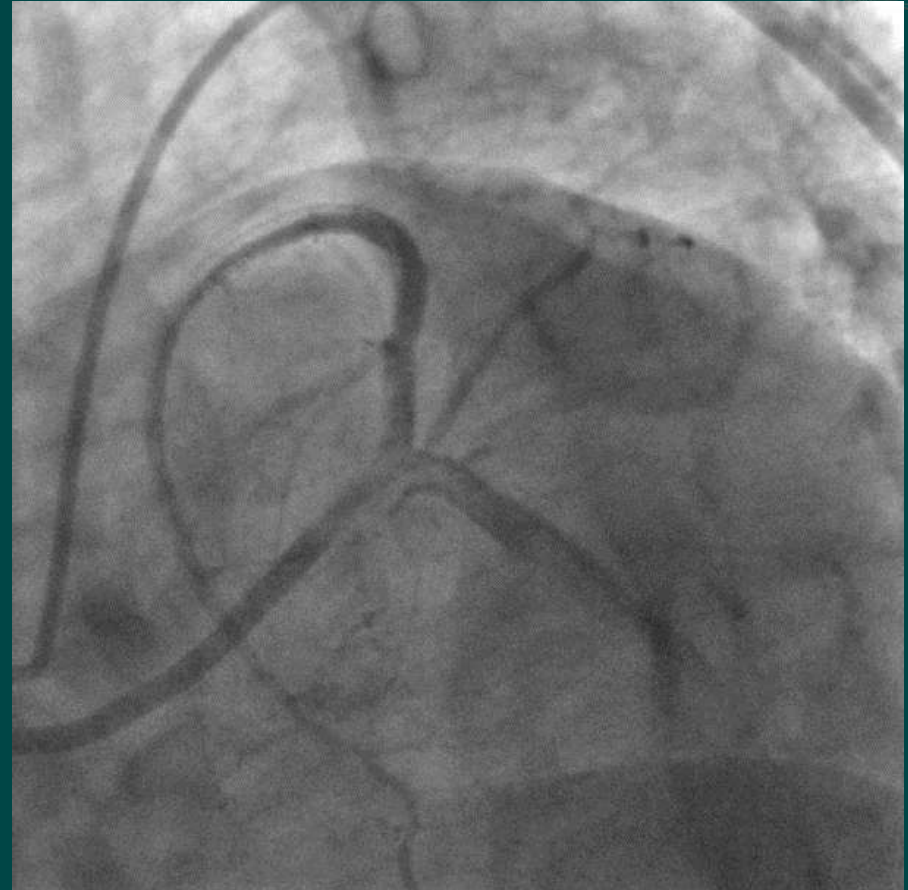
# Success of retrograde wiring



# Final CAG



RAO 30 CRA 25



LAO 45 CAU 25

Mid. LAD 100% → 0%

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Examination from side branch

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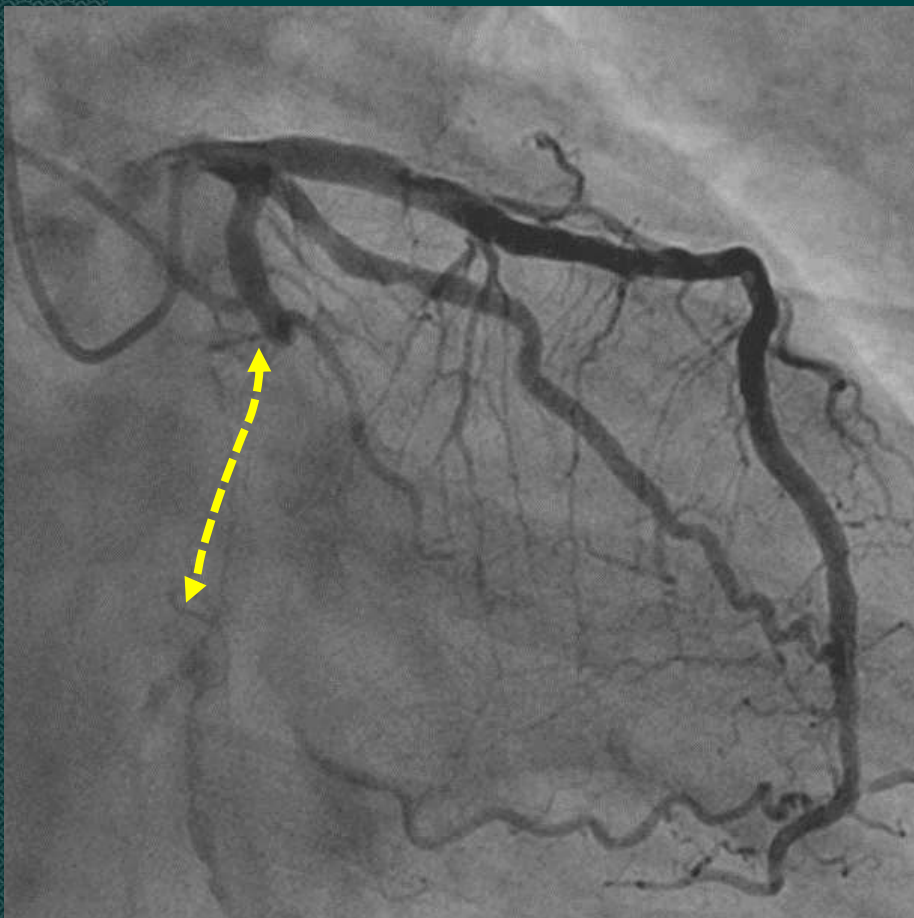
Examination from subintimal space

- Penetration from subintimal space to true lumen
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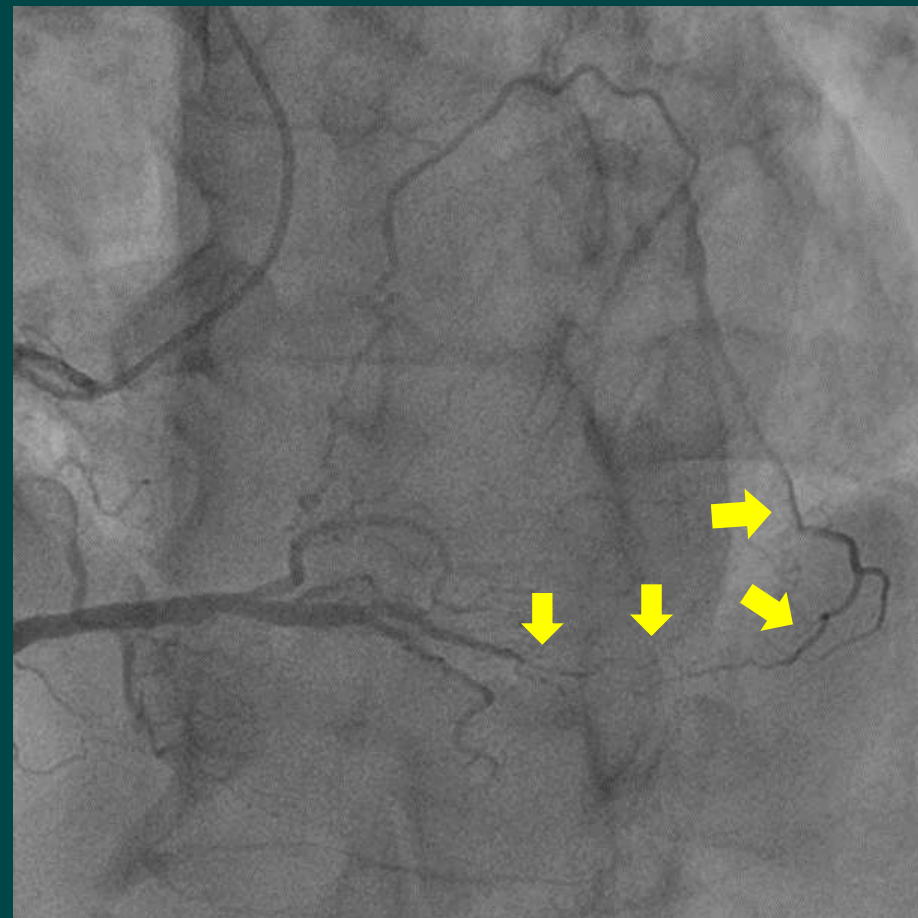
## ◆ Retrograde approach

- Orientation of the retrograde wire
- Decision of the position for Reverse CART

# LCX CTO case

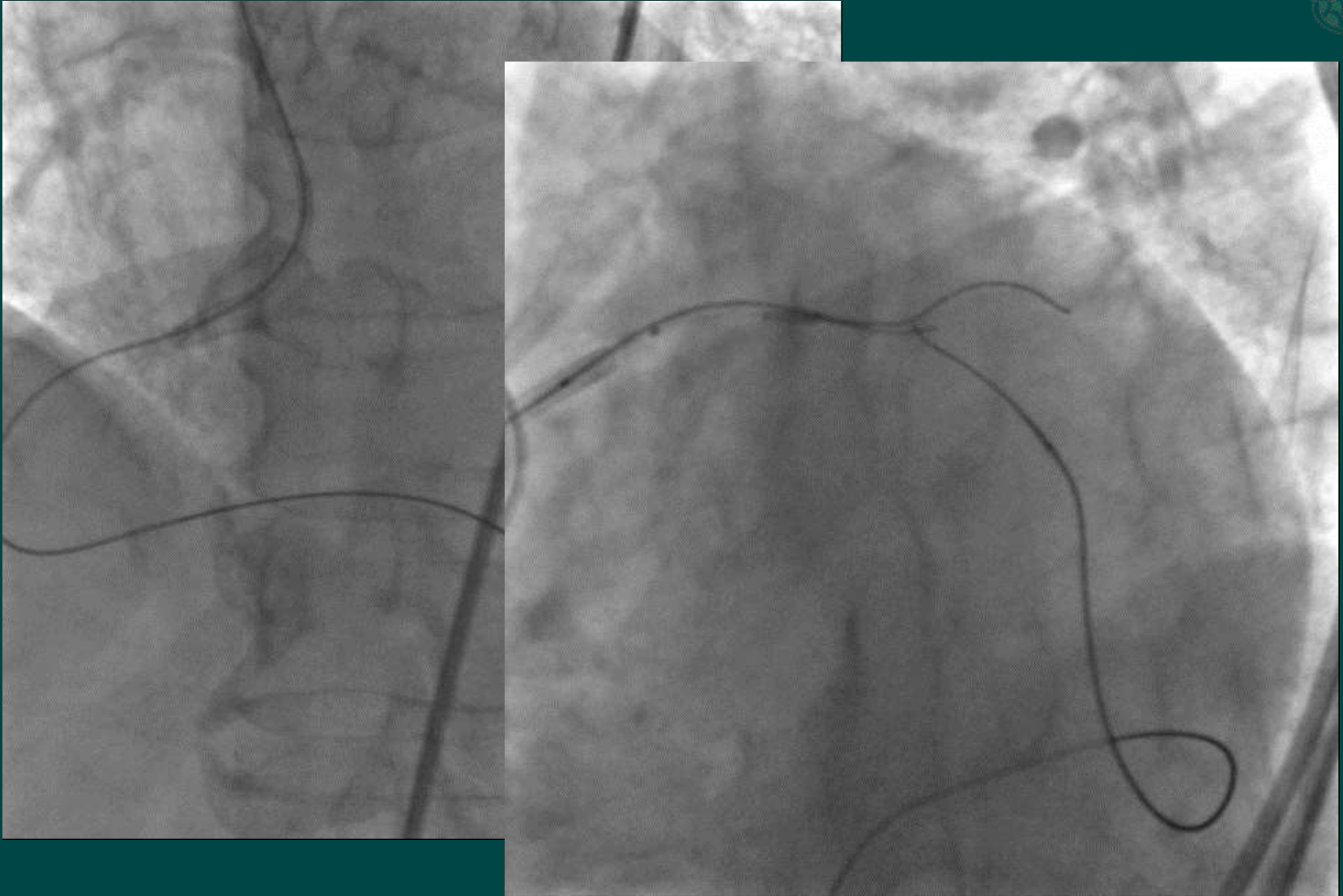


mid LCx CTO

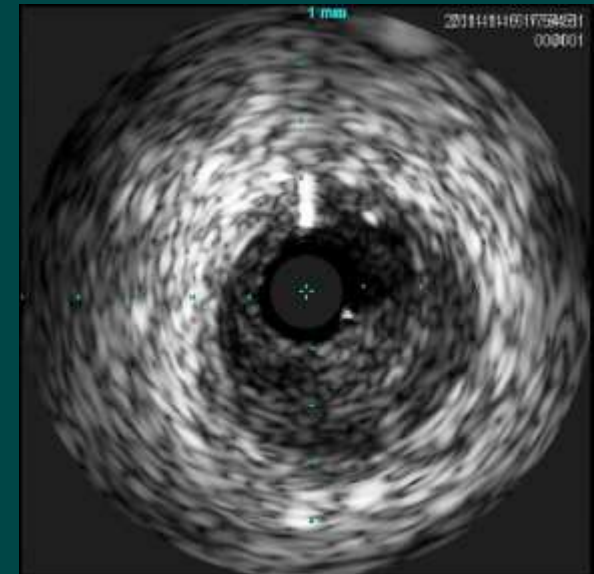
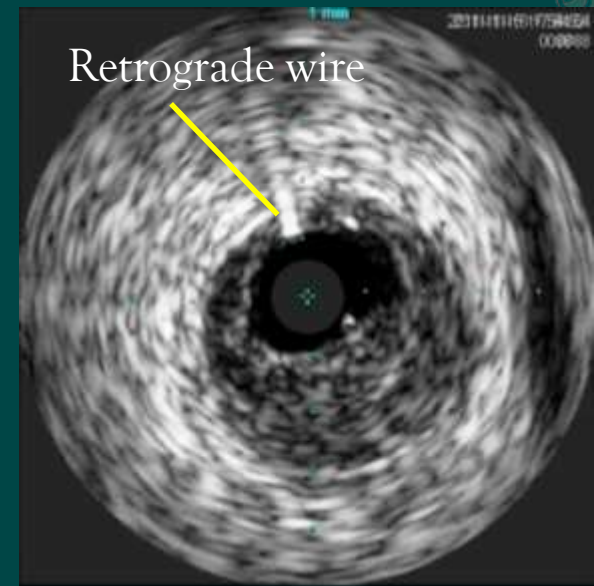
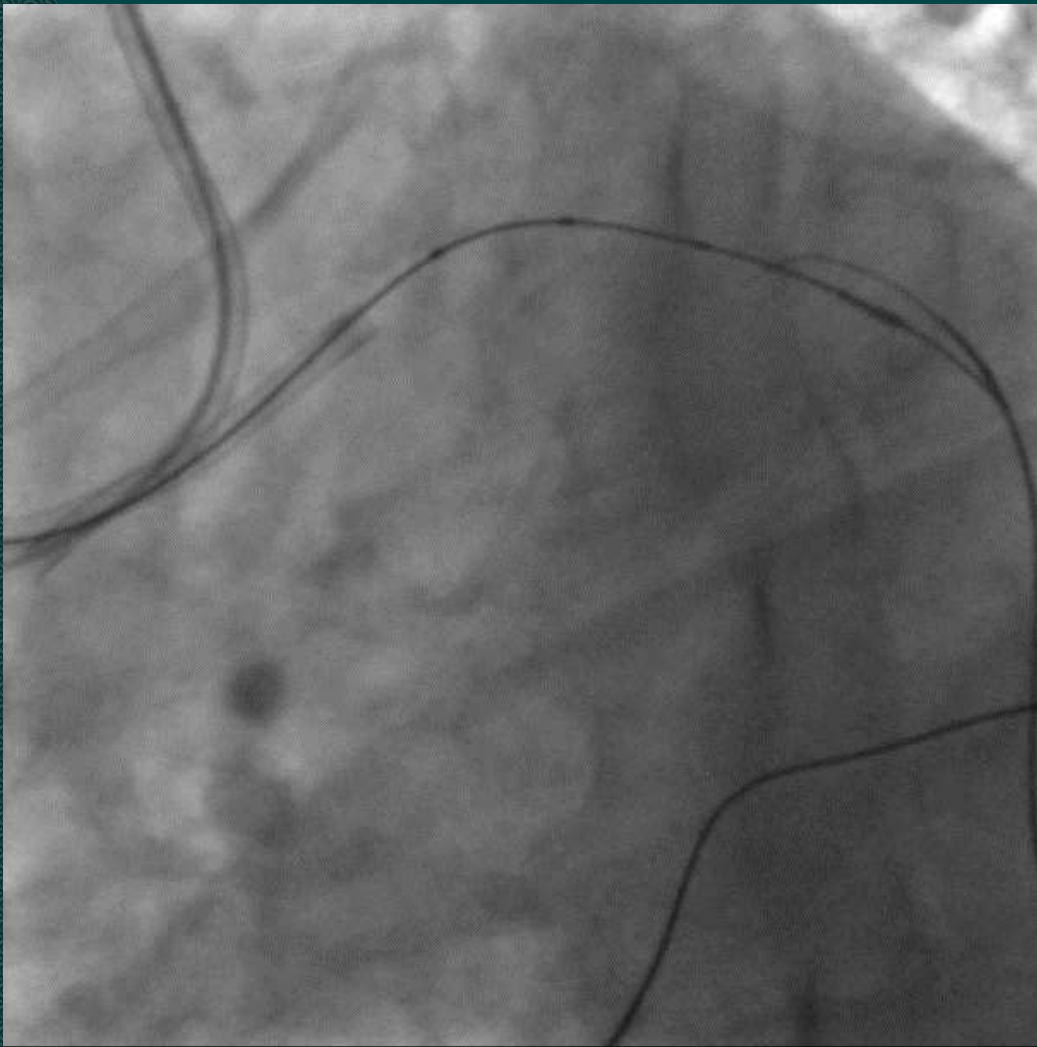


RCA PL → distal LCx

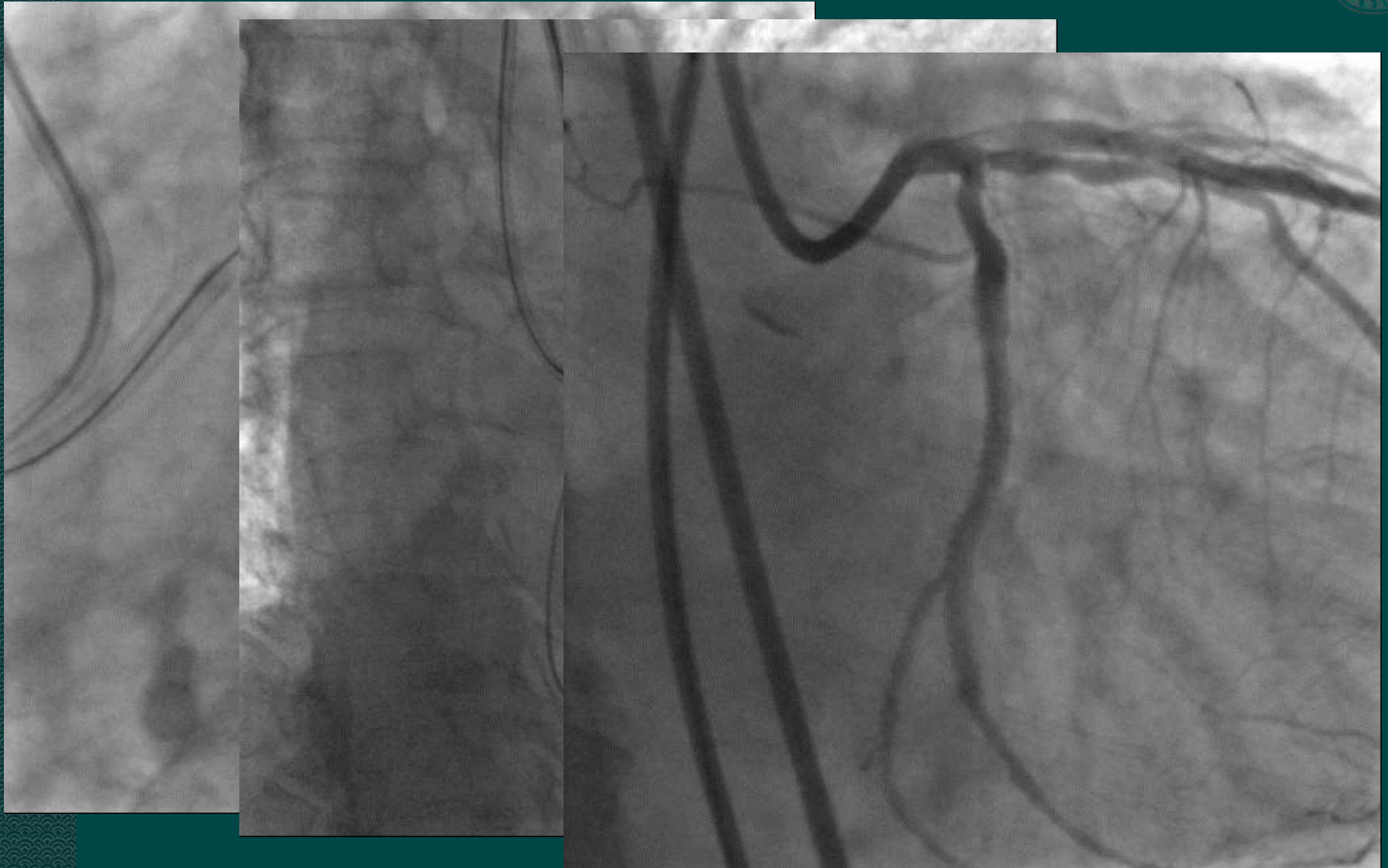
# Bilateral wiring



# Decision of the position for reverse CART retrograde wire nearby true lumen



# Reverse CART





# Summary



IVUS guided CTO PCI in antegrade approach is useful for

- Orientation of CTO entry
- Checking the position of guide wire
- Penetration from subintimal space to true lumen
- IVUS guided wiring into true lumen

IVUS guided CTO PCI in retrograde approach is useful for

- Orientation of the retrograde wire
- Decision of the position for Reverse CART

Thank you for your kind attention.