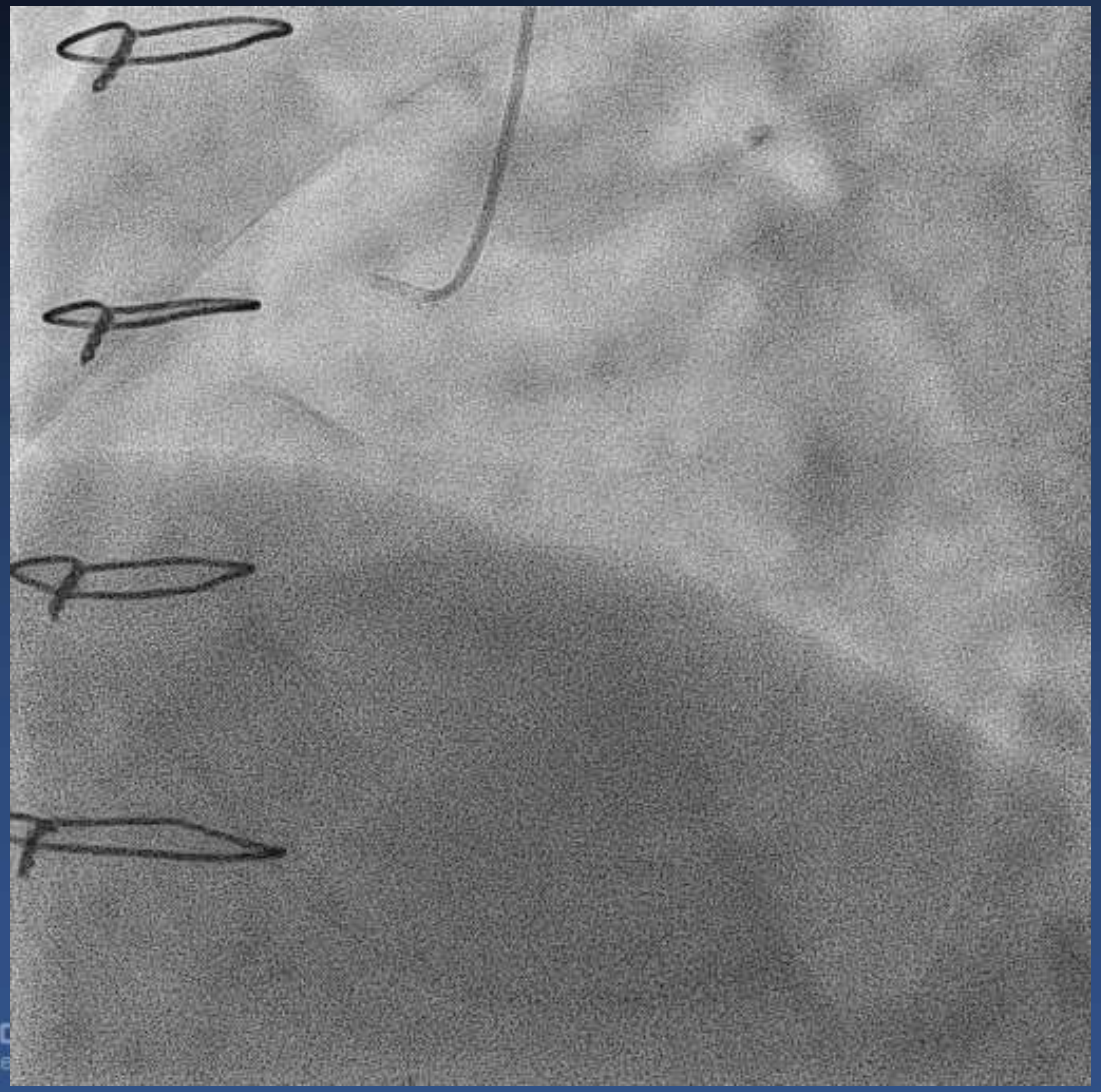
How to Make CTO-PCI Strategy with Well Understanding Lesion Morphology by Cardiac CT
- A RCA CTO case of bypass graft failure -

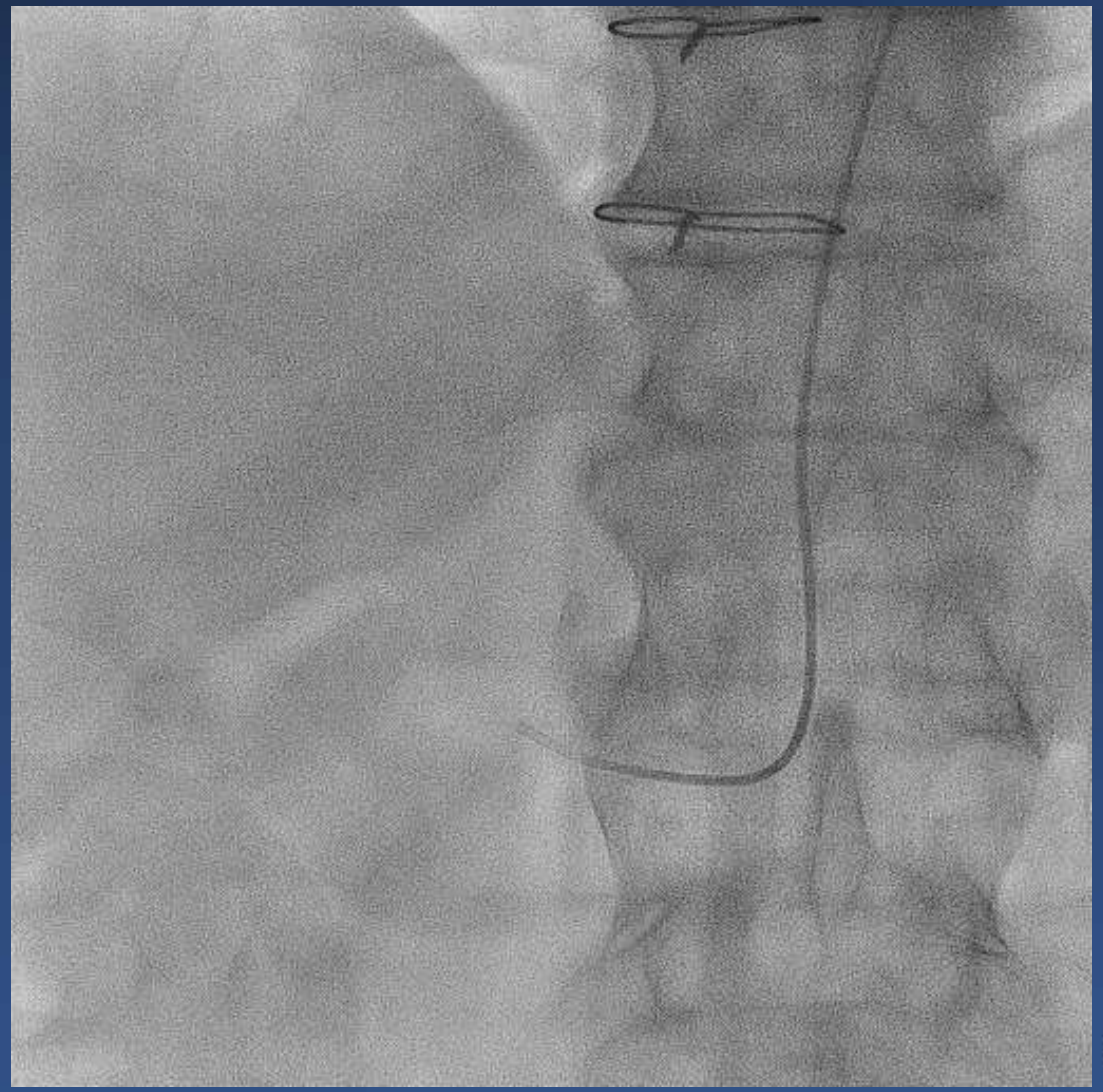
Masaaki Okutsu, Sunao Nakamura
New Tokyo Hospital, Chiba, Japan

Case introduction

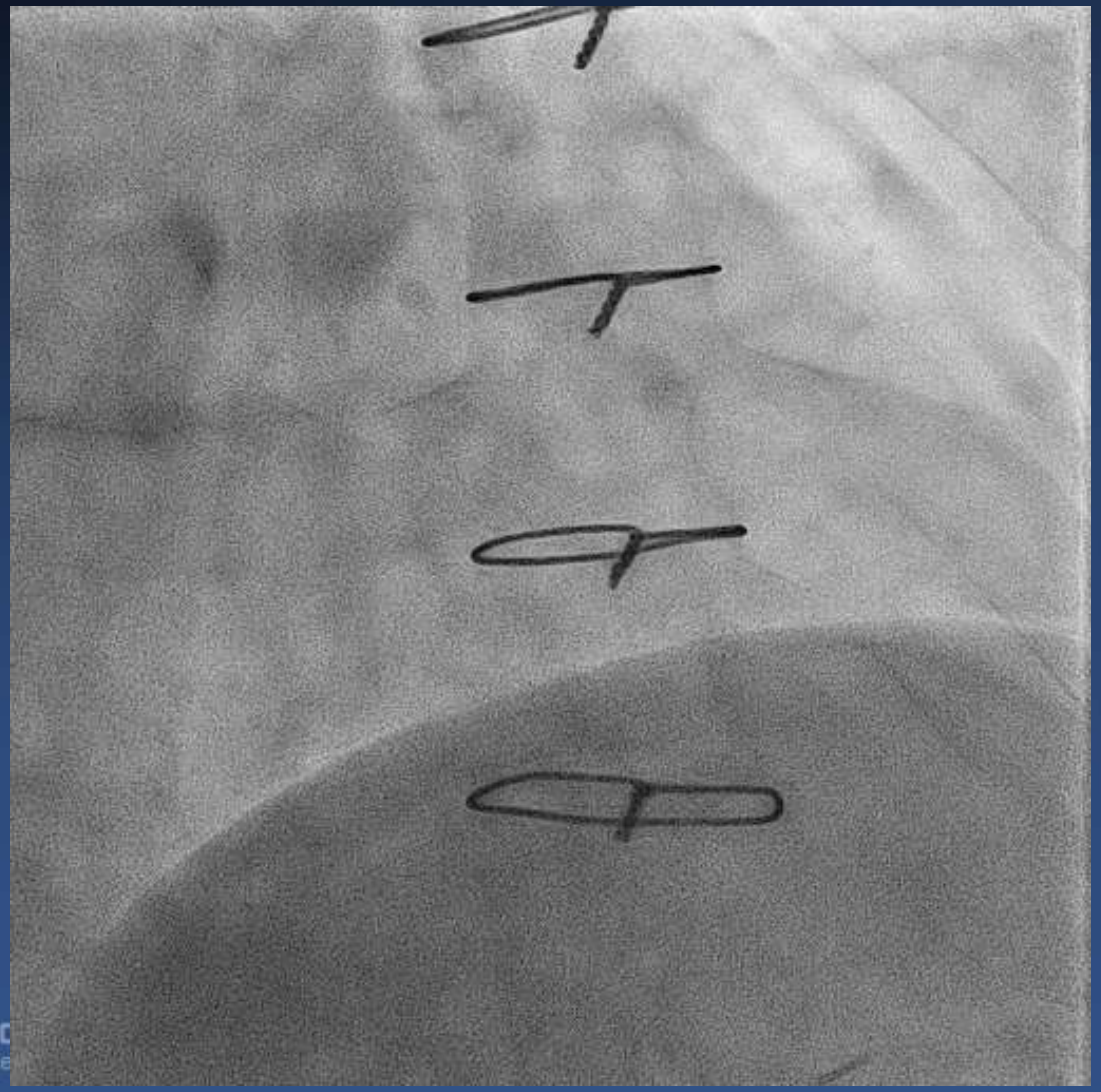
- 69 y.o. Male
- Angiona pectoris
- 16 years ago, CABG (LIMA-D1-LAD, RA-OM-#14PL, rGEA-PD A-PLA)
- PCI history (-)
- Coronary risk factor) Dyslipidemia, IGT
- UCG) Inferior: hypokinesis, LVEF: 57%
- Cr: 0.81mg/dl, eGFR:72ml/min./1.73㎡

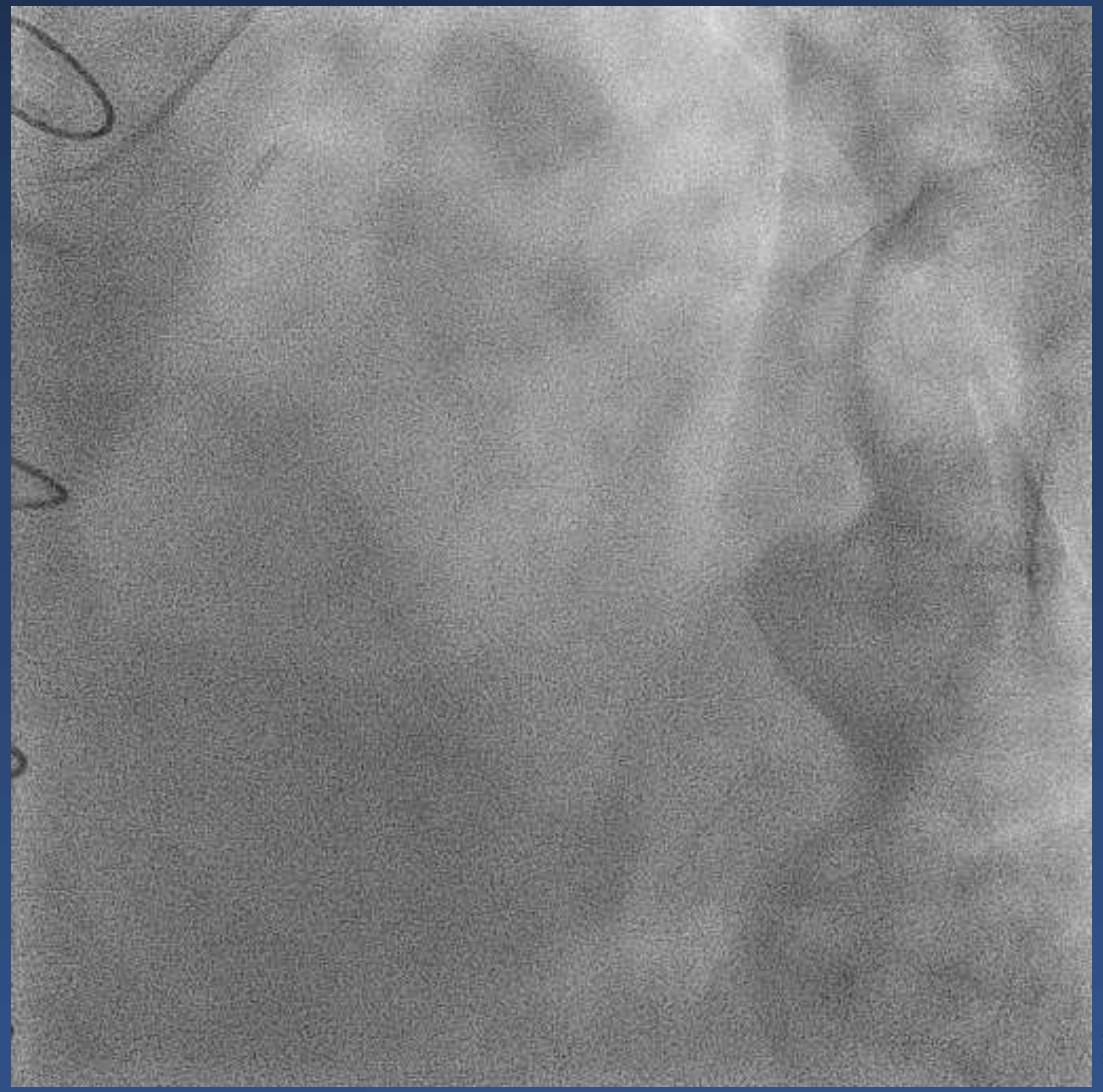
Initial CAG



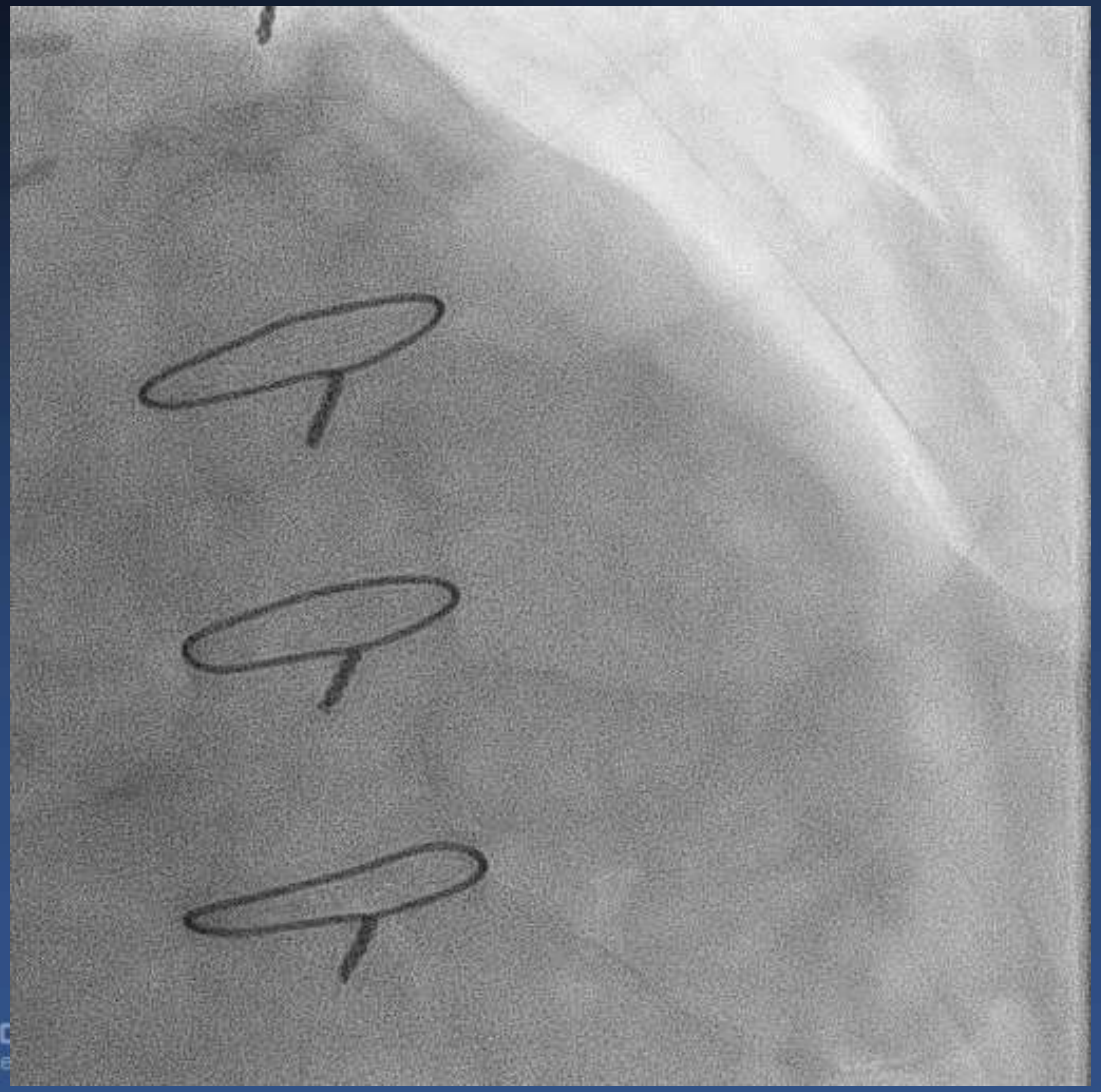


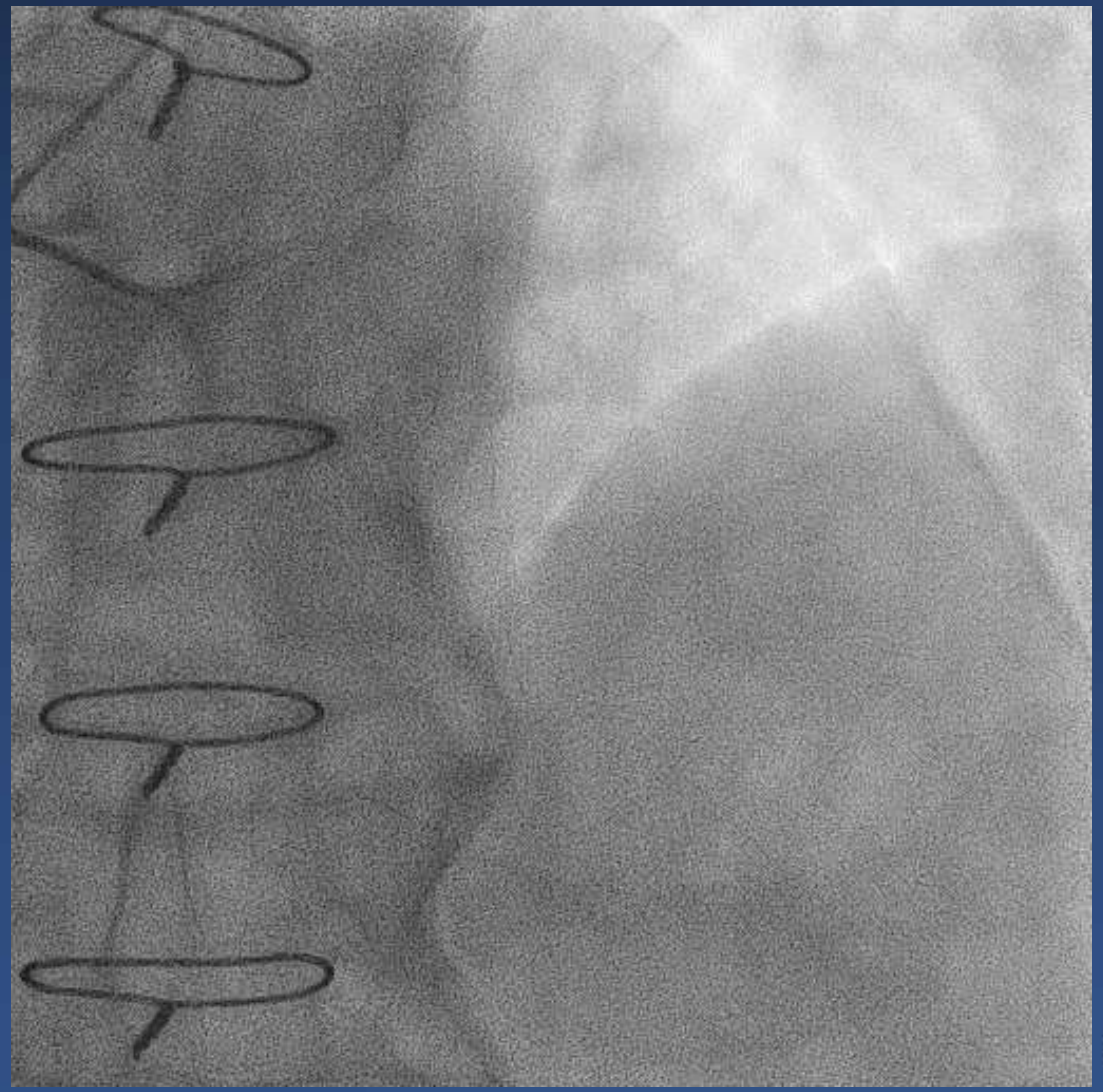
Initial CAG



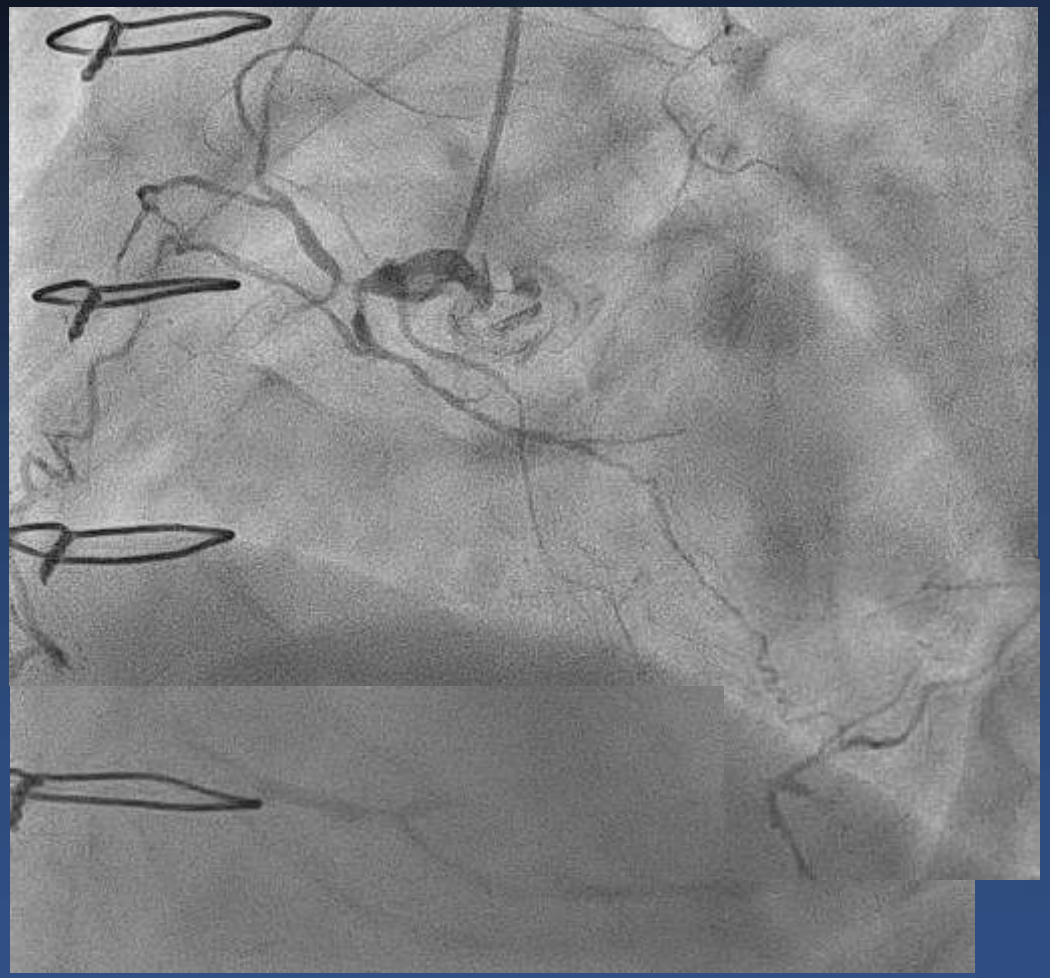


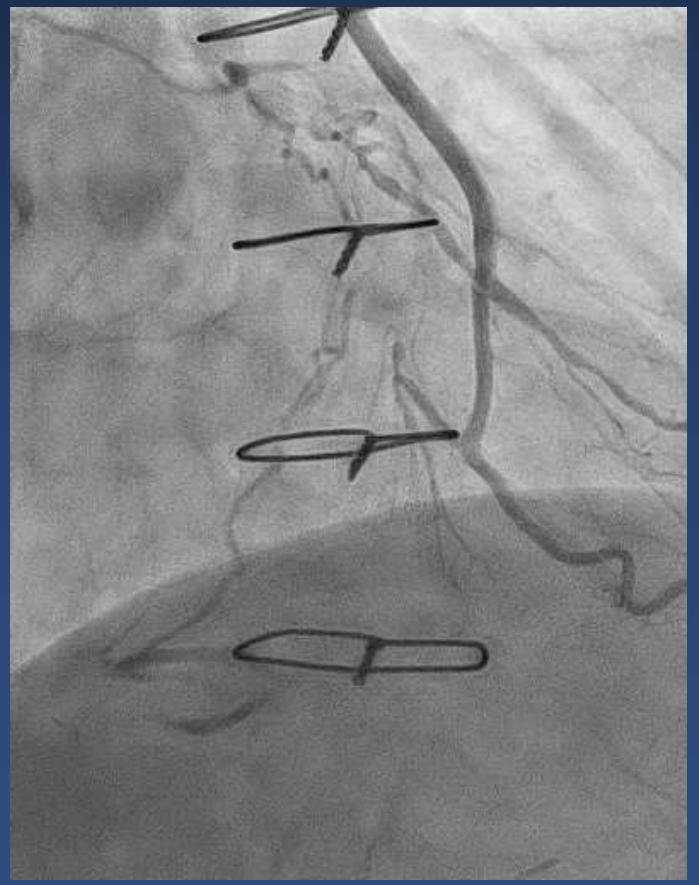
Initial CAG

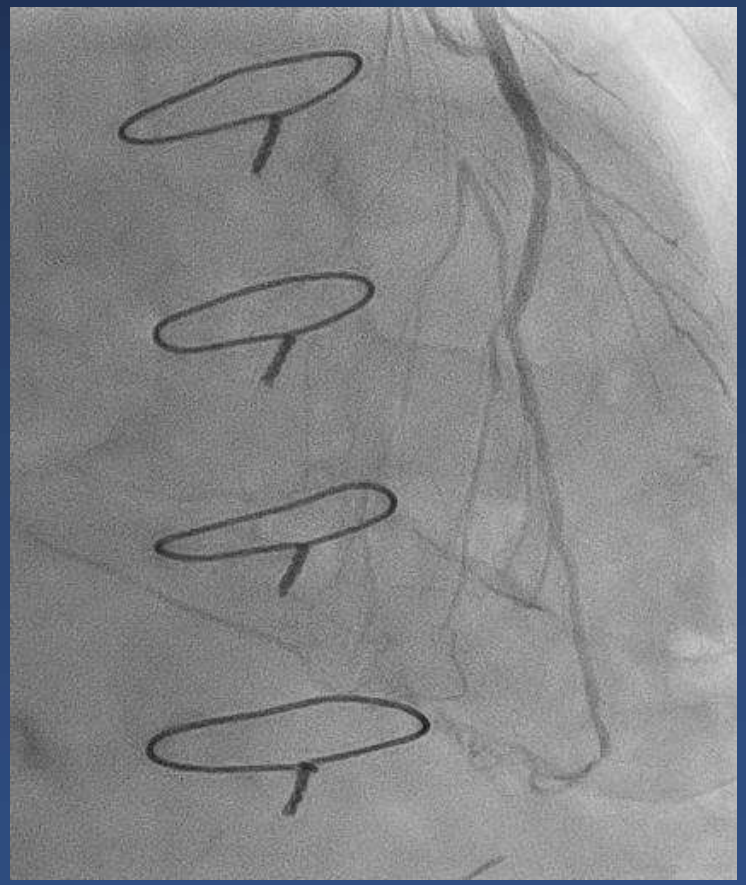




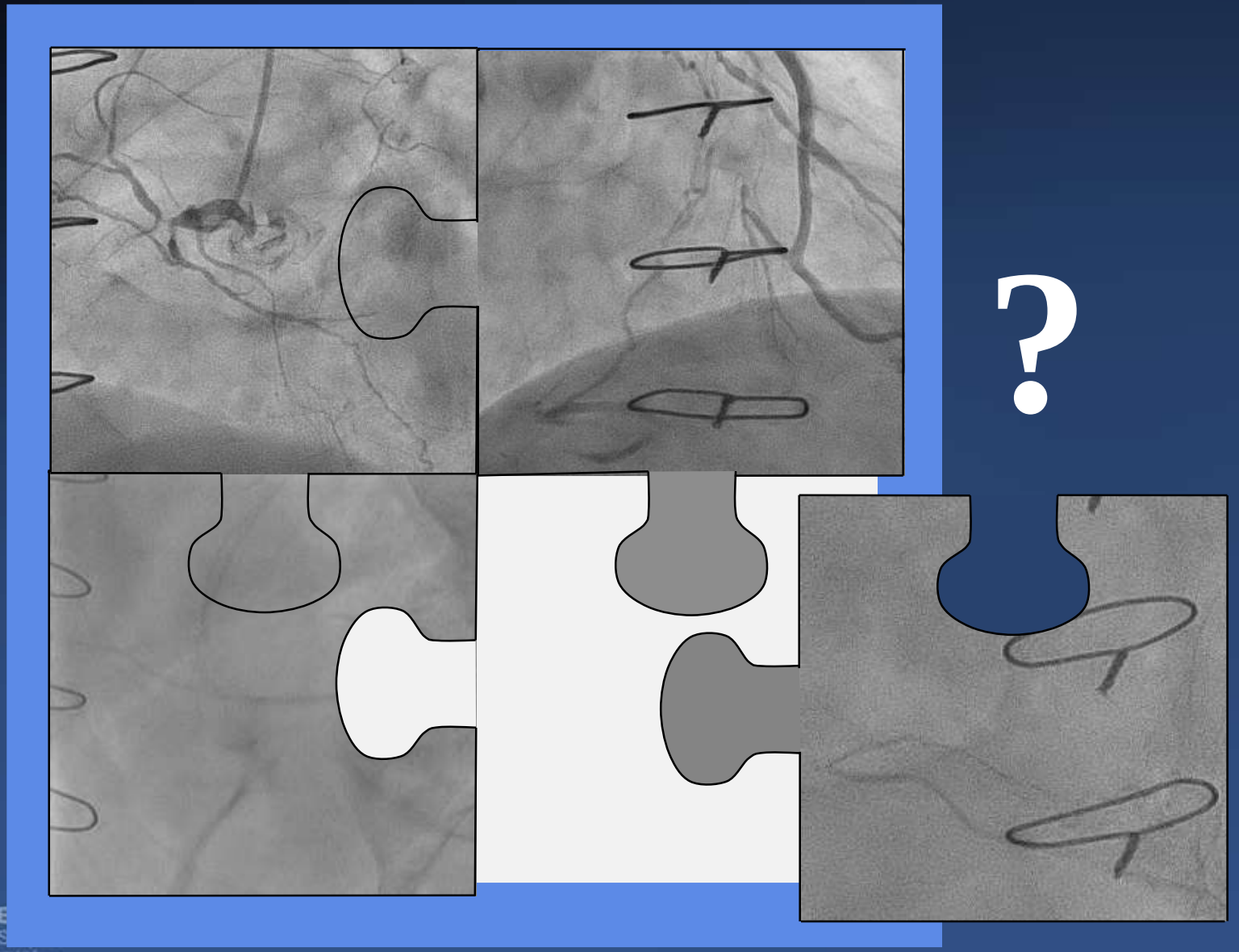
Most important issue is interventional collateral channel



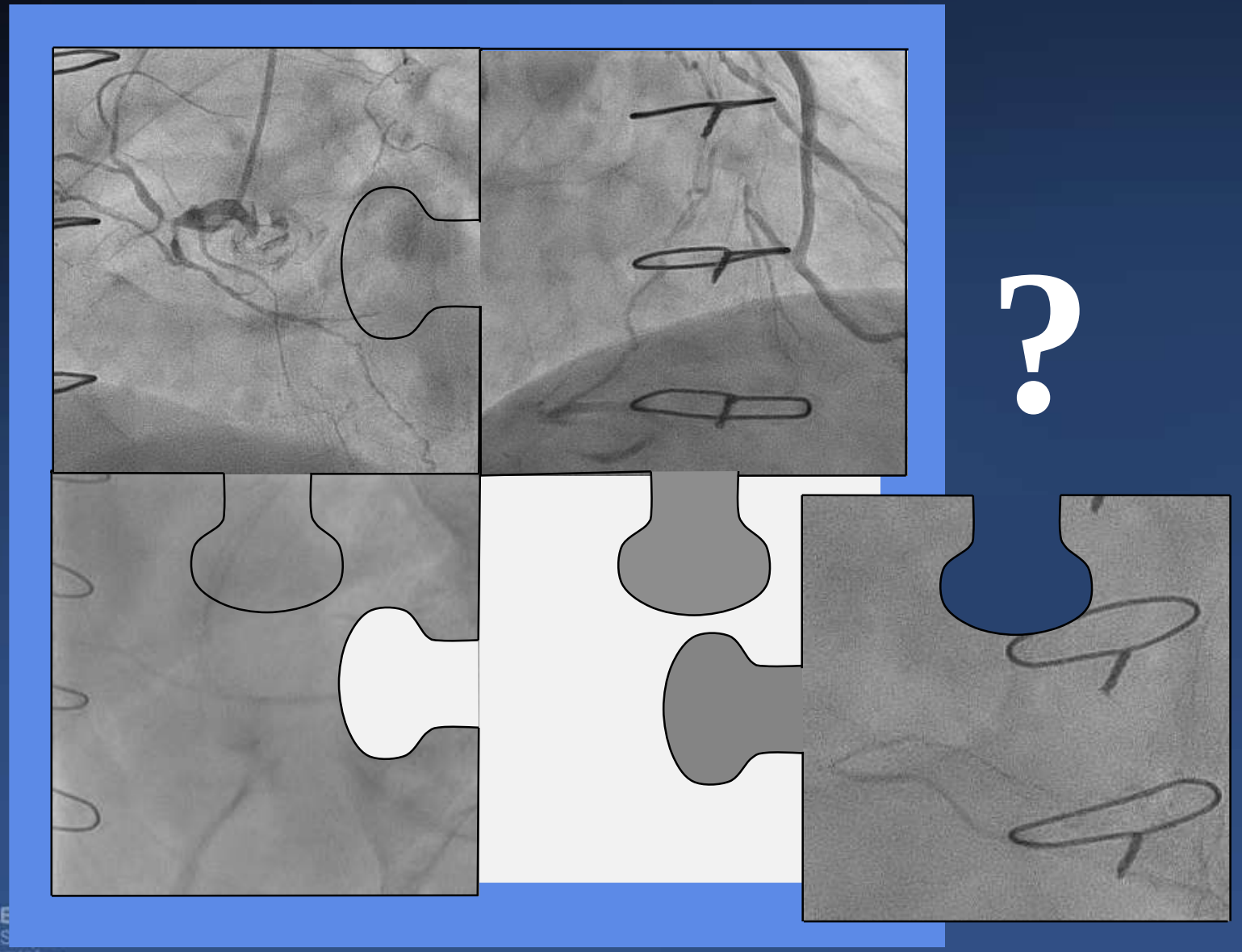


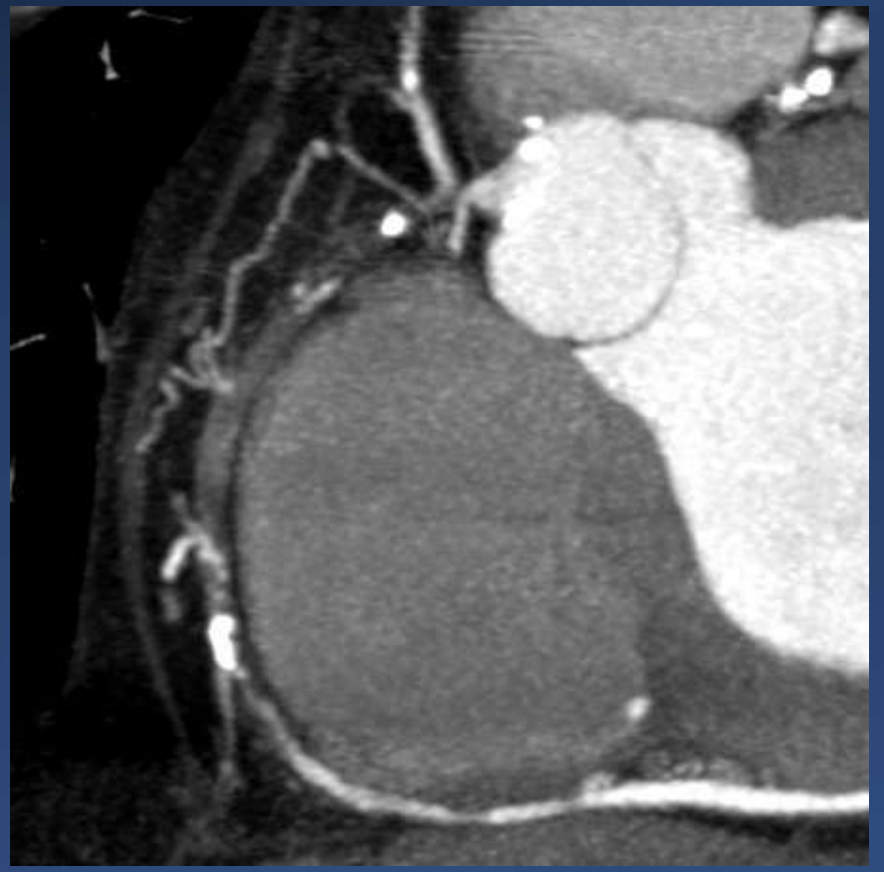


How do you complete this PUZZLE

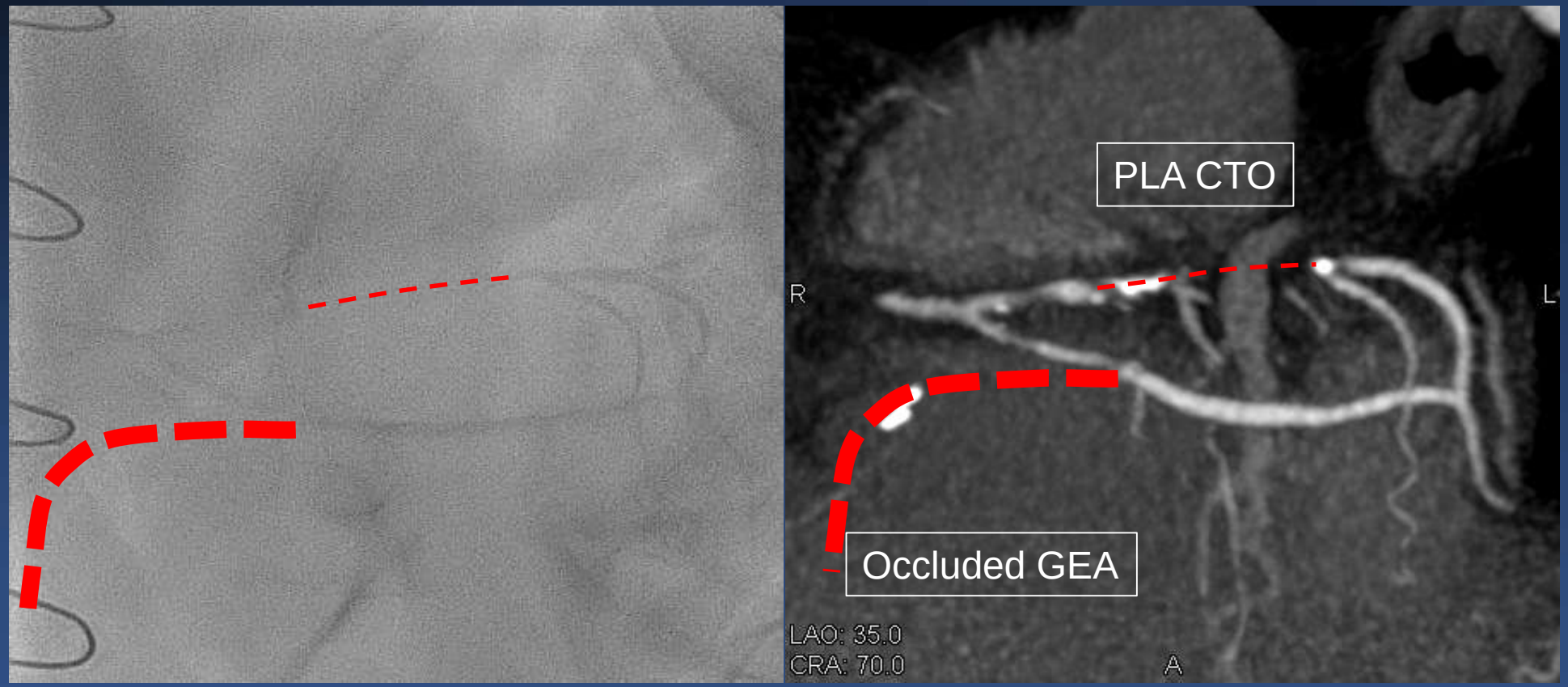


How do you complete this PUZZLE

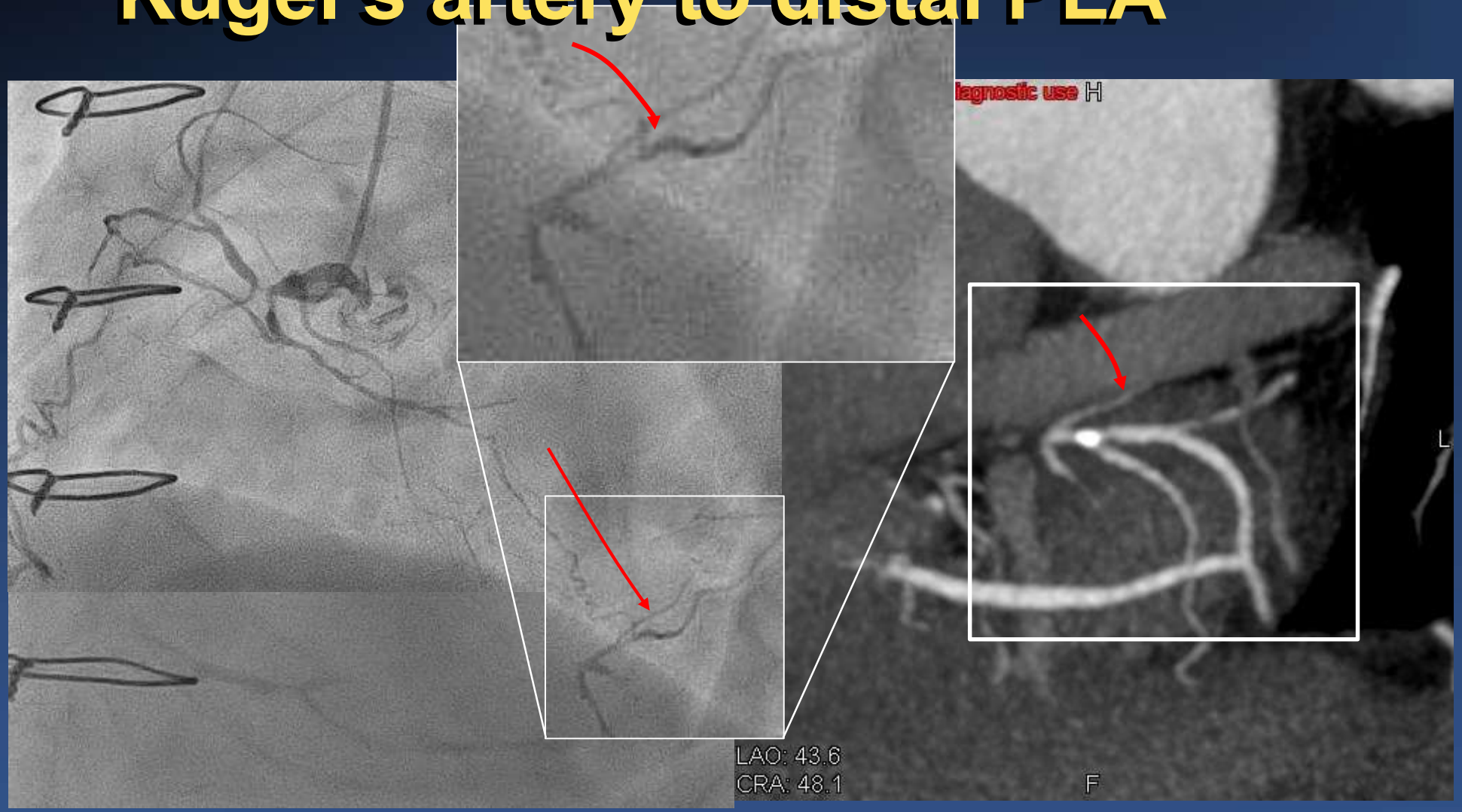




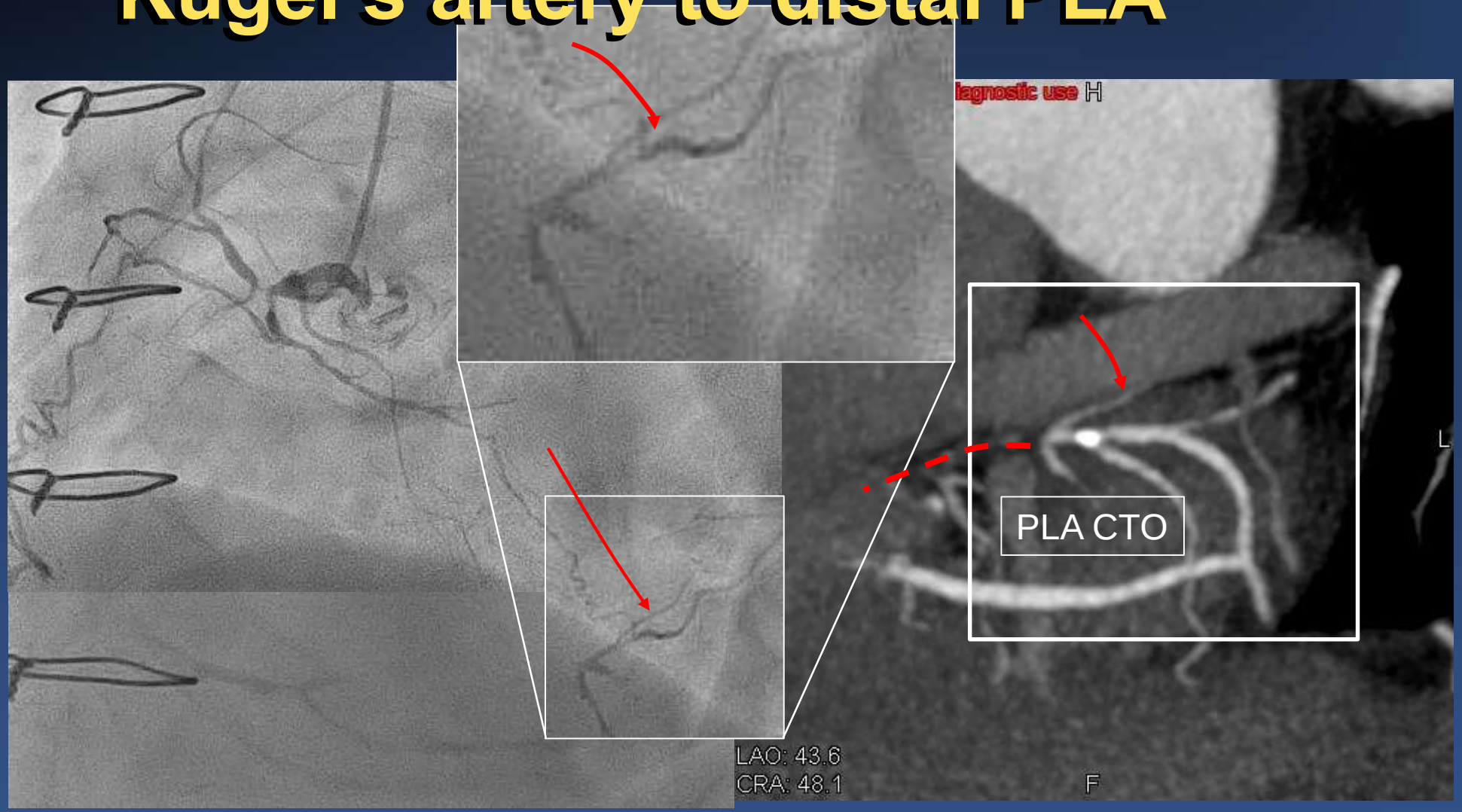
RCA distal anatomy
r-GEA C-C segment & PLA CTO



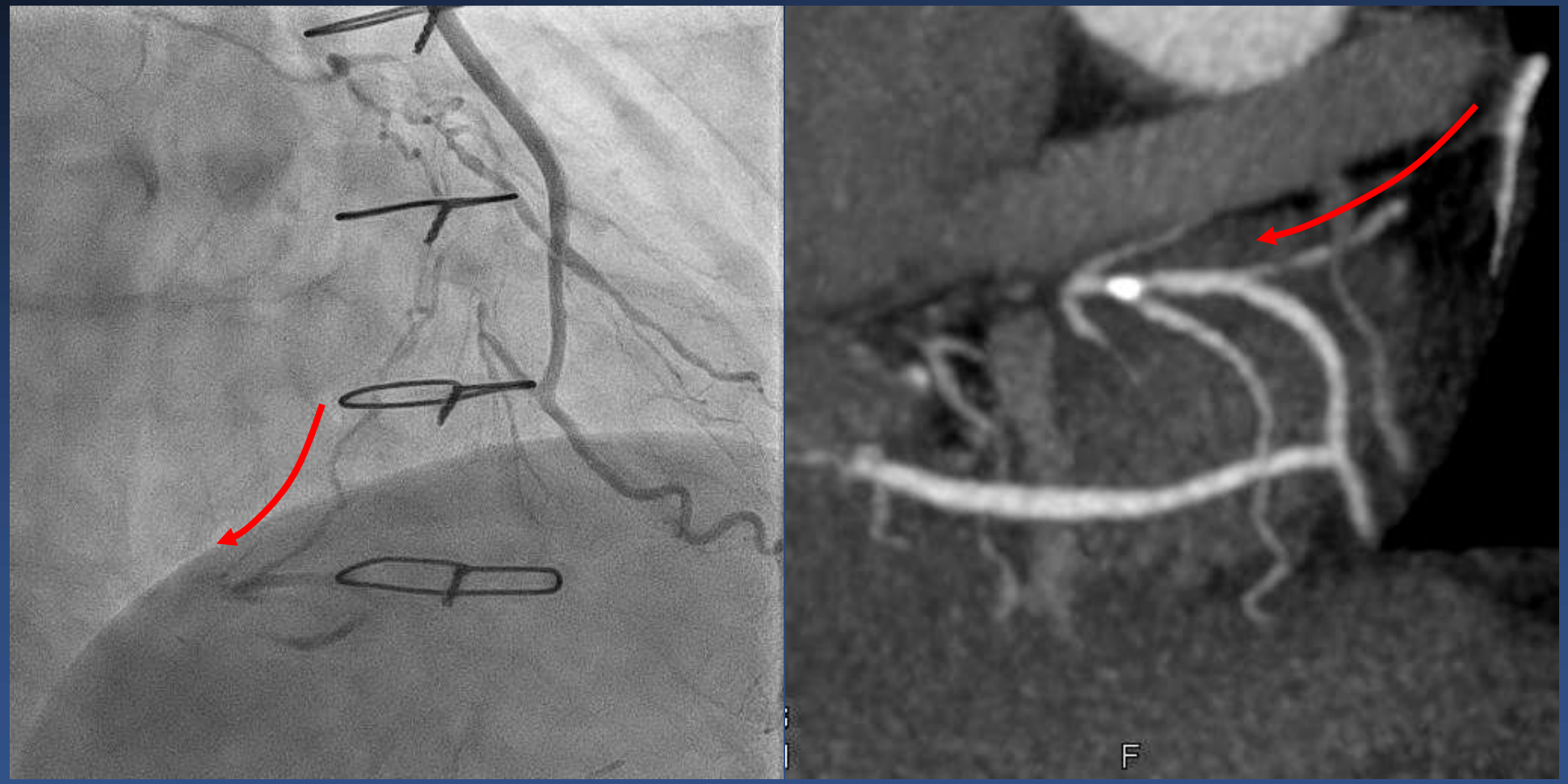
Collateral channel ①
Kugel's artery to distal PLA



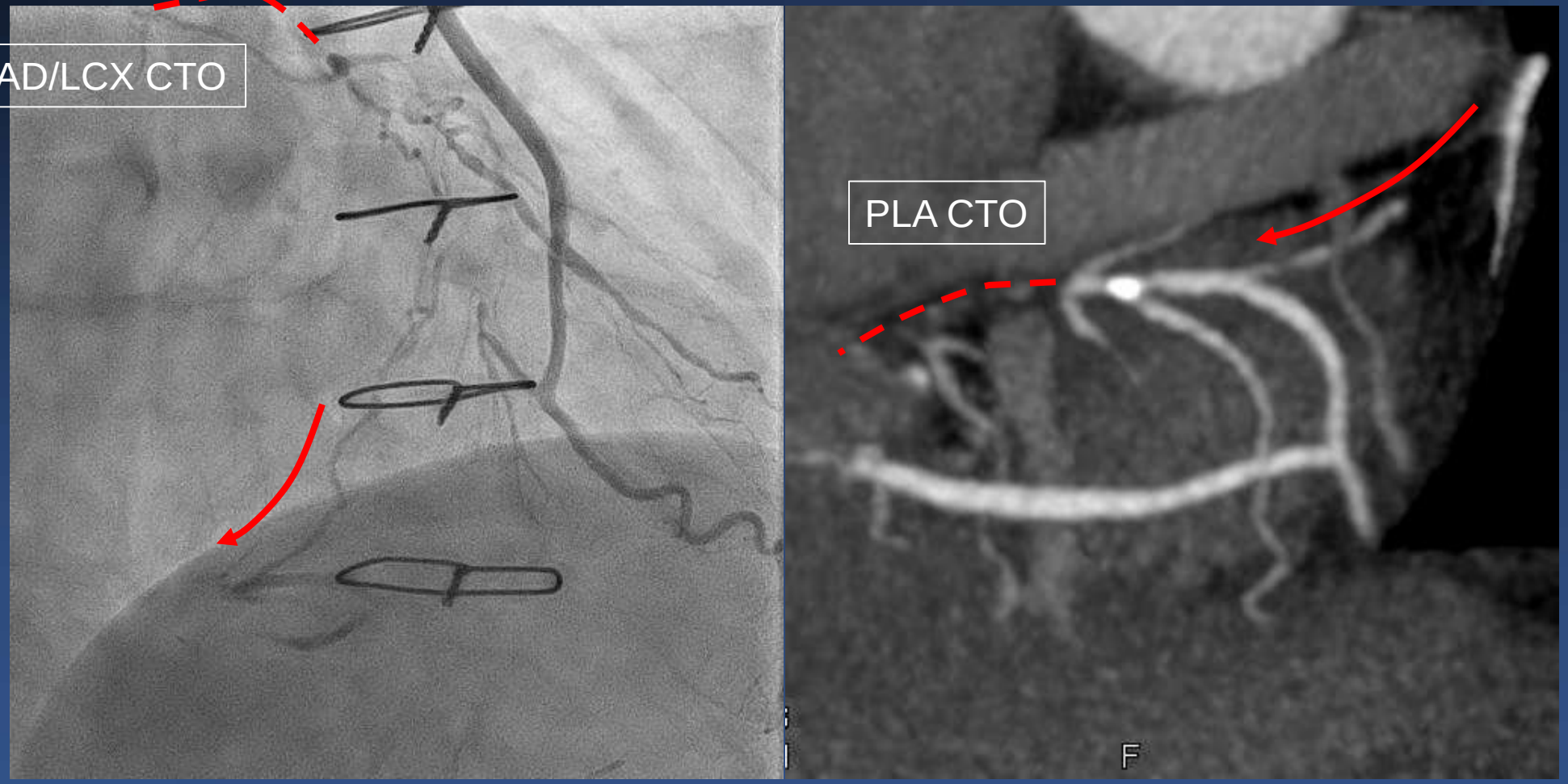
Collateral channel ①
Kugel's artery to distal PLA



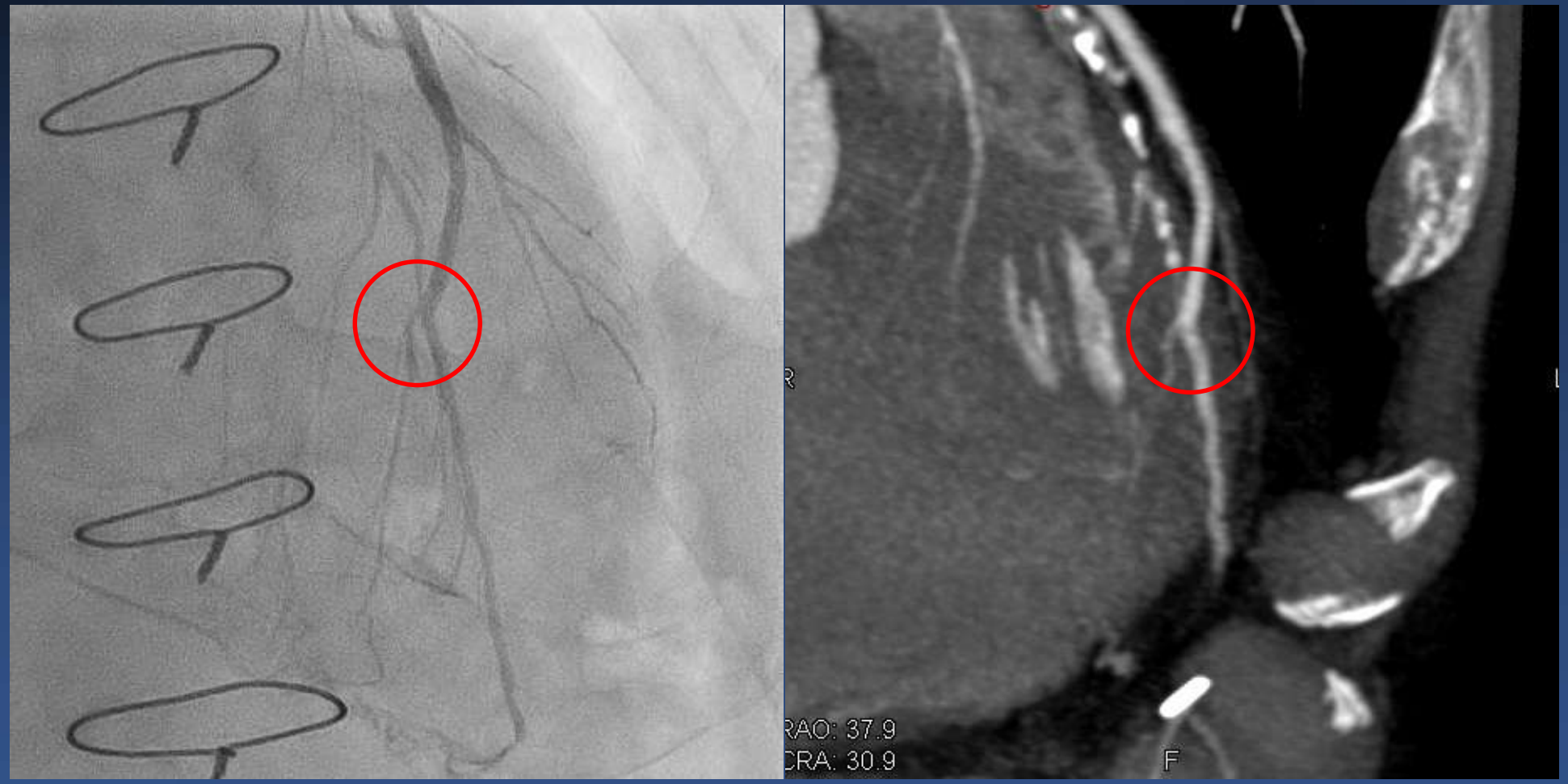
Collateral channel ②
Atrial channel from LCX to PLA



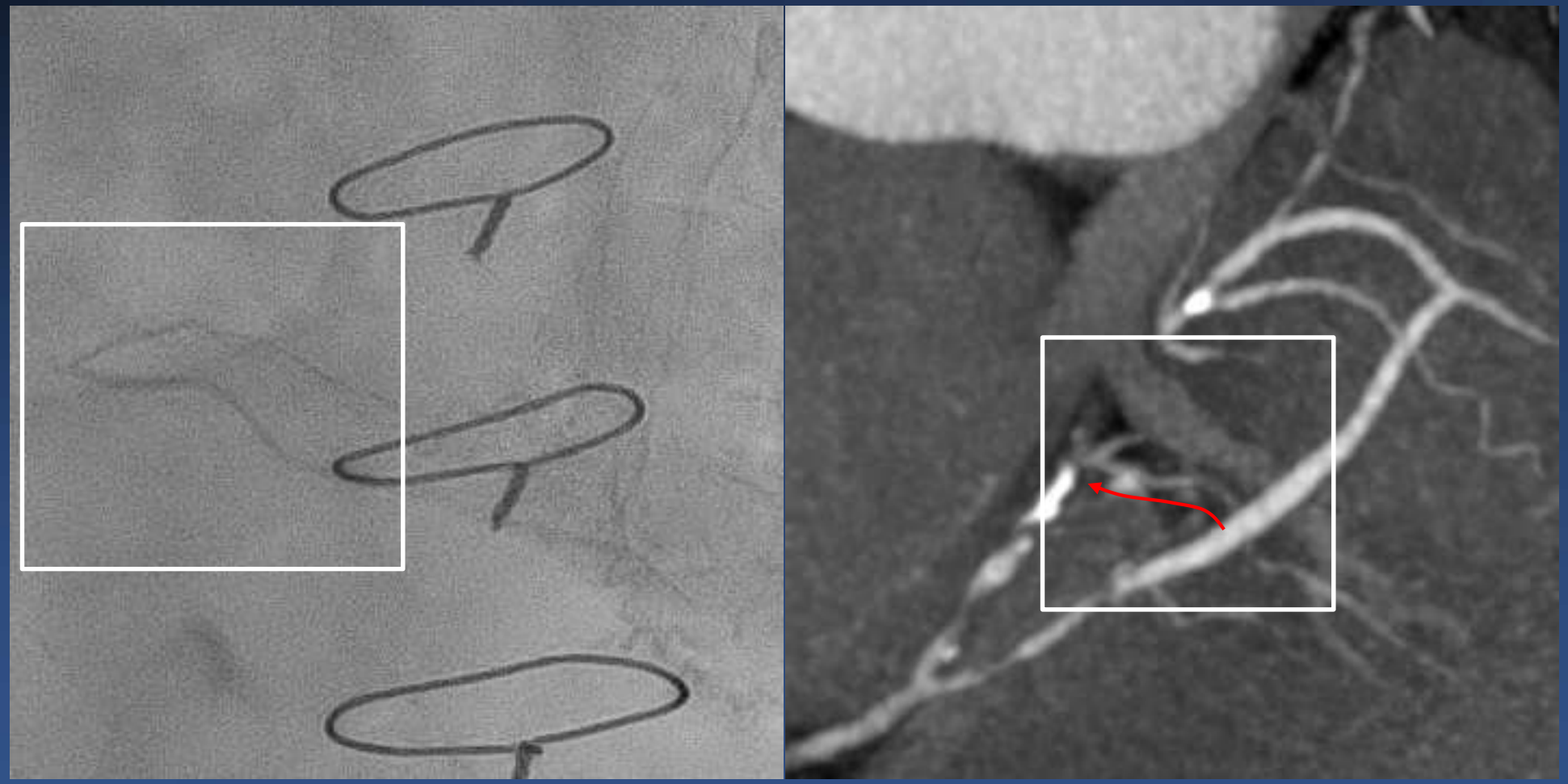
Collateral channel ②
Atrial channel from LCX to PLA



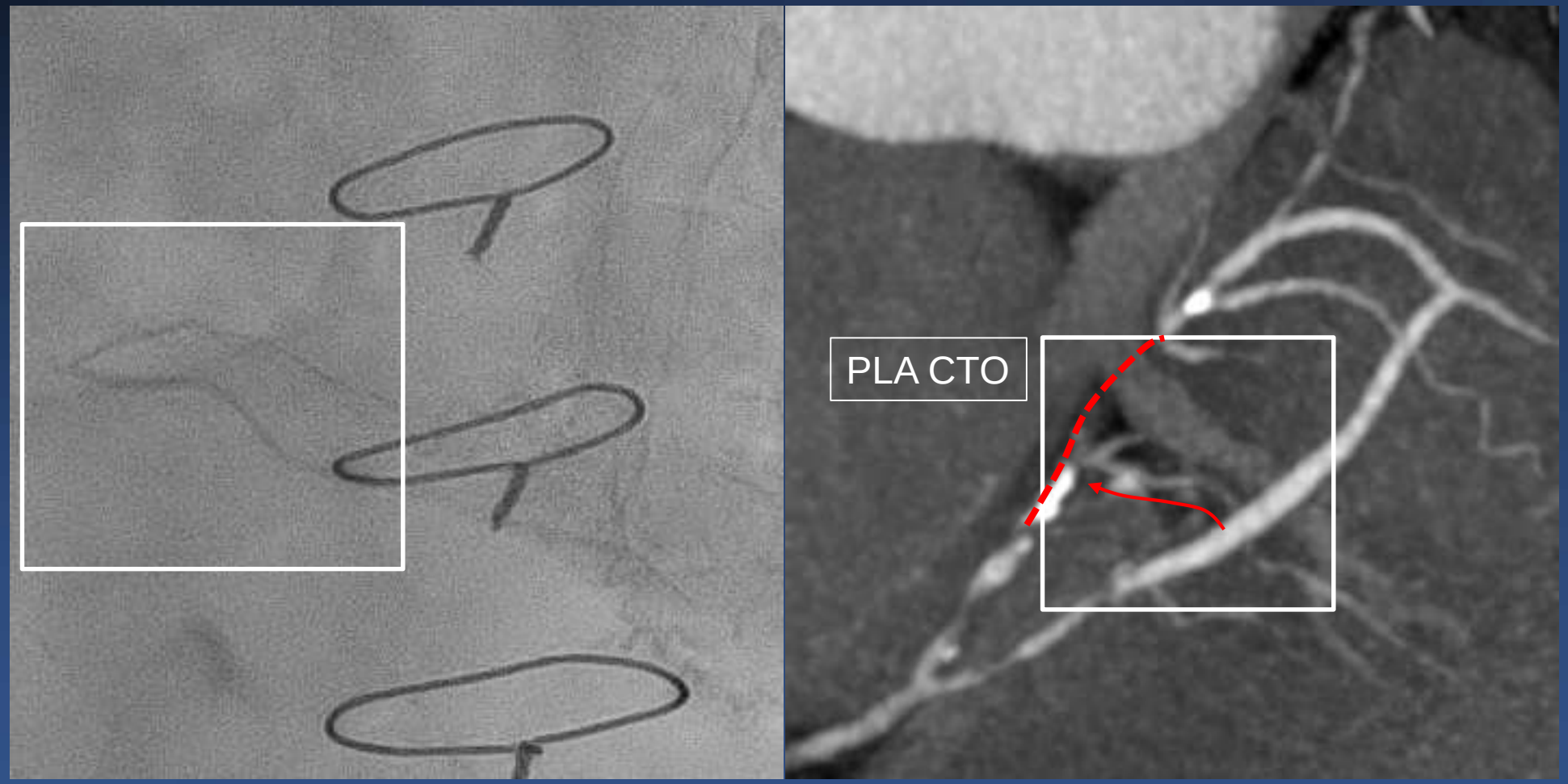
Collateral channel ③
Septal channel to ???



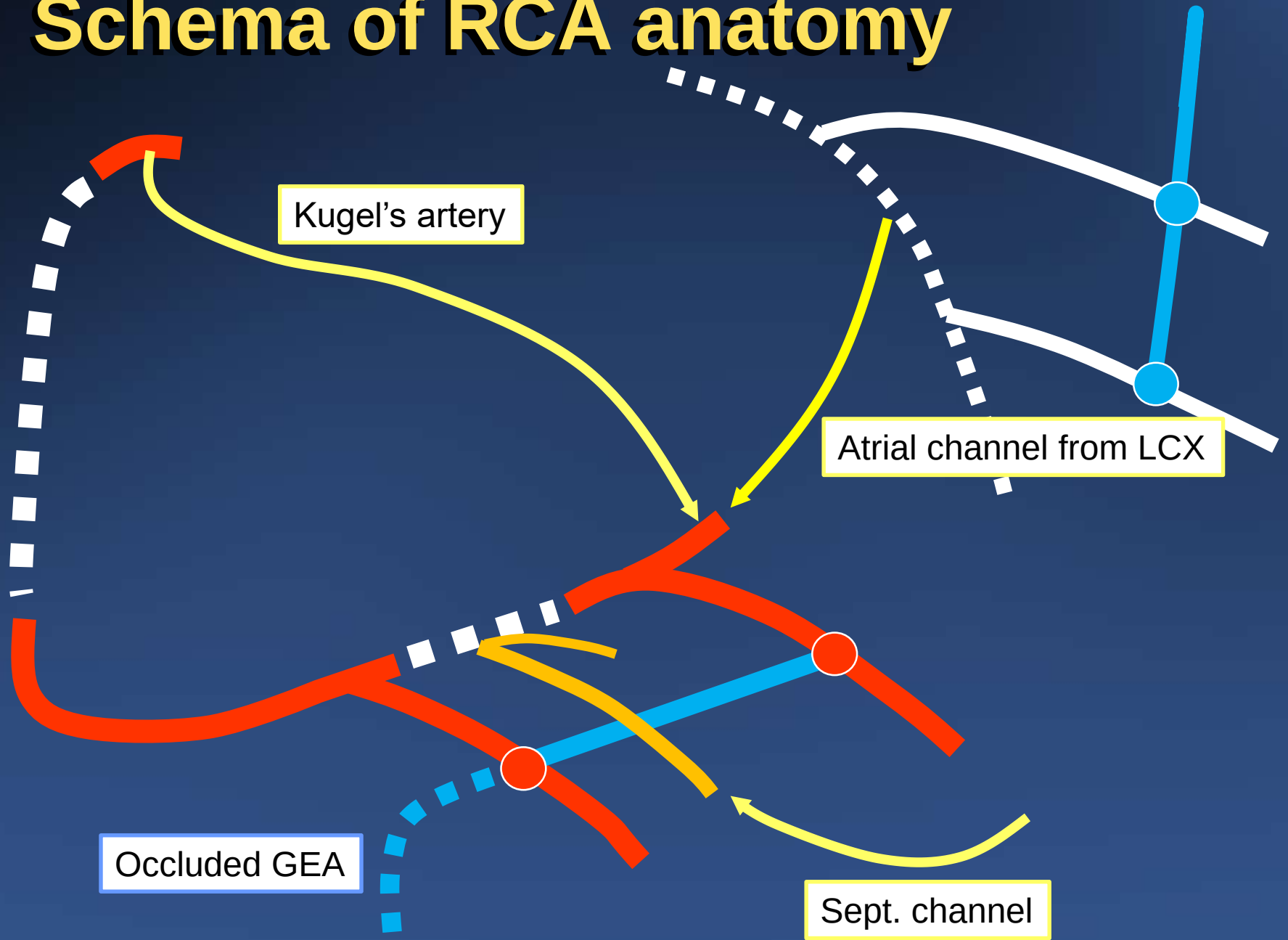
Collateral channel ③
Septal channel to 16a



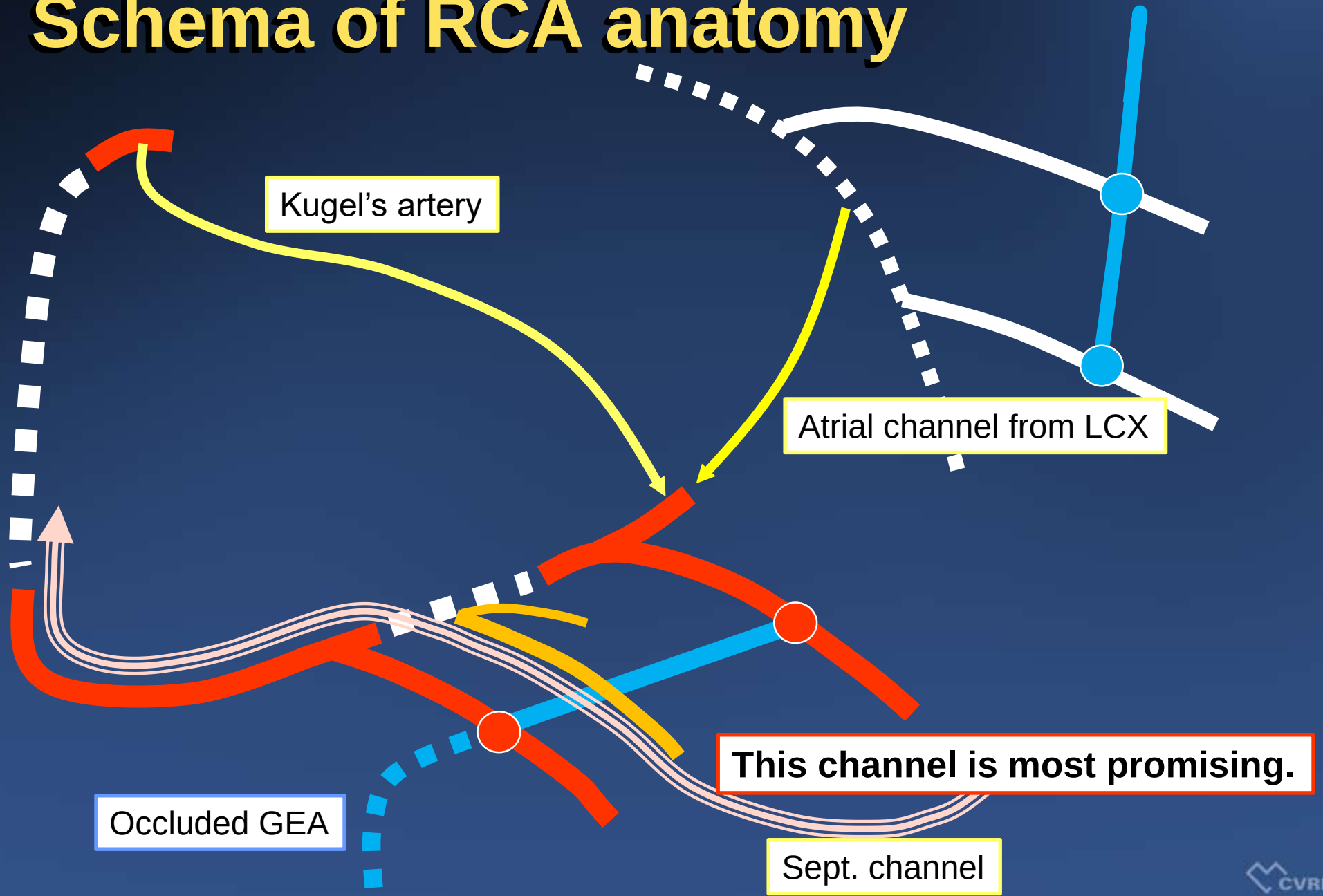
Collateral channel ③
Septal channel → 16a is in PLA CTO



Schema of RCA anatomy

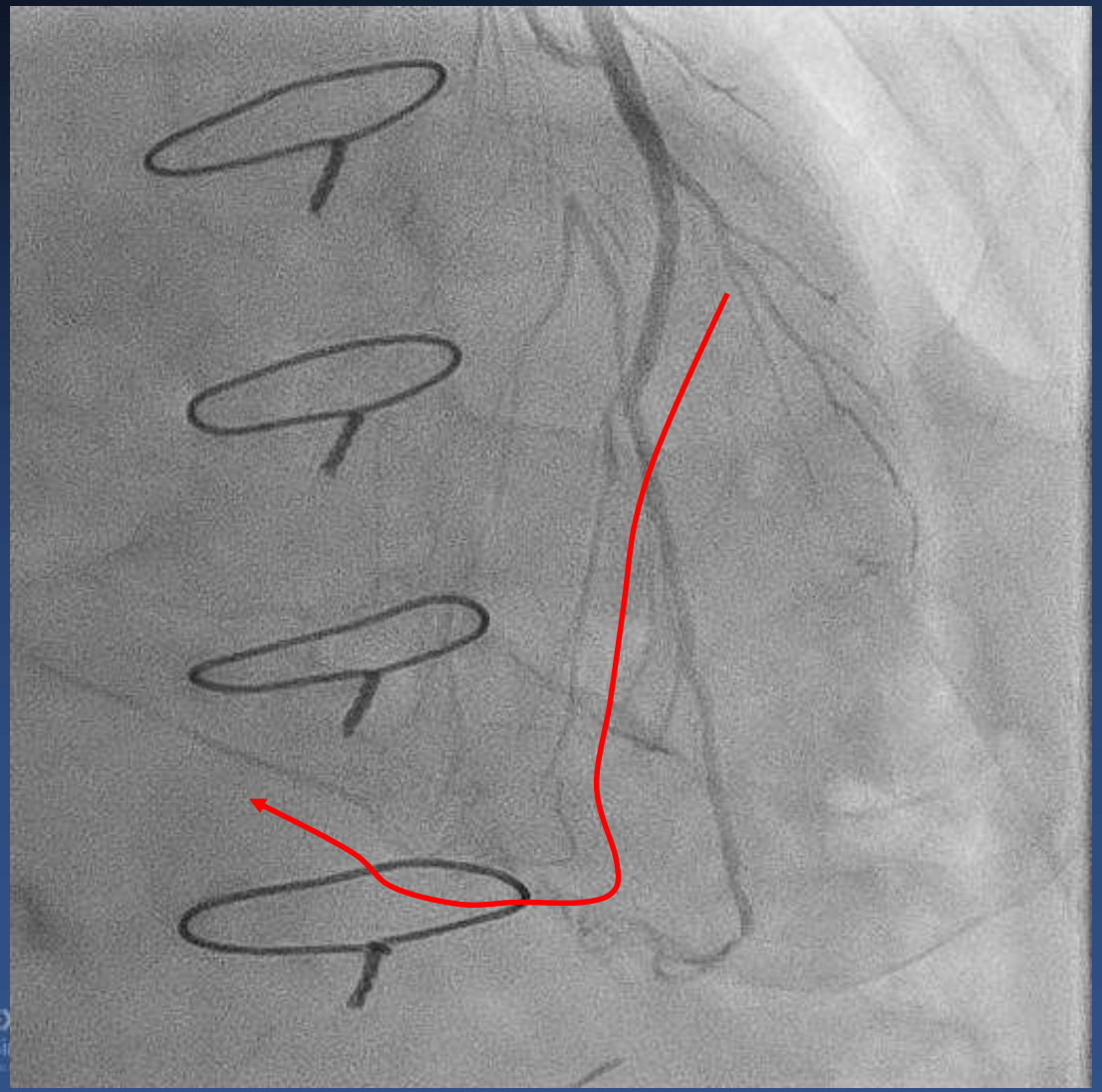


Schema of RCA anatomy

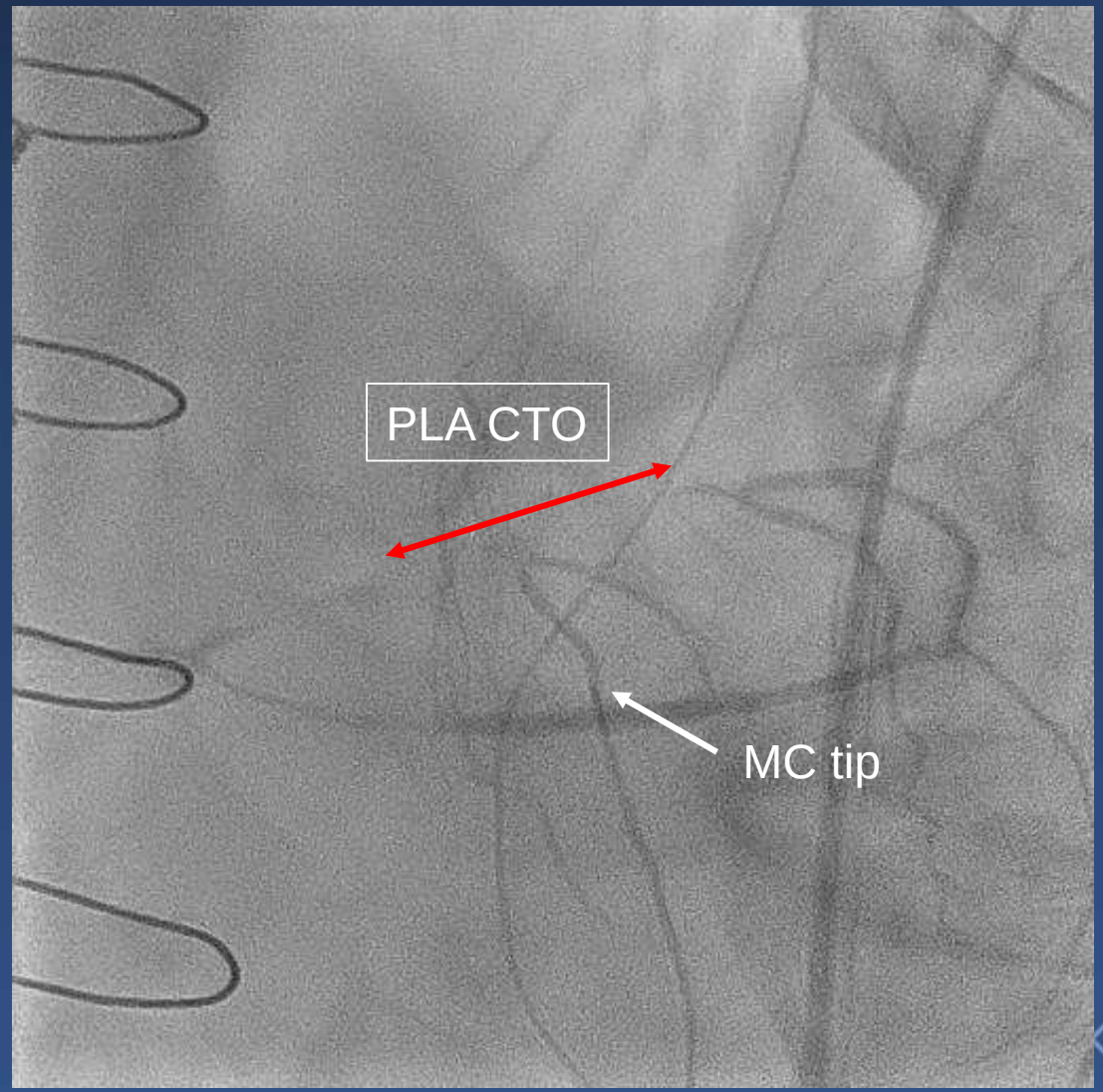


Retrograde approach LIMA > Septal

via LIMA-sept.

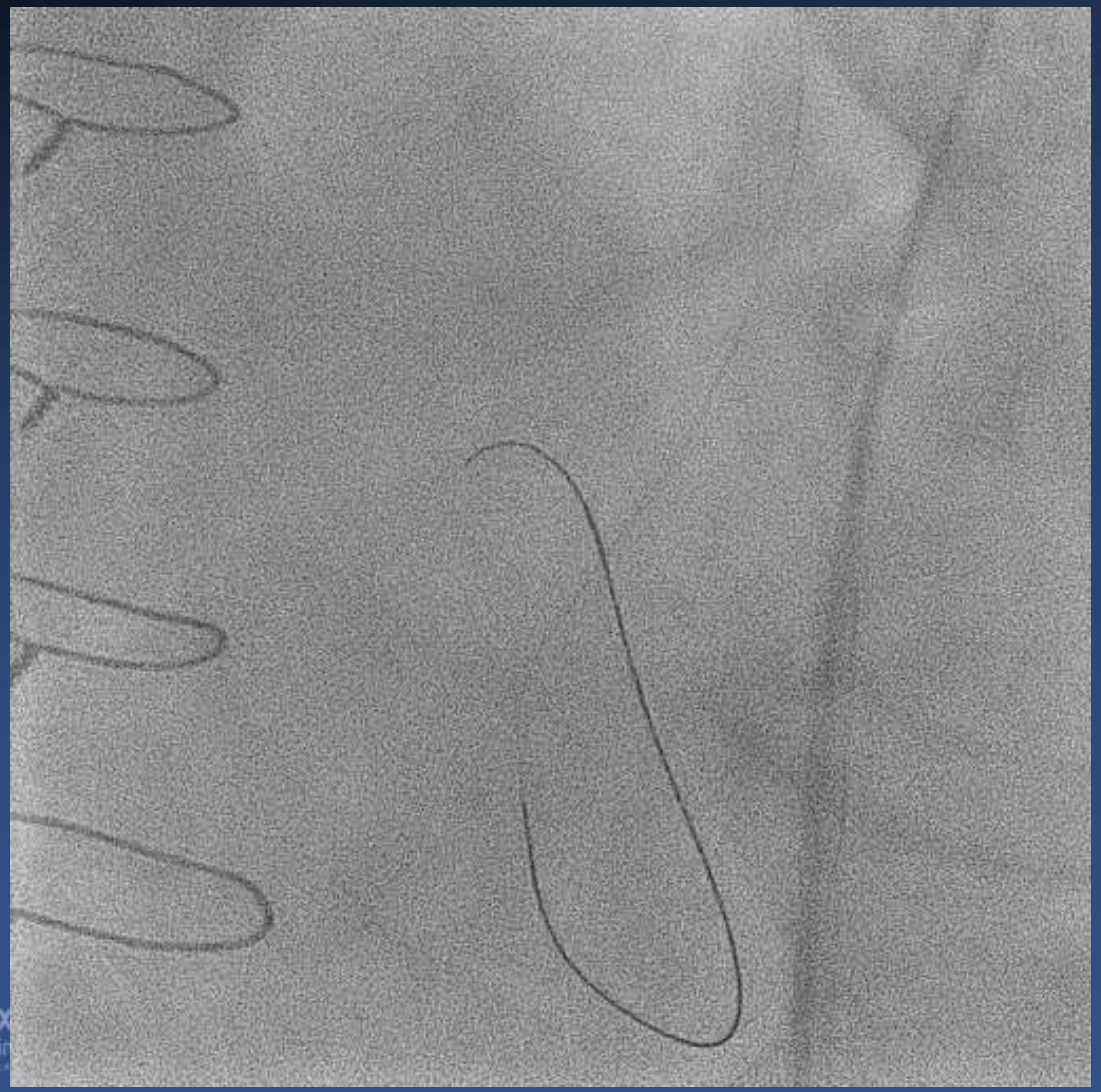


Bilateral injection (MC+SVG)

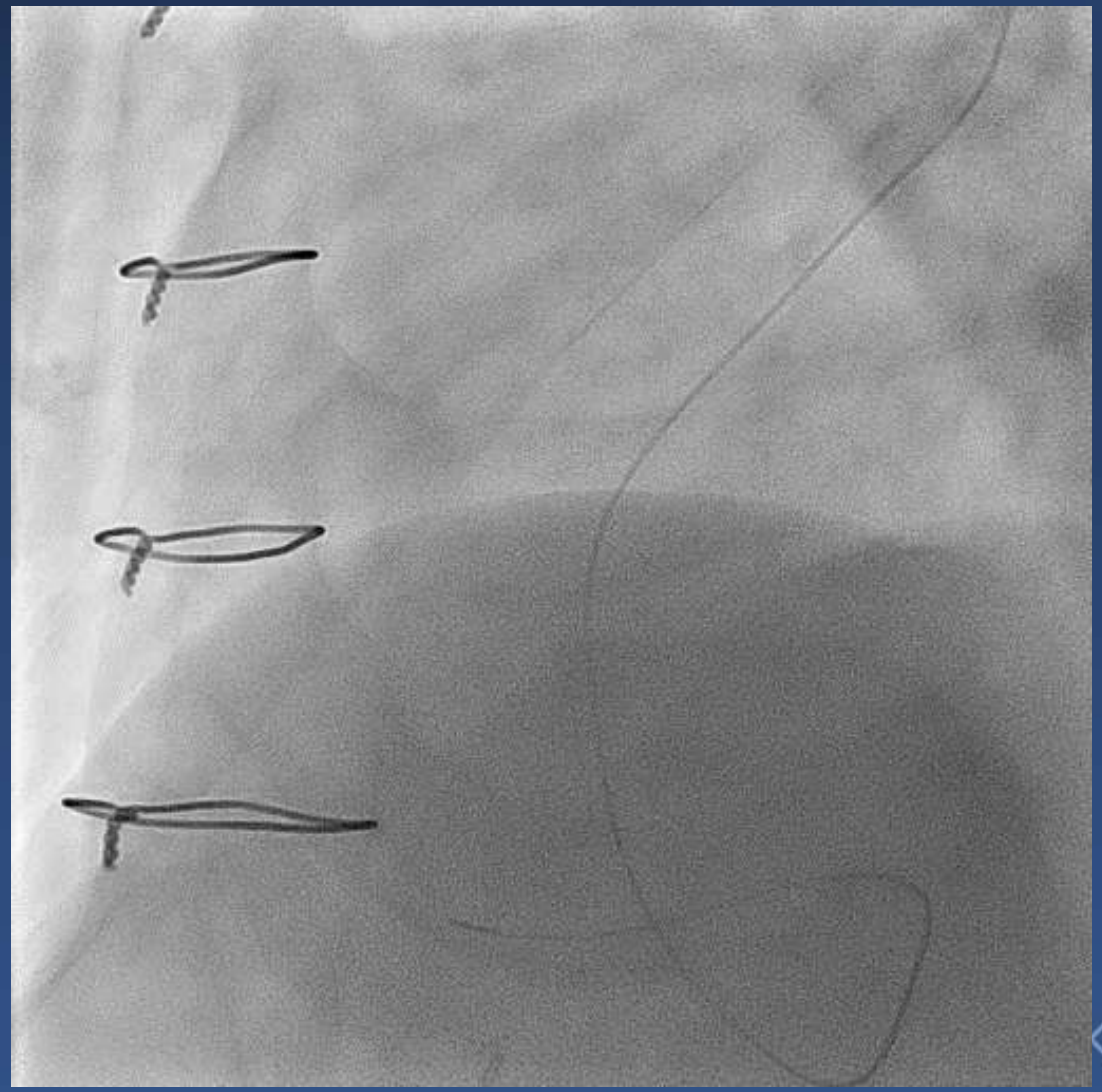


Retrograde wire cross PLA CTO

FielderFC→XT-A→UB3

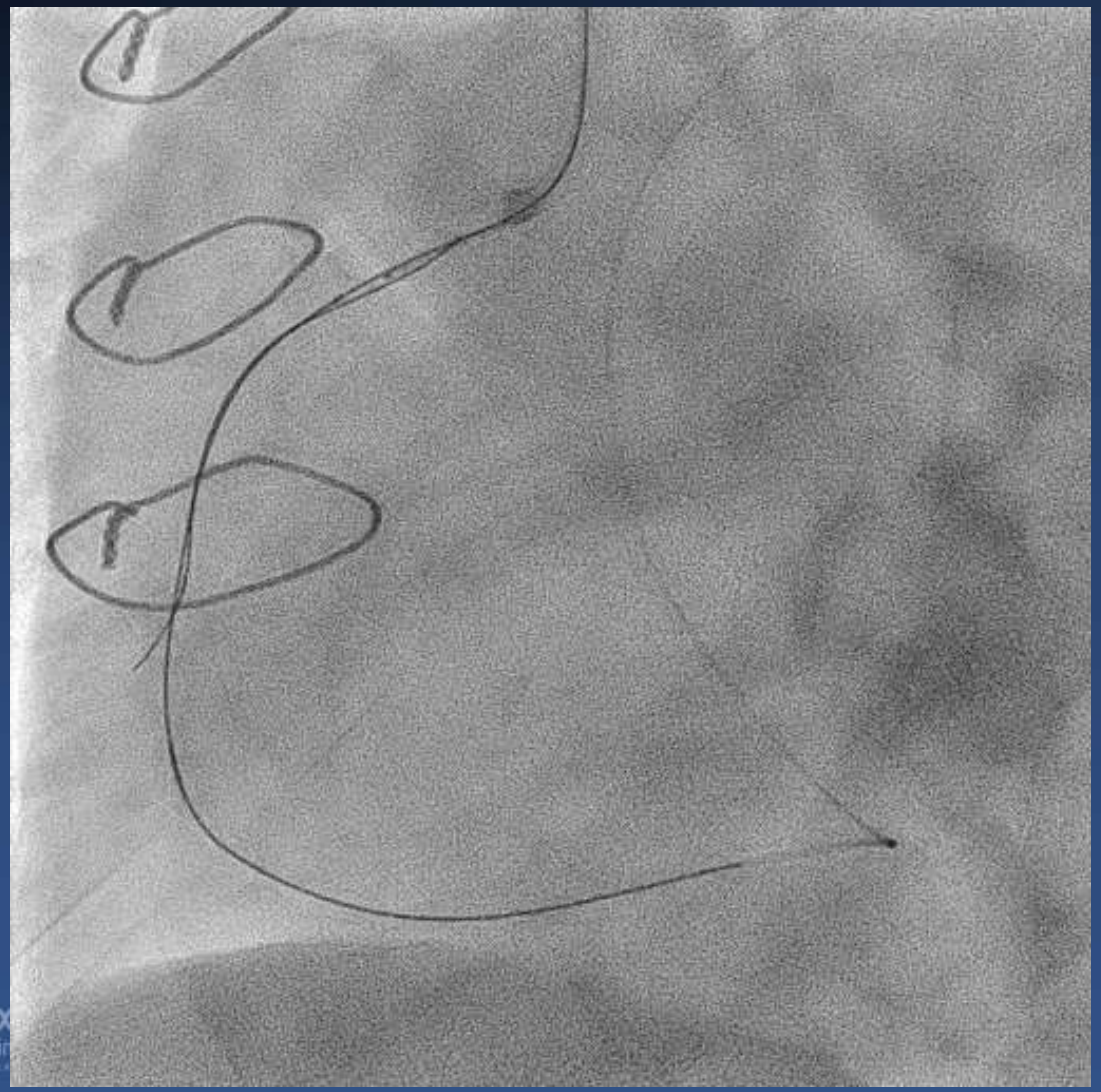


distal end of target CTO

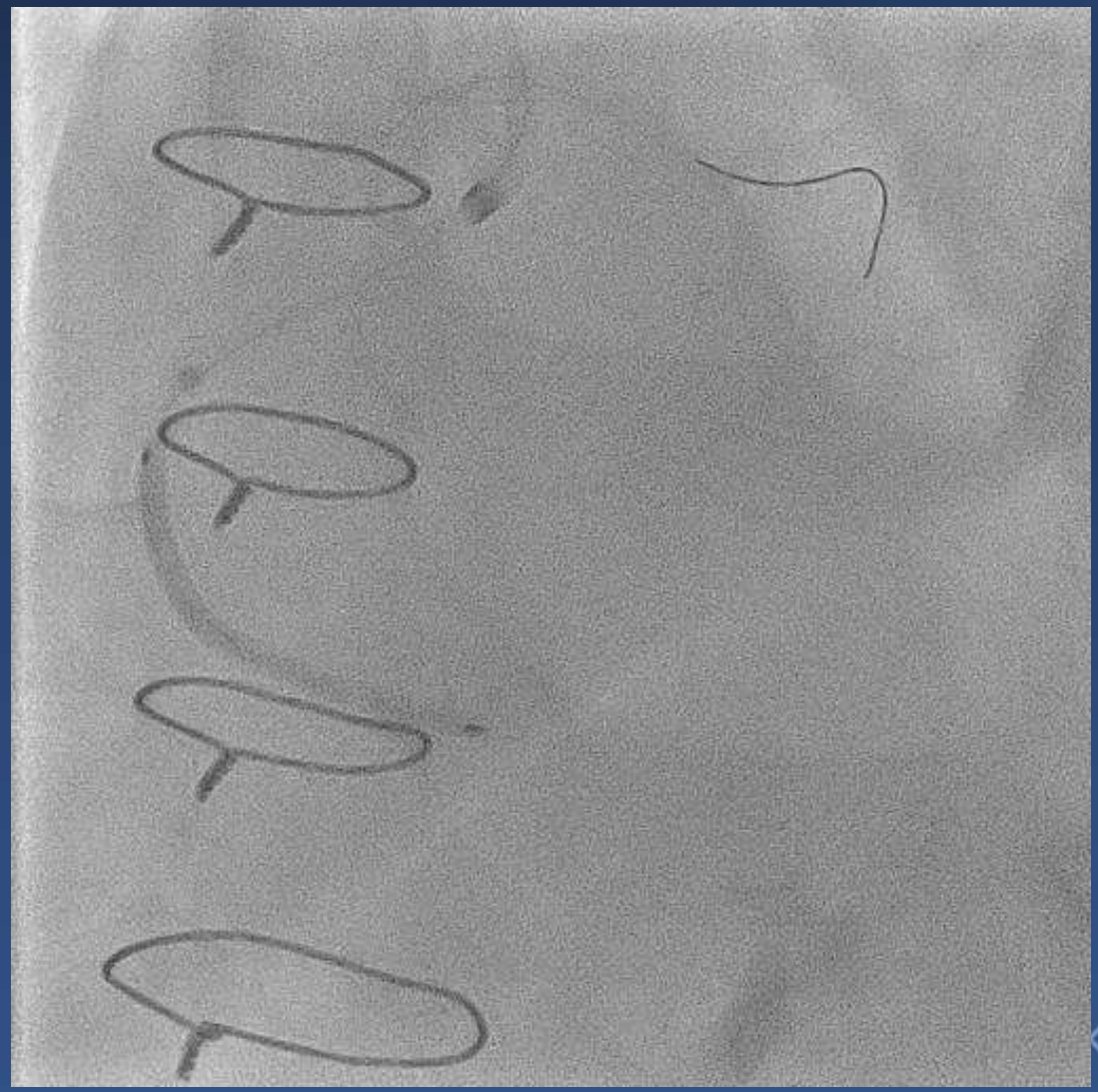


Reverse CART

Antegrade GN3 and Retrograde UB3

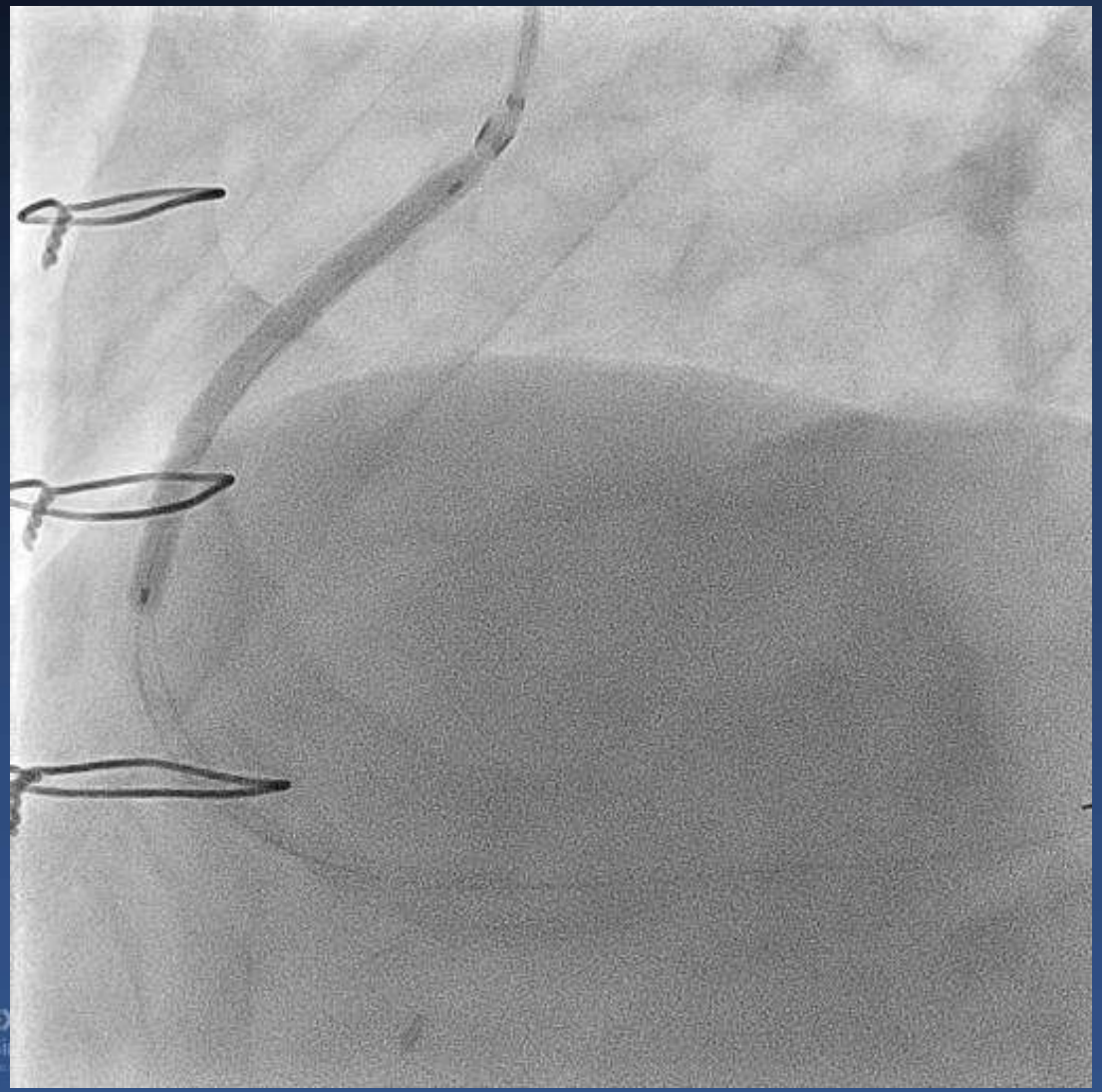


XienceXpedition (2.5*48)

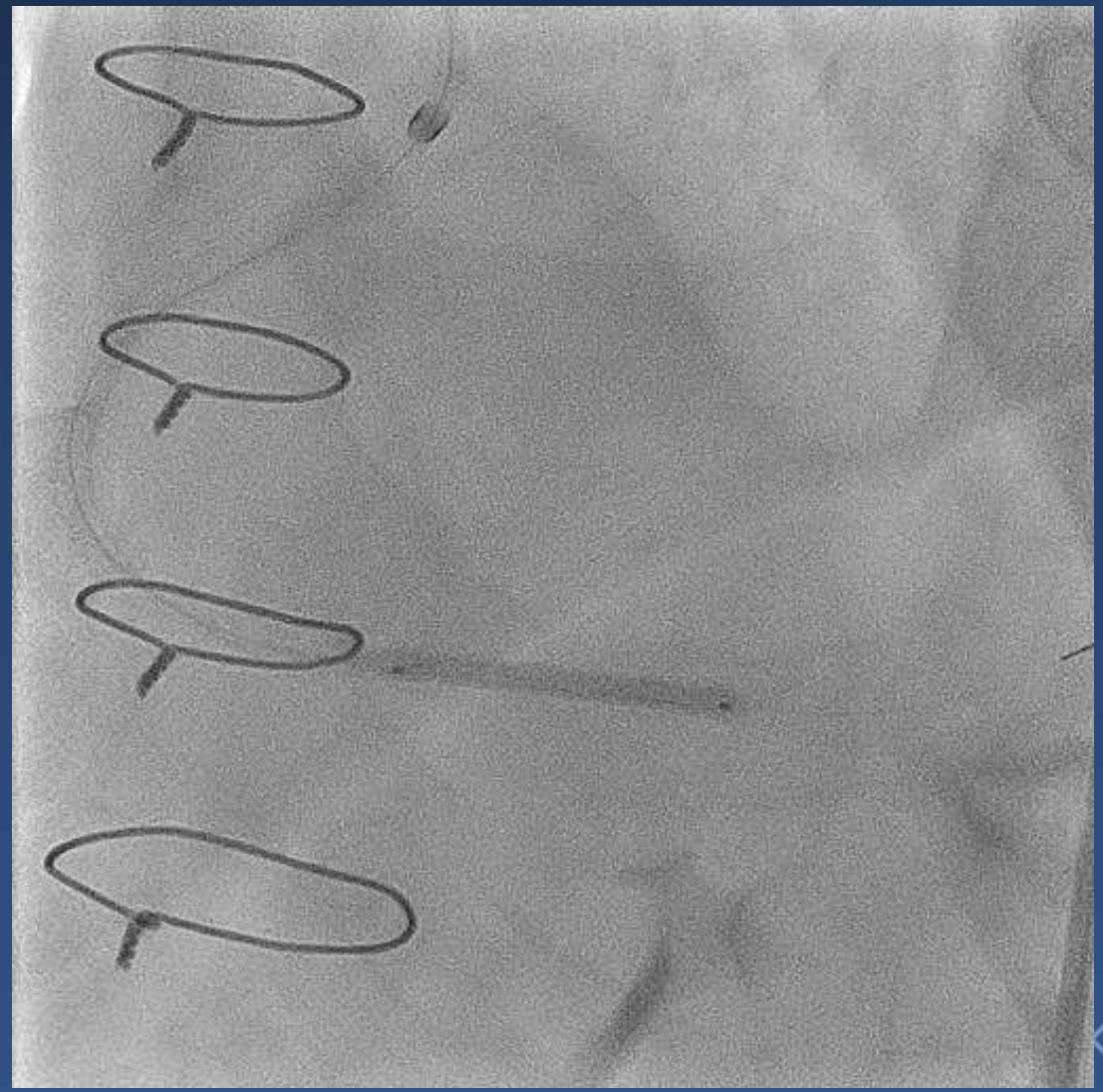


Stenting

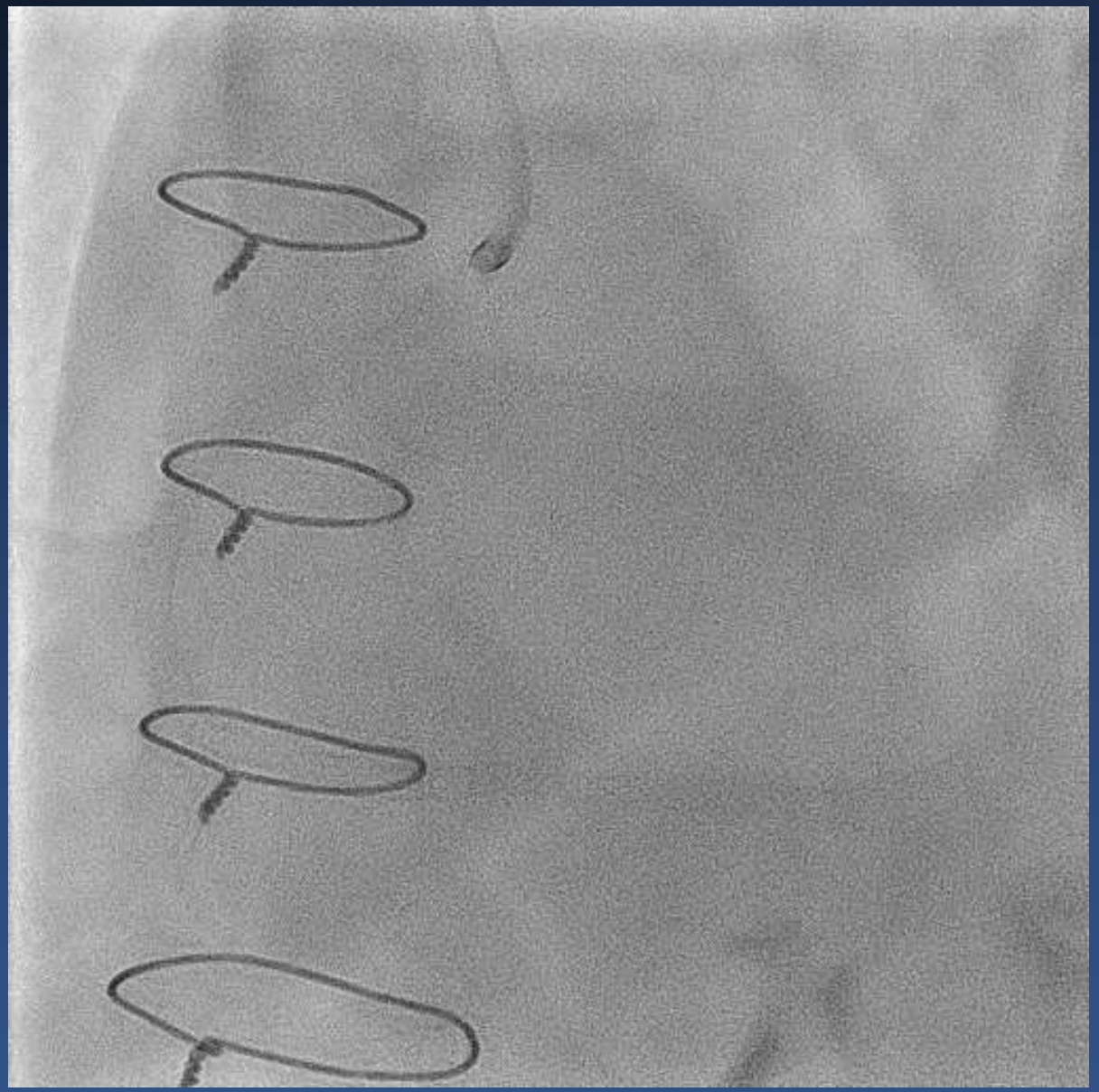
XienceXpedition (3.0*48)



XienceSiera (2.5*28)



Final angio



Discussion Points

1. How to understand native coronary, graft and collateral anatomy

   Which is better CT or angio?

   - CT can be checked before procedure in advance.
   - Angio with triple injection will be checked at PCI procedure.

2. Guarantee of retrograde approach
   - Septal, Atrial channel or Kugel's artery?
   - After opening native coronary CTO and approach to collateral?

Take-home Message

- CT information is useful in CTO-PCI procedure, as you know, but also useful in decision of CTO-PCI indication.
- Some CTO lesions that seem difficult at first glance can be tre ated by fully understanding lesion morphology with CT.