

# CHIP case – Protected PCI

Complex Retrograde RCA–CTO PCI via LIMA graft  
made possible with the Impella®  
Ventricular Support Device

**Dr Sidney Lo, Liverpool Hospital, SYDNEY, AUSTRALIA**

# 61 year old male

S/p CABGx3 2002 : LIMA-D1-LAD + SVG-OM

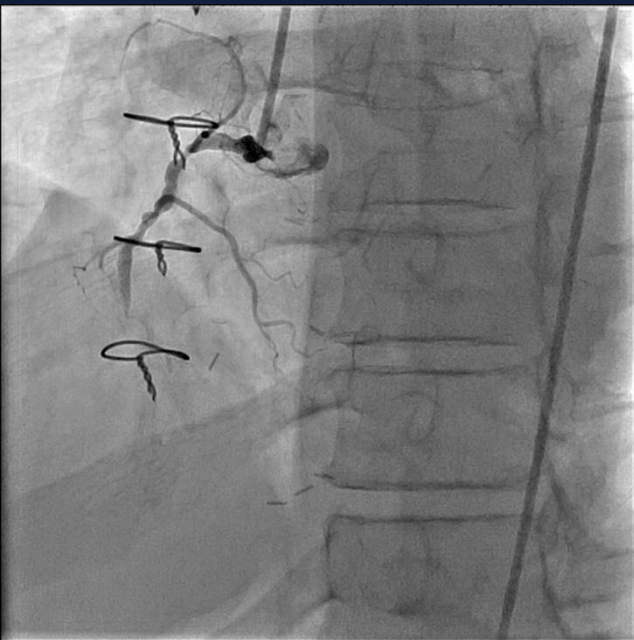
Risk Factors: Hypertension, Hyperlipidaemia

Refractory CCS III angina

Stress Echocardiogram : Inferior Ischaemia@4min

Normal resting LV function

Normal renal function



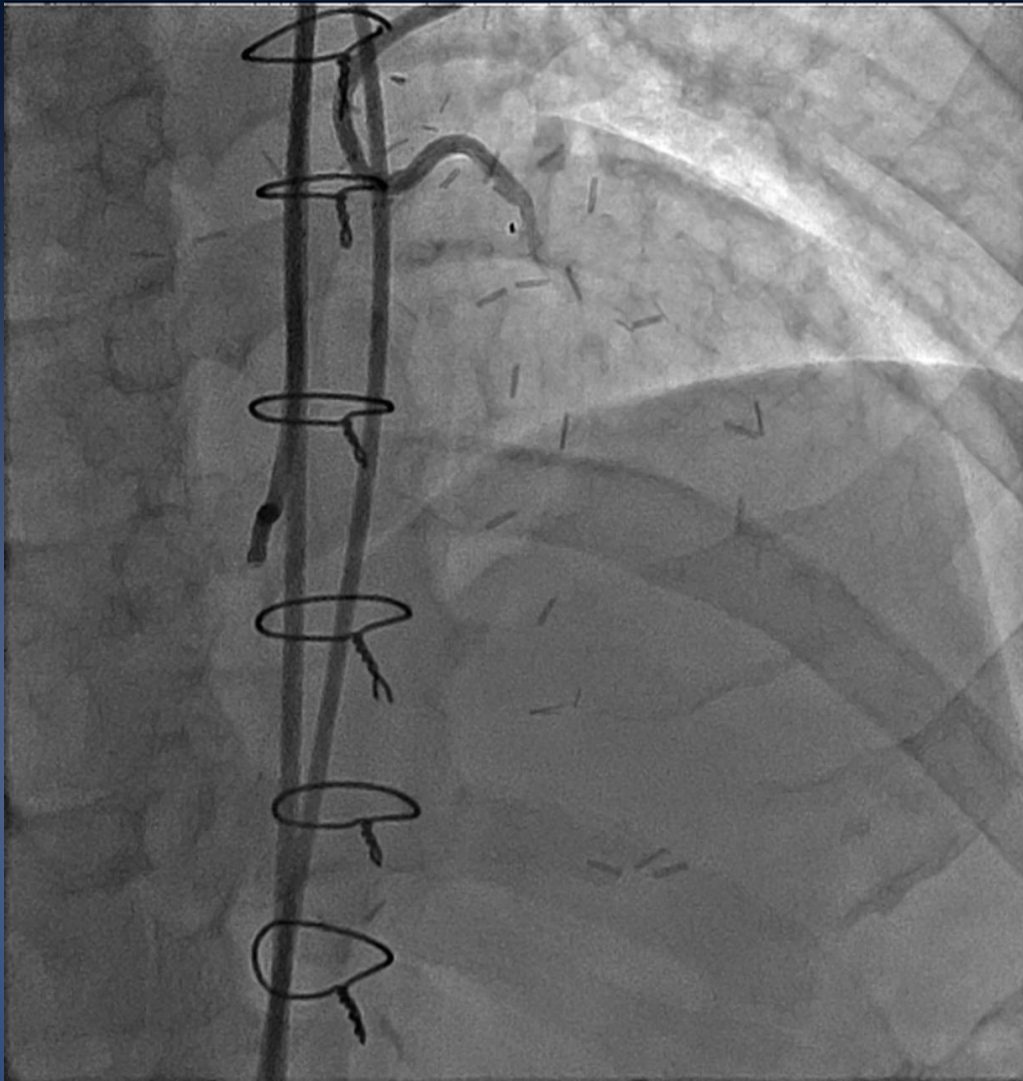
**Long Mid RCA CTO  
Proximal and mid  
diffuse disease**



**Occluded Ostial LAD  
+ proximal LCx**



**Patent SVG-OM**



PATENT LIMA-D-LAD

DISTAL LAD epicardial collateral to RPL

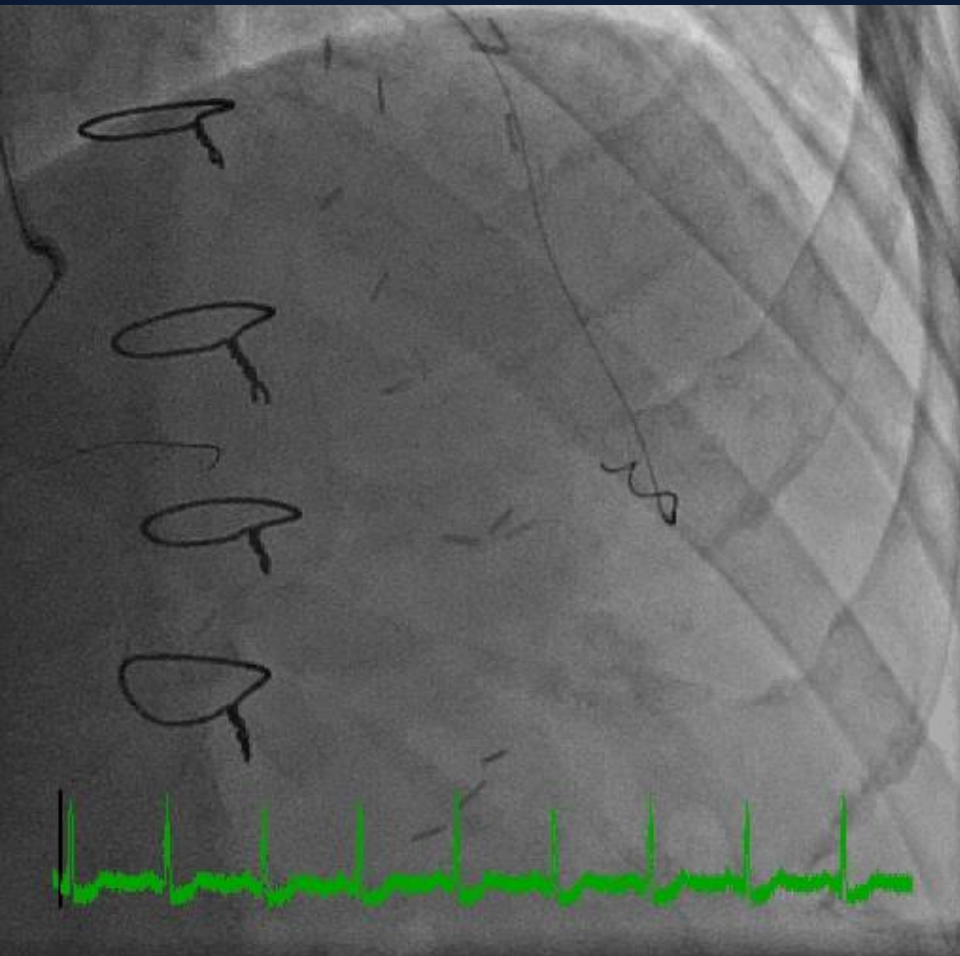
# Heart TEAM

Not for Re-do CABG for single vessel RCA disease

In view of patent LIMA-D-LAD and SVG-OM

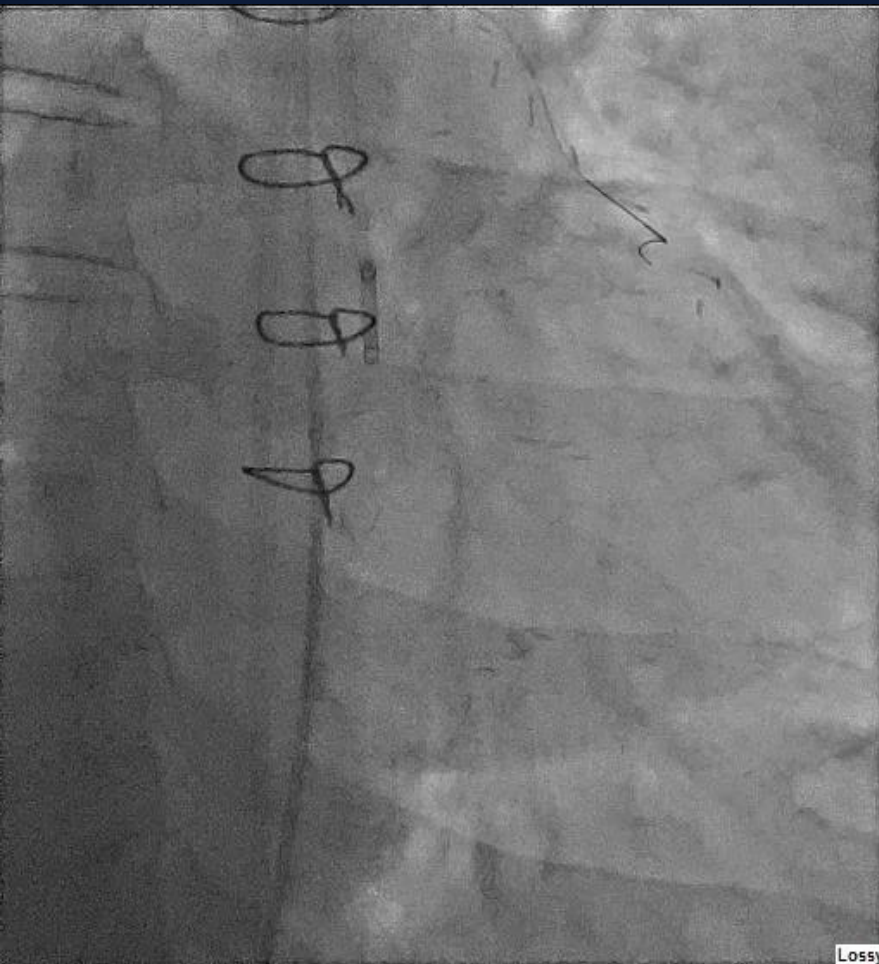
Risks of re-Do CABG

RCA-CTO PCI Recommended



## FAILED CTO-PCI attempt #1

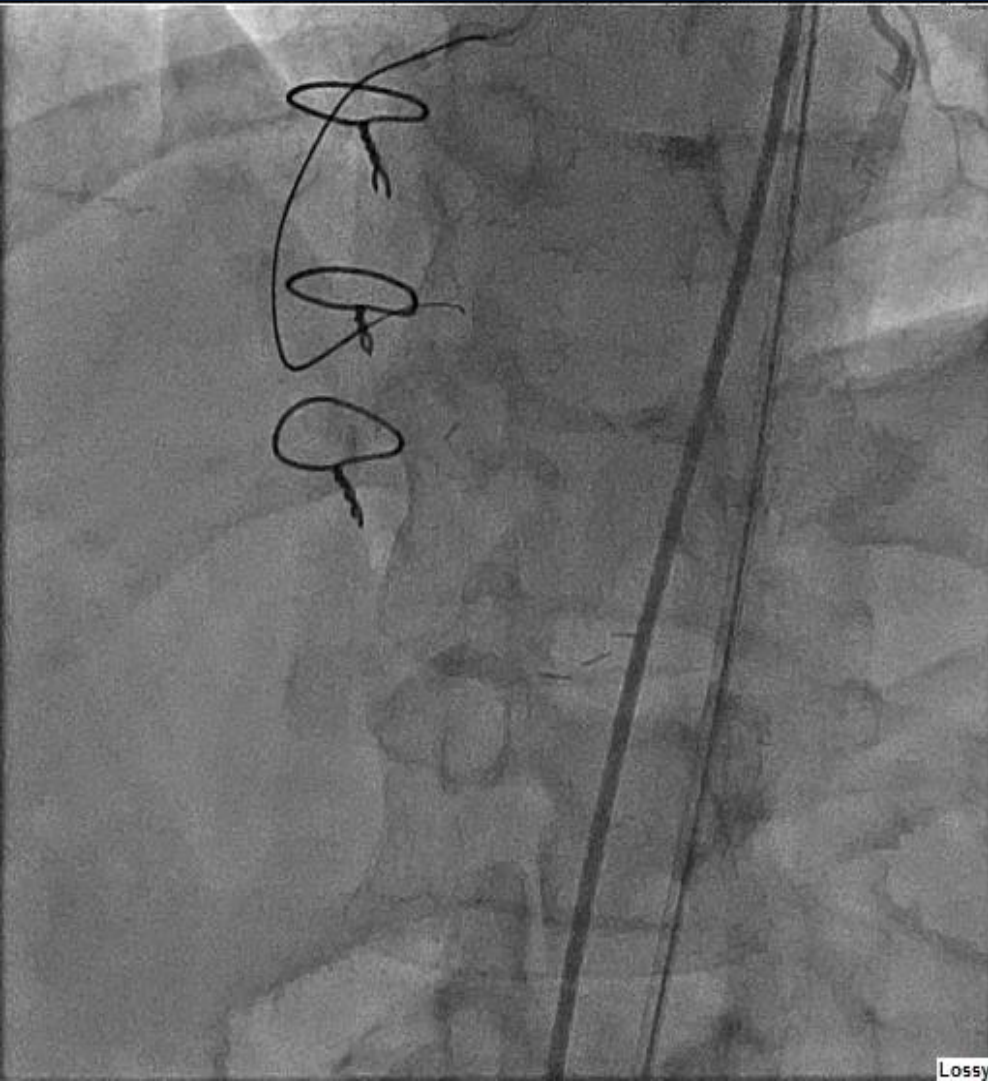
- 1) Inability to cross antegrade to distal cap
- 2) Severe symptomatic ischaemia with haemodynamic compromise due to LIMA and epicardial collateral occupation



## Failed RCA-CTO PCI attempt #2

1) Inability to find LAD-septal collaterals to PDA





2) Subintimal Antegrade wiring

3) Bifurcation occlusion risk

Procedure abandoned

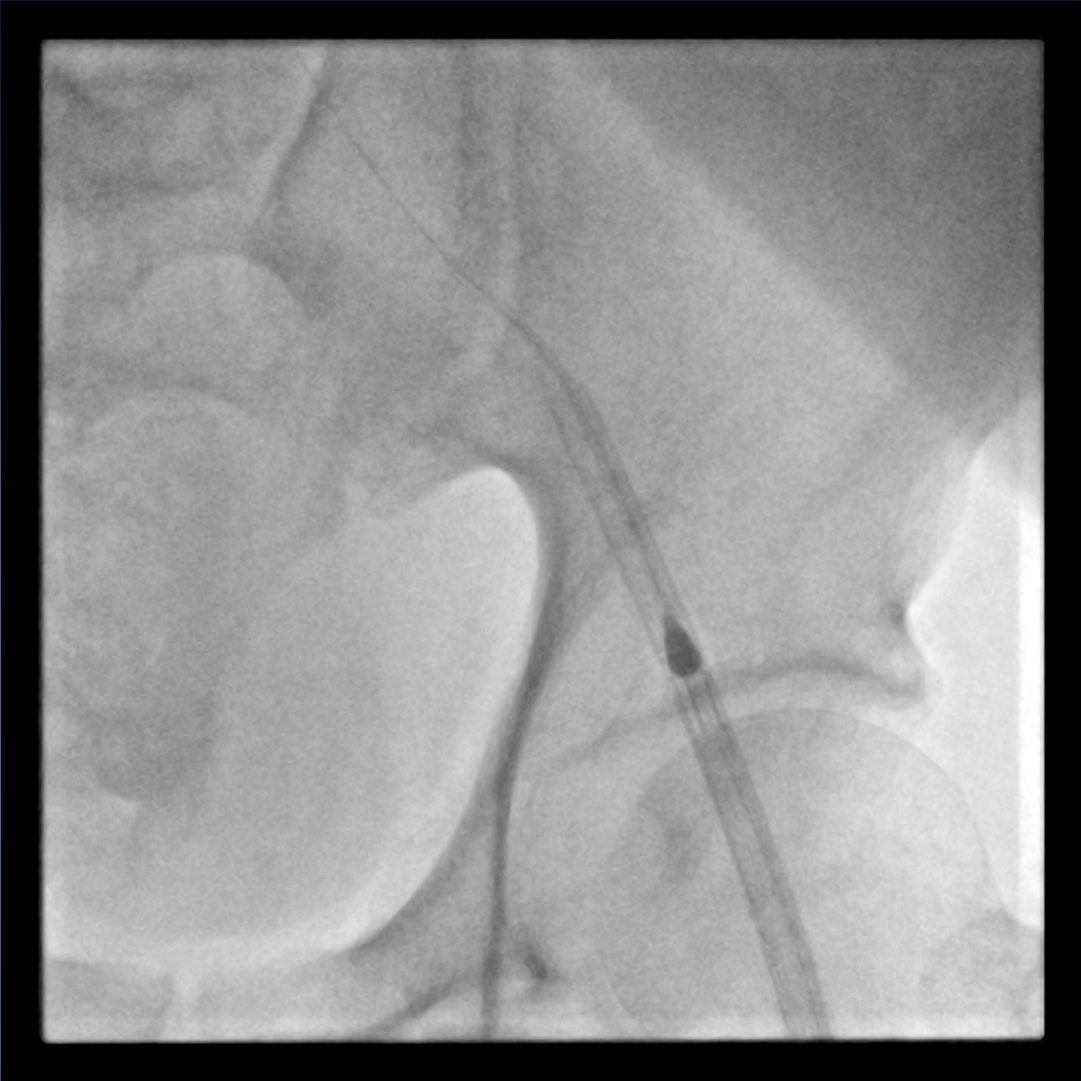


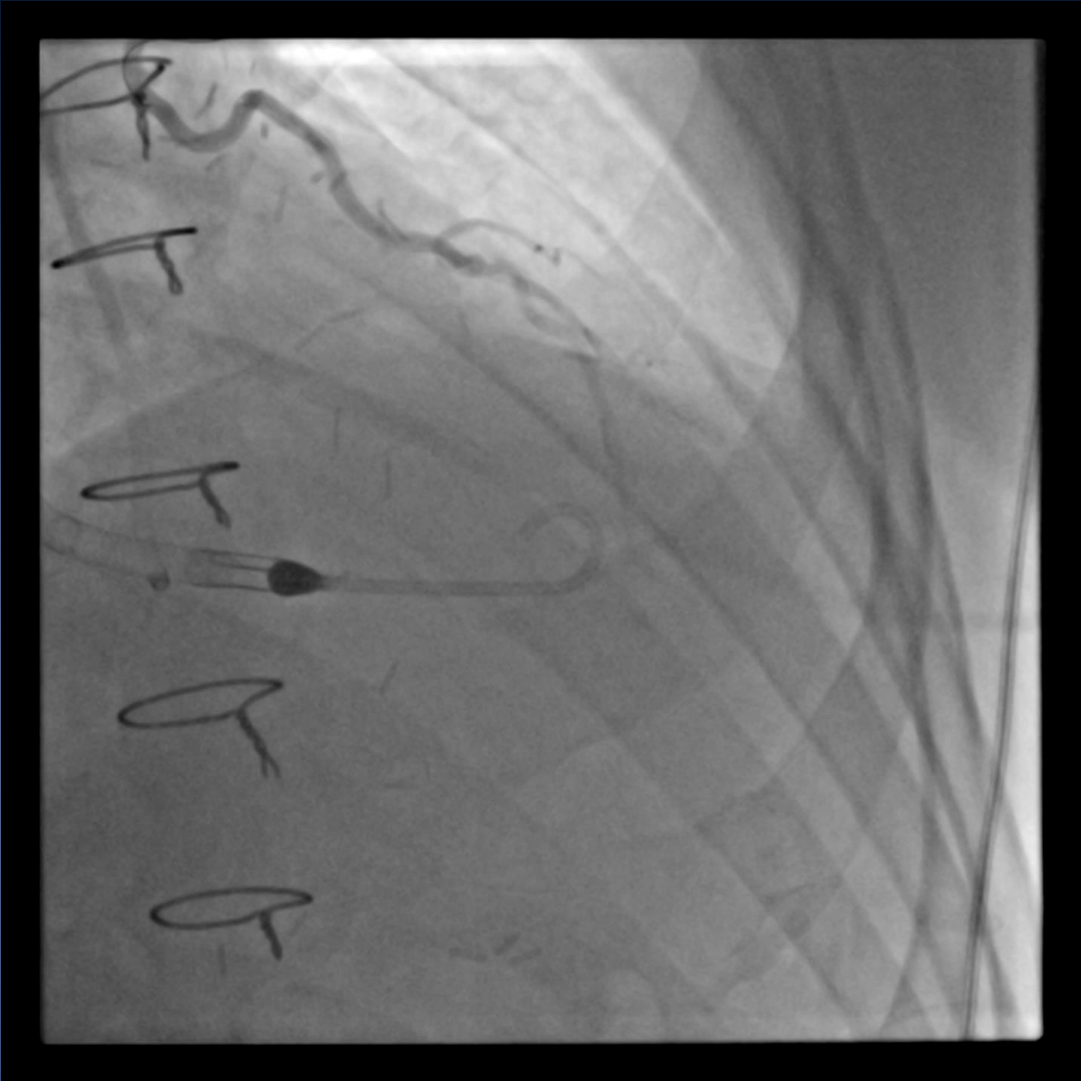
# Referred to my hospital for RCA-CTO PCI

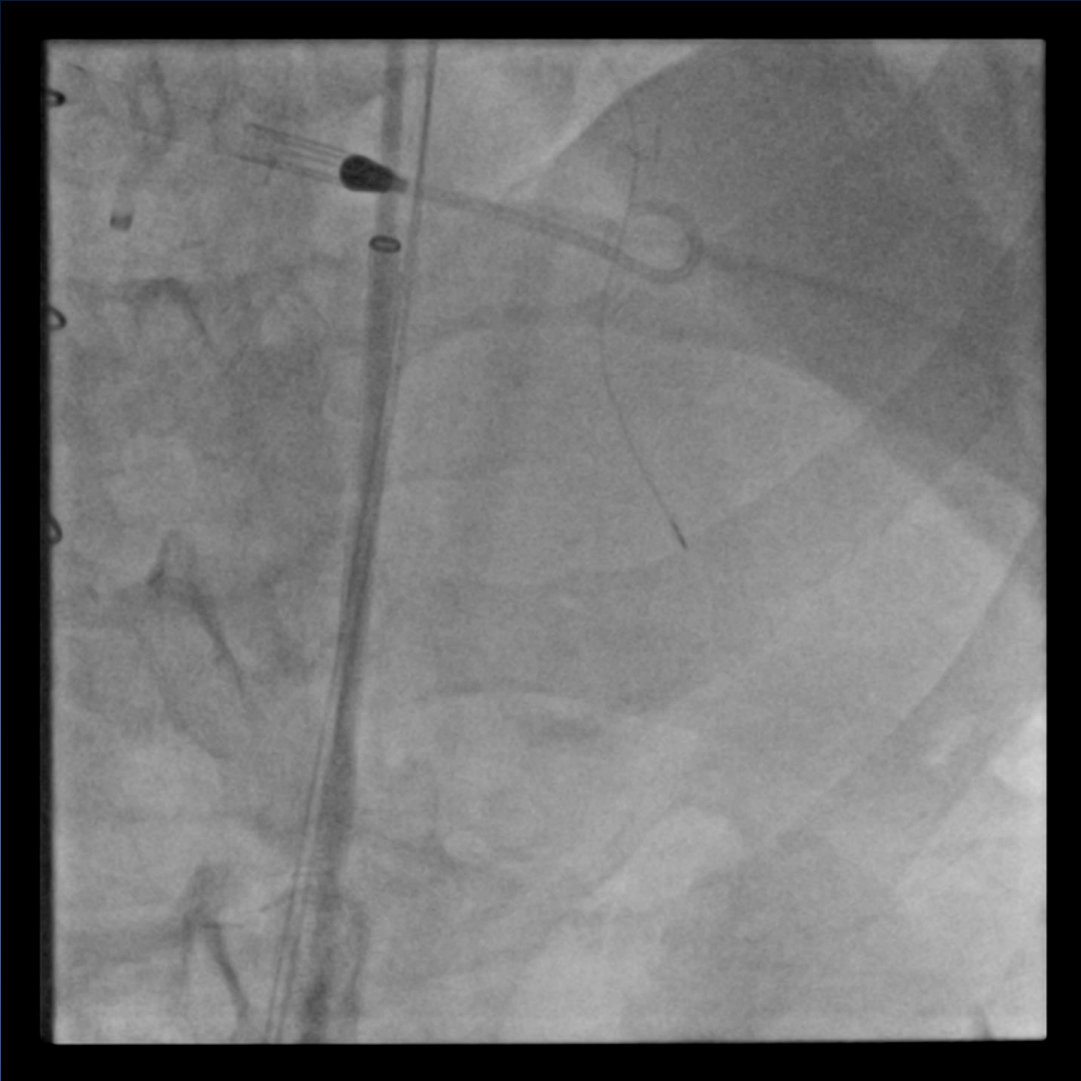
- Extensive discussions with patient
- Subsequent family conference explaining risks
- Patient accepted risks and agree to proceed

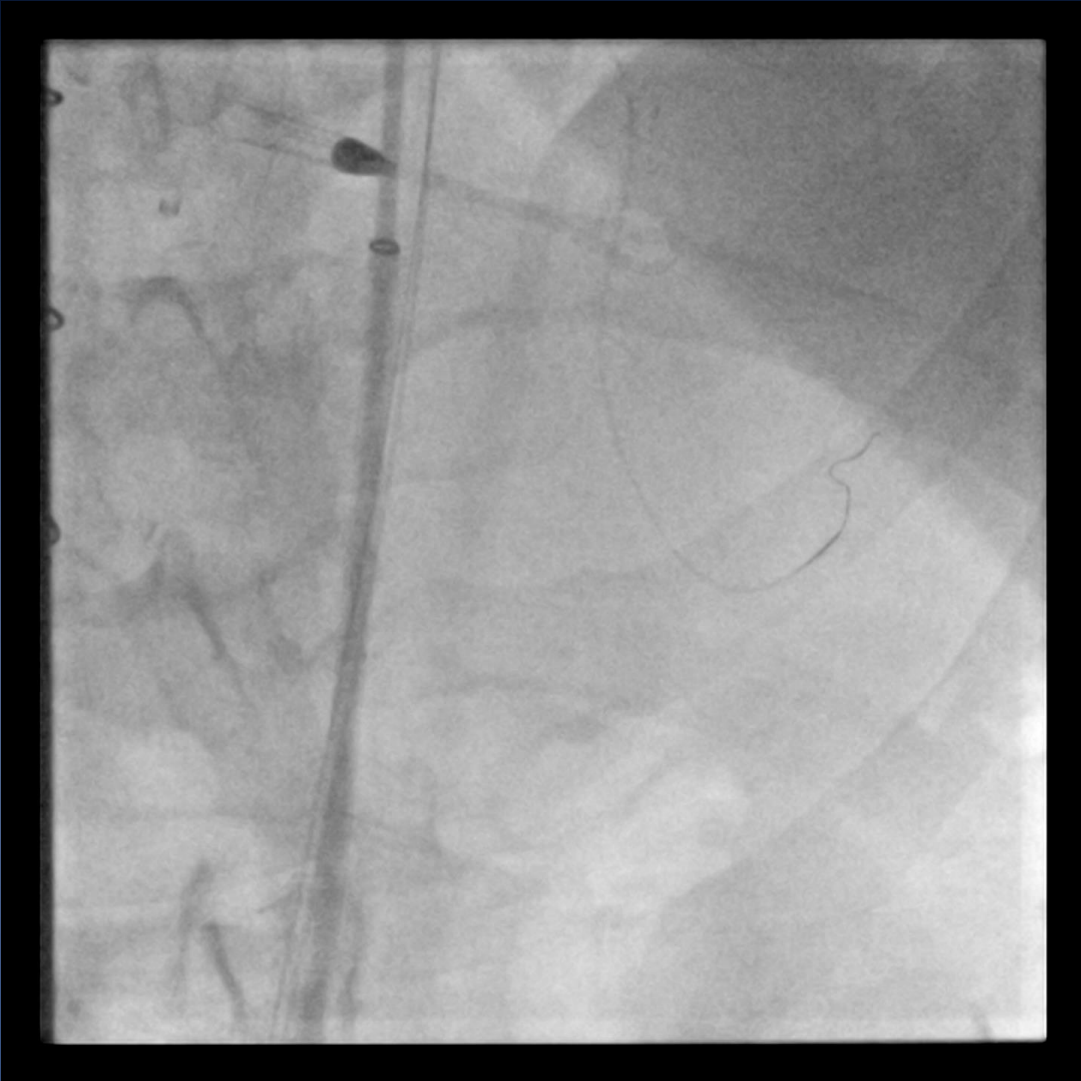
# Protected-PCI strategy

1. GA
2. Bilateral Femoral Artery and L Brachial Artery Access
  - \* LFA (Impella CP): 14Fr Impella sheath + Impella CP  
[Pre-Perclose 2x Perclose Proglide]
  - \* RFA (Antegrade) : 8F AL 1.0 SH Guiding Catheter
  - \* Left brachial artery cut-down (Retrograde via LIMA):  
8F IM SH Guide (cut shortened from 100 to ~ 75cm)



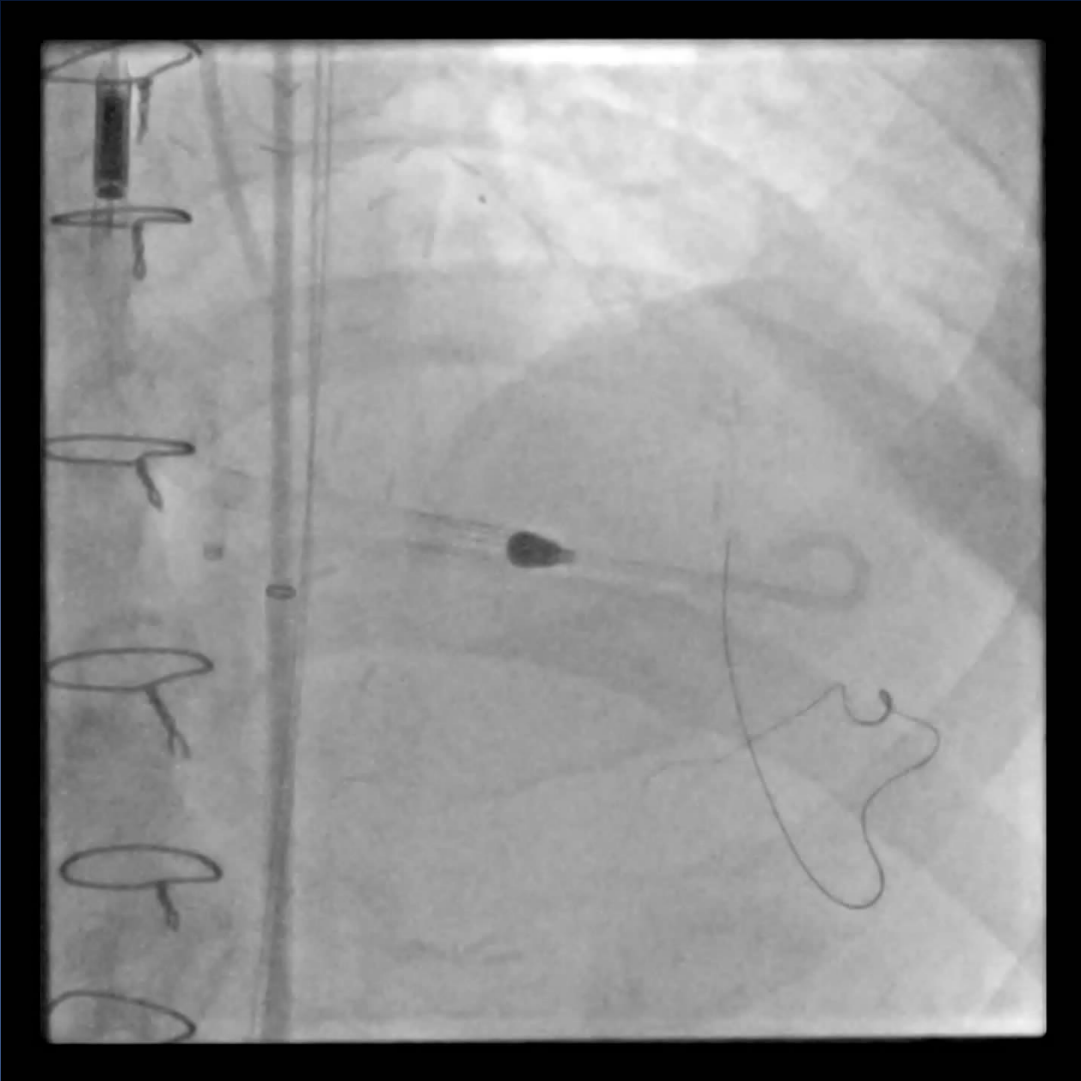










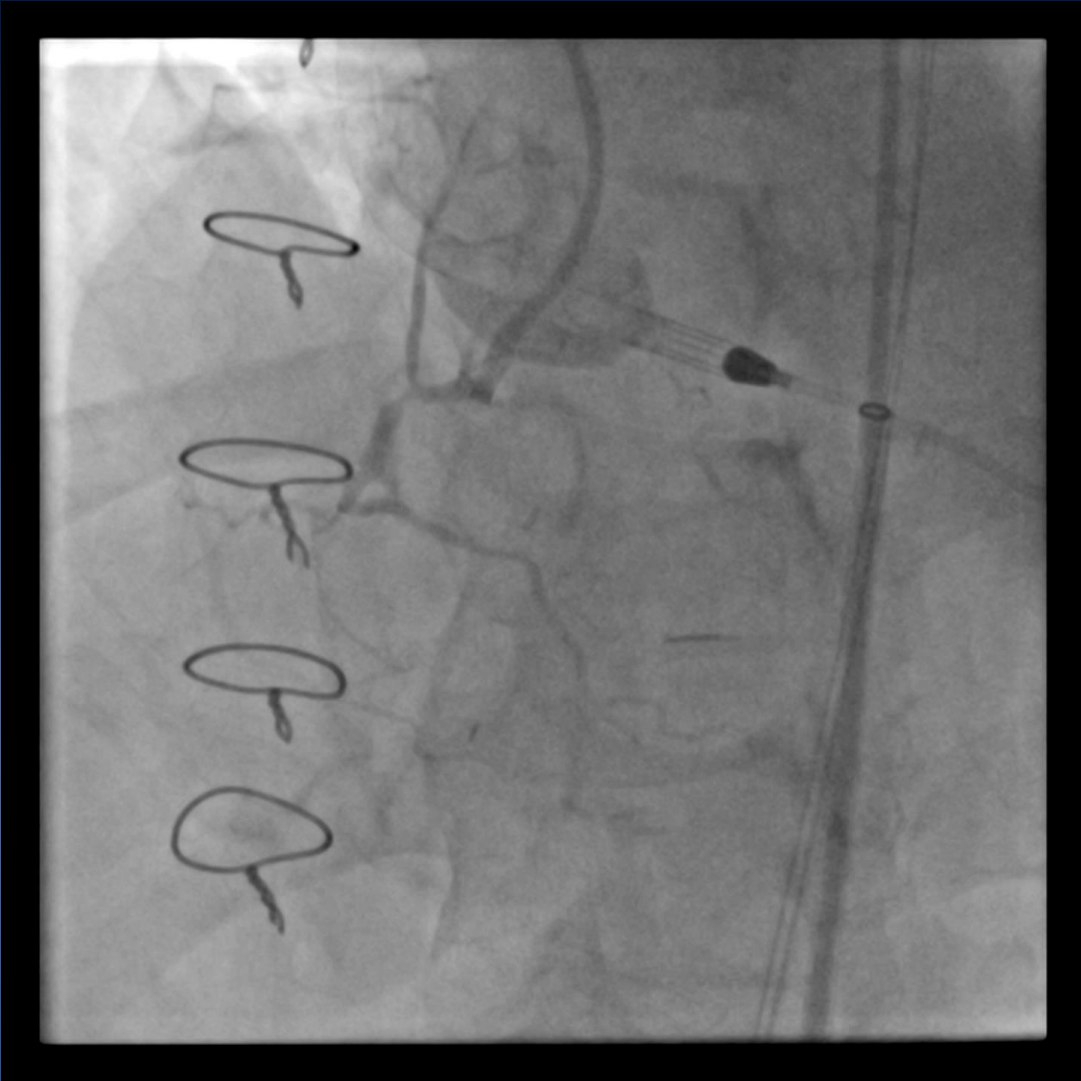




**Baseline**

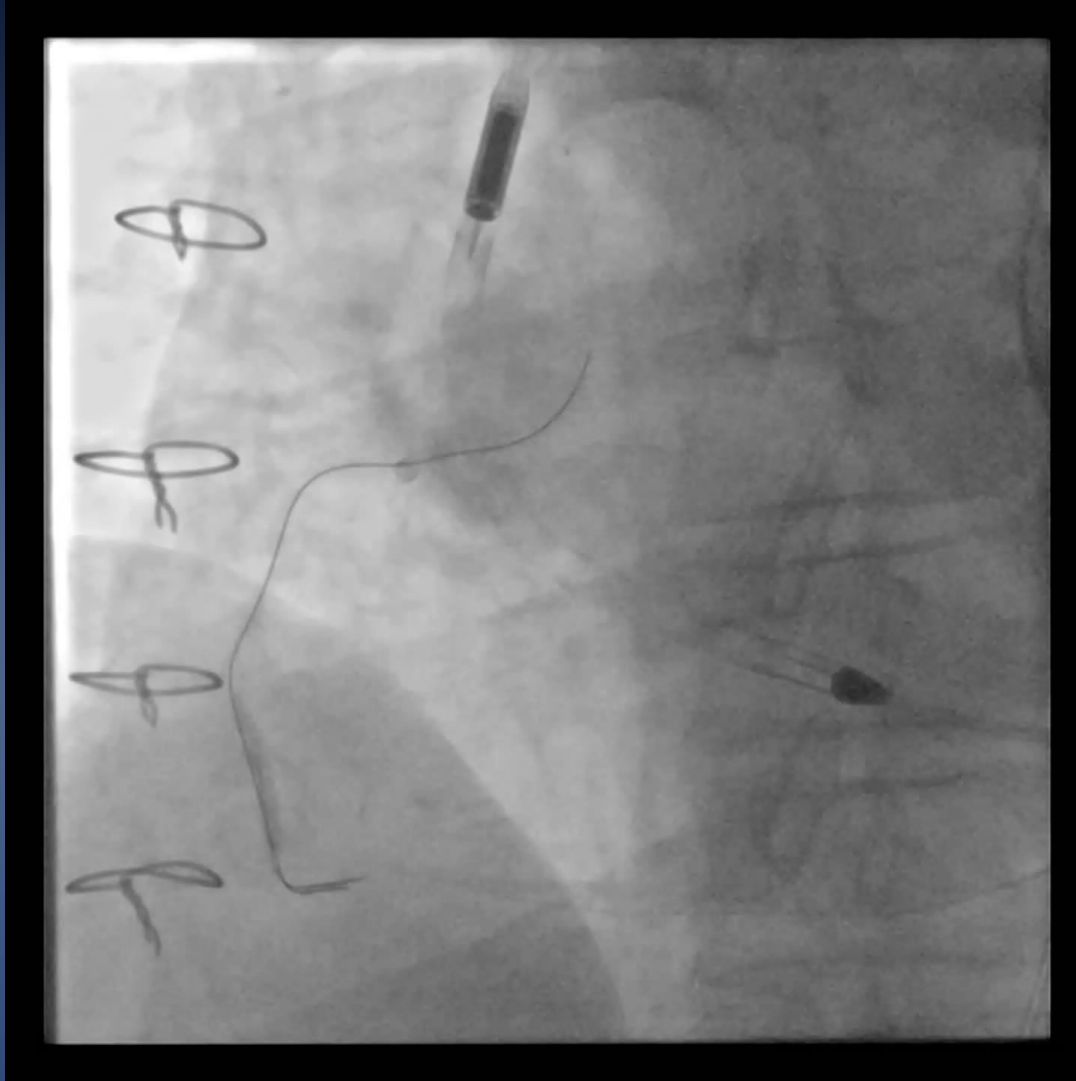


**During LIMA-LAD  
and epicardial  
collateral occupation**



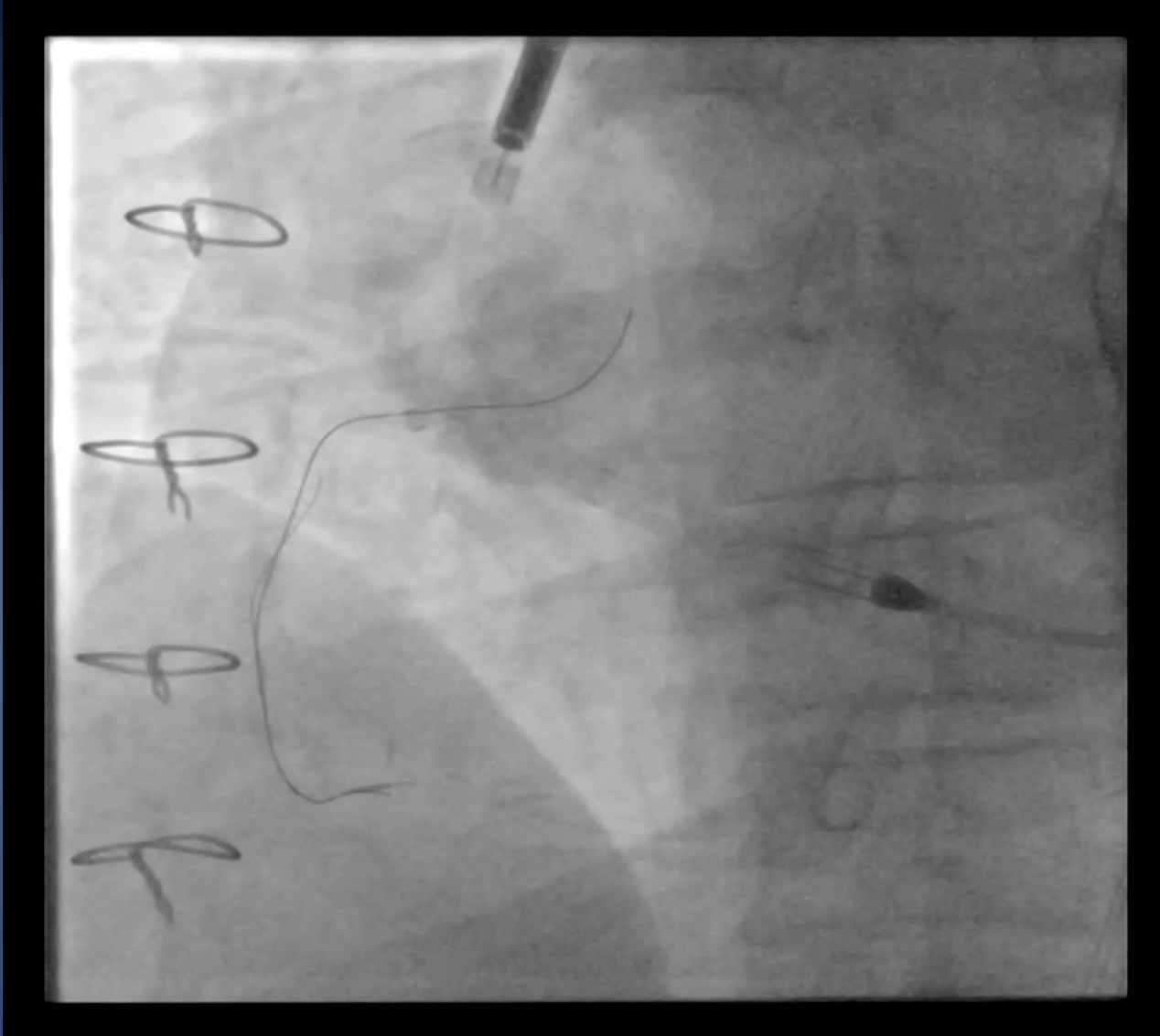


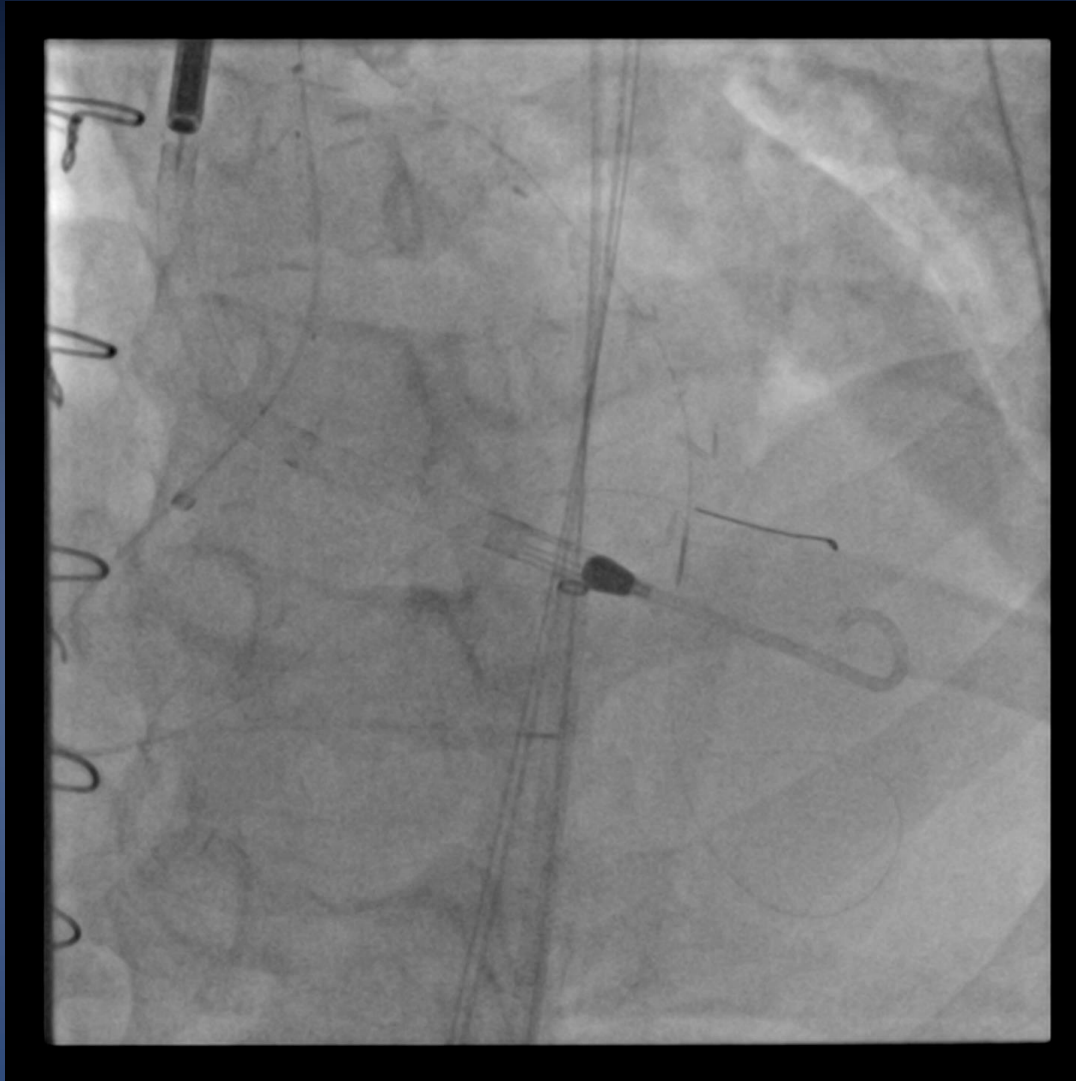
**Sion Black  
knuckle wire  
retrograde**



# Reverse CART Antegrade 2.5m m balloon







Retrograde Kit moved back to LAD after wire externalization

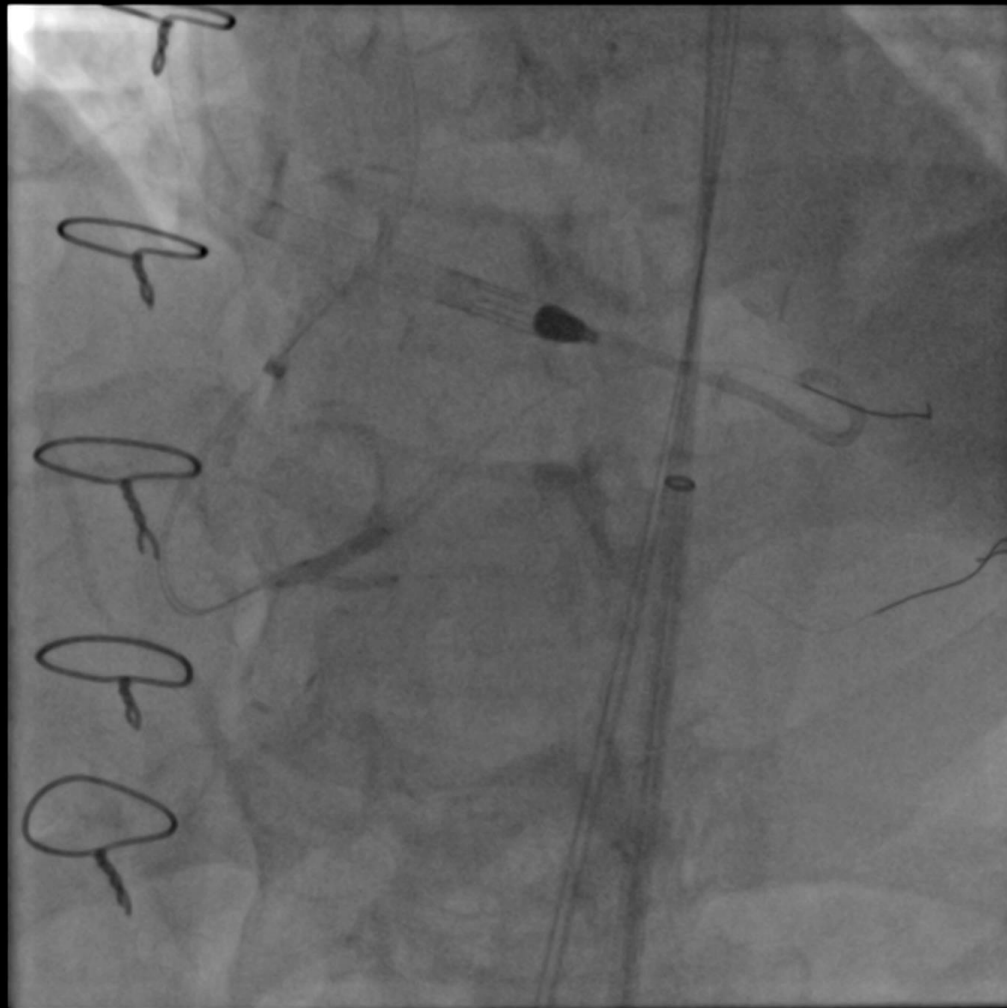
ISCHAEMIA RESOLVED

Wiring of RPDA with Sasuke (dual lumen microcatheter)

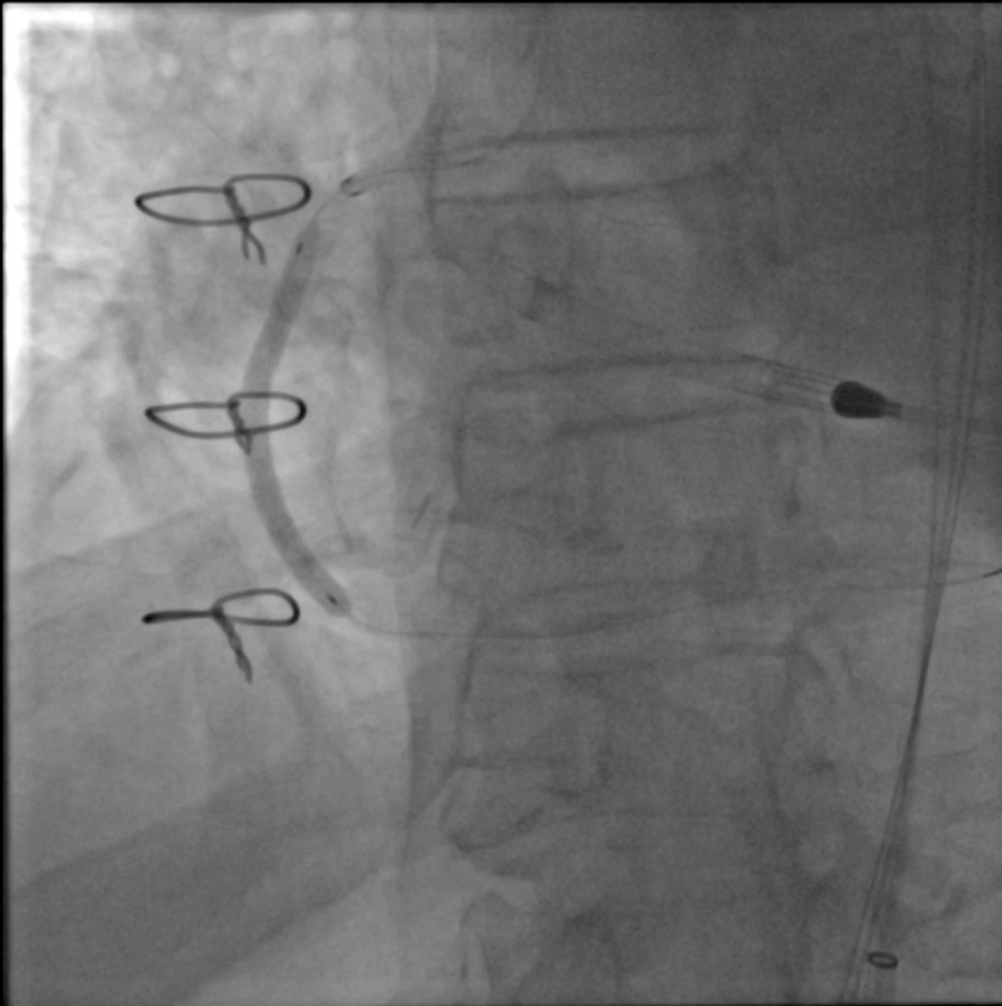


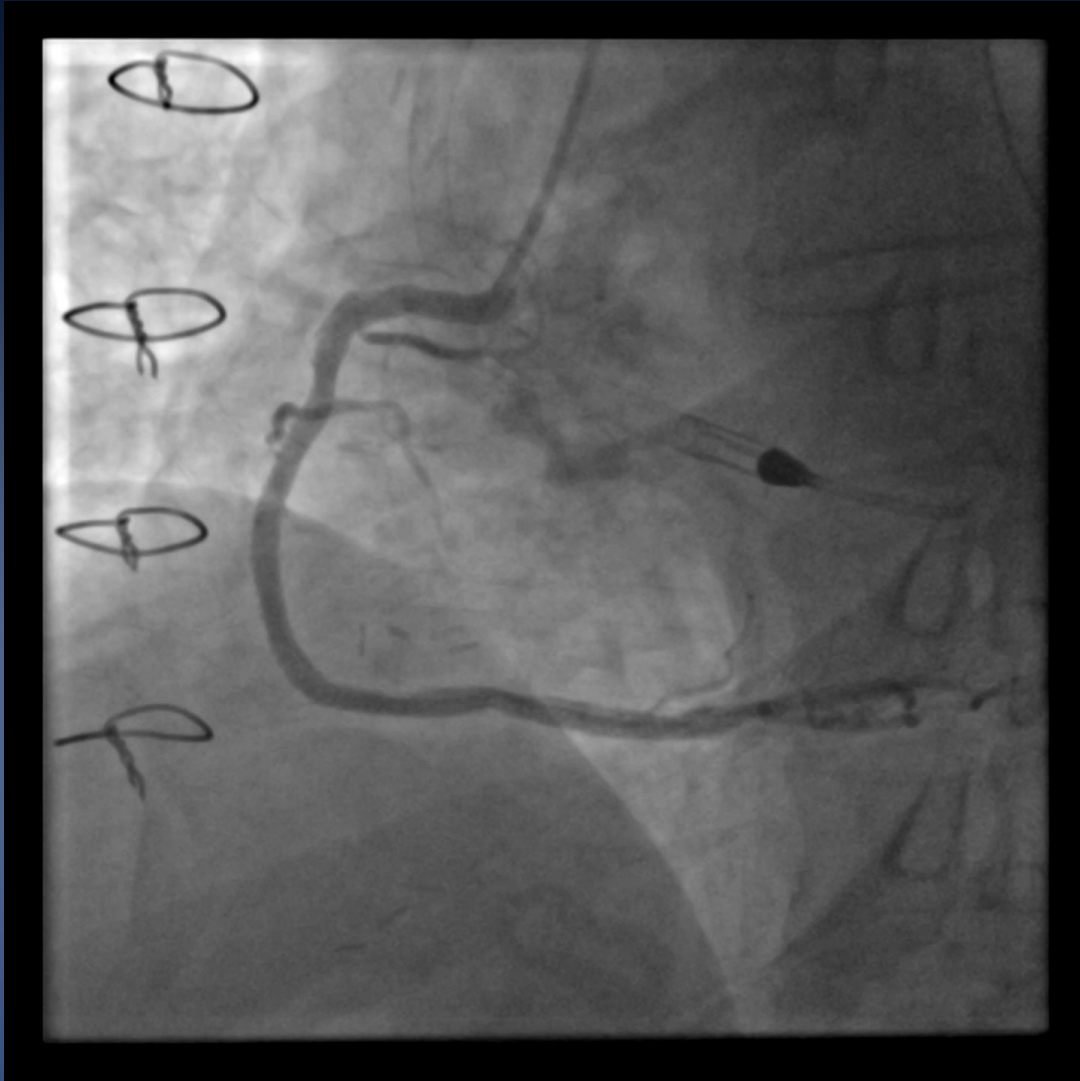
**AFTER IVUS exam**  
**First DES into RPL**

# KISSING POBA of RPDA



2 more DES  
proximally





## 3 DES Proximal RCA to RPL





No femoral  
access site  
bleeding

# Progress

- Troponin 160ng/L
- Excellent recovery
- Discharged 3 days later (surgical wound L brachium with drain)
- Angina free at 10 months follow-up