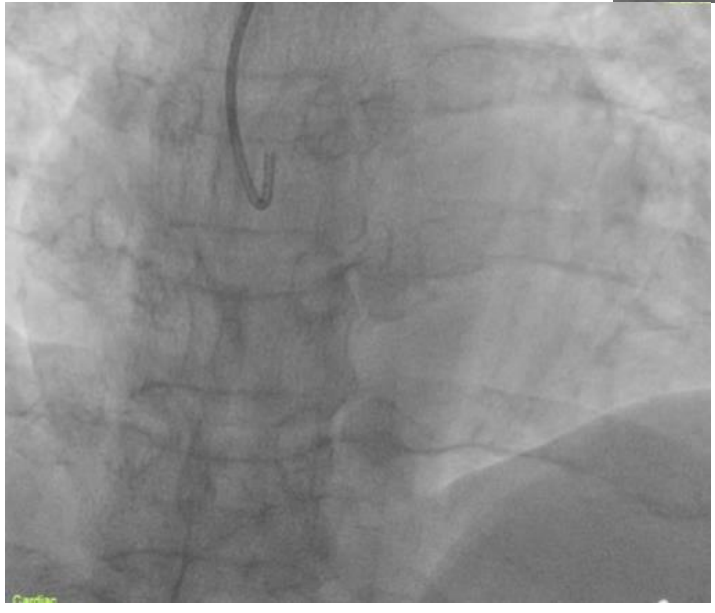
BI-RADIAL RETROGRADE CTO PCI

Dr Refai Showkathali
MRCP (UK), FRCP (Lon), FESC, FACC
Senior Cons Interventional Cardiologist
Apollo Main Hospital, Chennai
India

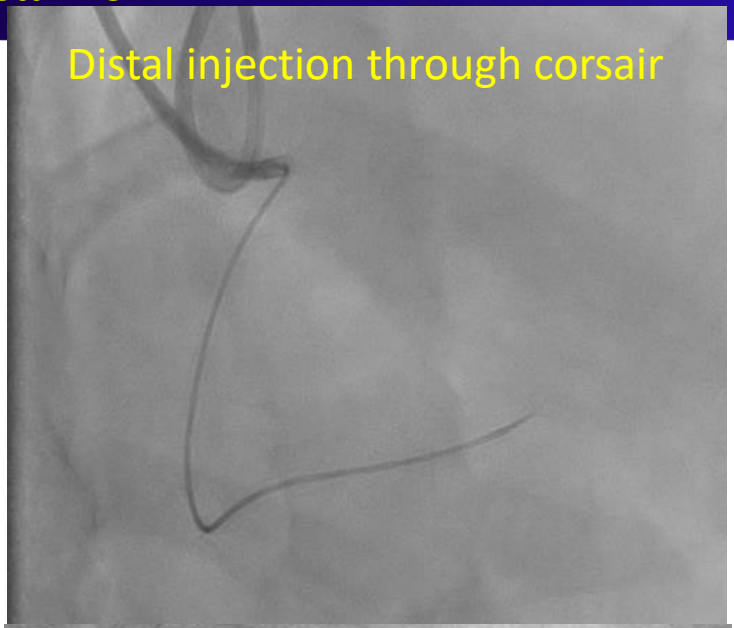
HISTORY

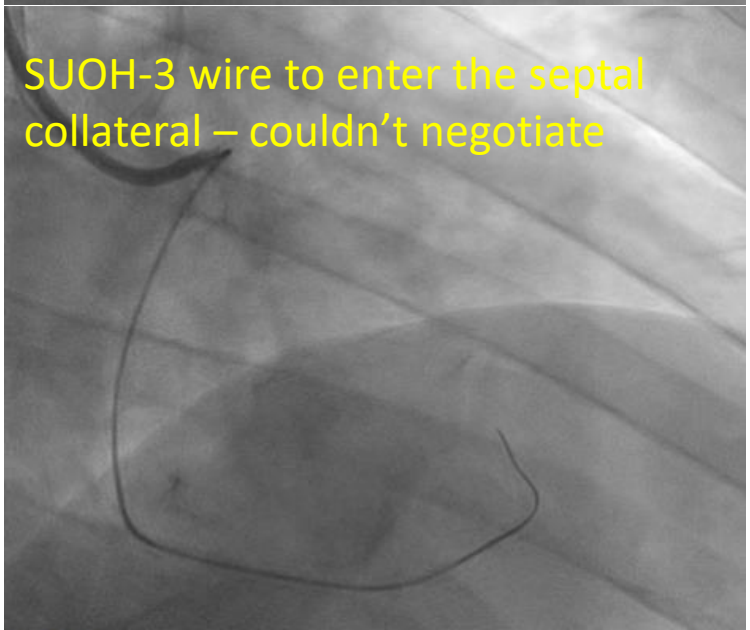
- 50-year-old gentleman
- NYHA class II angina
- Positive TMT (Feb 2020)
- CAG (Feb 2020) elsewhere – CTO of proximal LAD and severe focal LCx disease, RCA giving retrograde collaterals to LAD- failed PCI to LAD CTO (antegrade attempt) and advised CABG
- 9 months later presented to us with NYHA class III angina post COVID lockdown
- Repeat angiogram done confirmed same finding
- JCTO score- 3 (>20 mm, calcification, previous attempt)

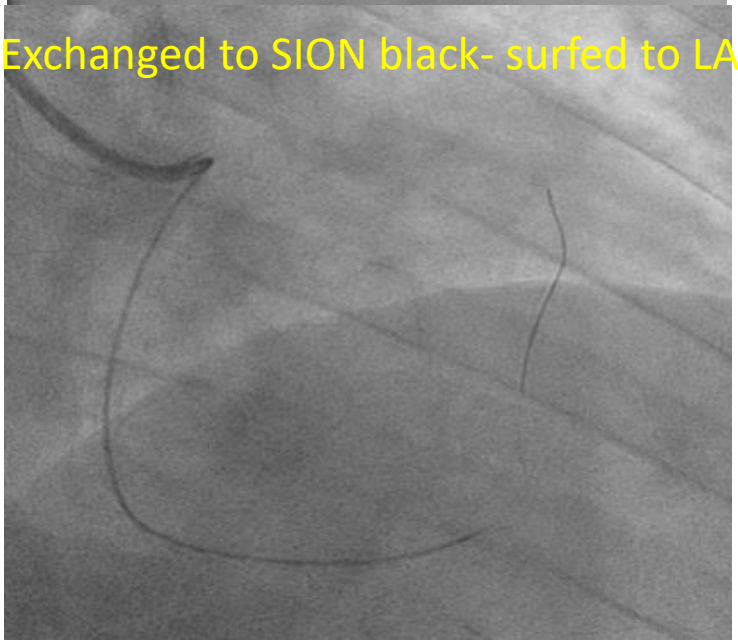
Coronary Angiogram

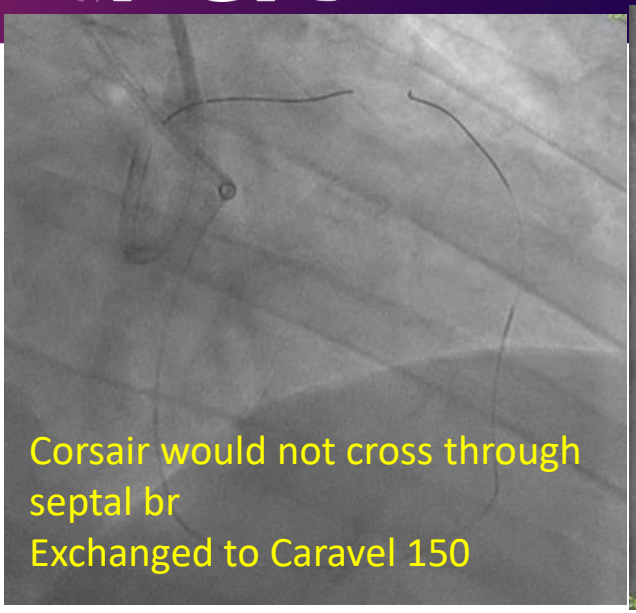


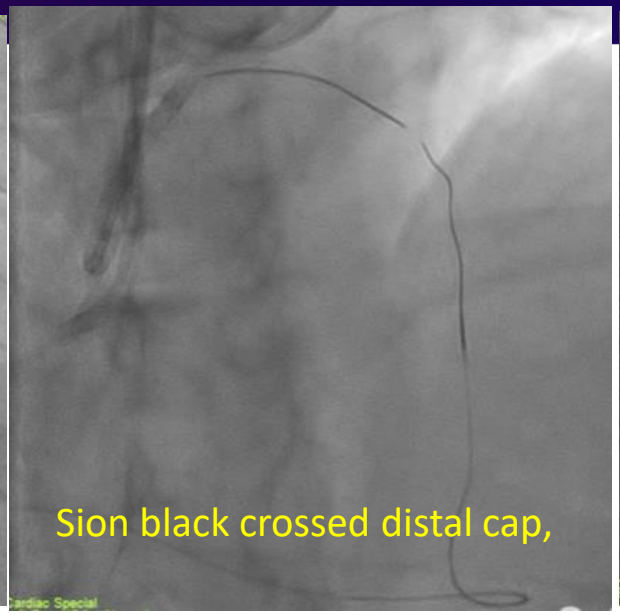
RRA/ 7F Glidesheath Slender (GSS)/7F EBU 3.0 GC antegrade
LRA /7F GSS/ 7F JR 3.5 GC for retrograde access
Corsair with Run-through wire to distal RCA

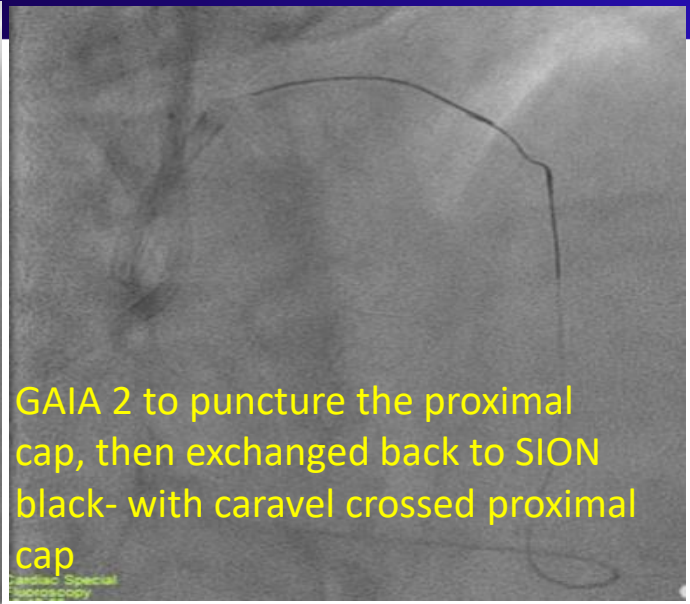


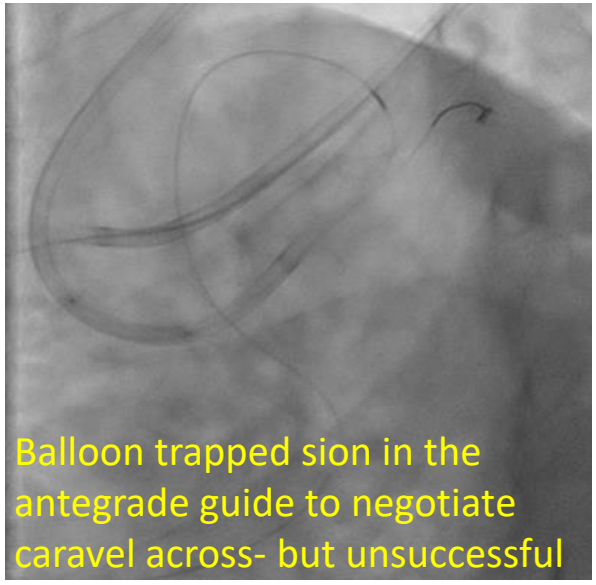


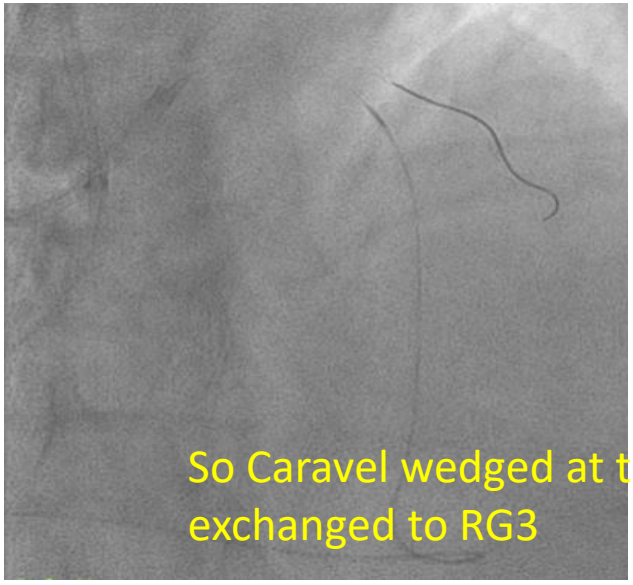


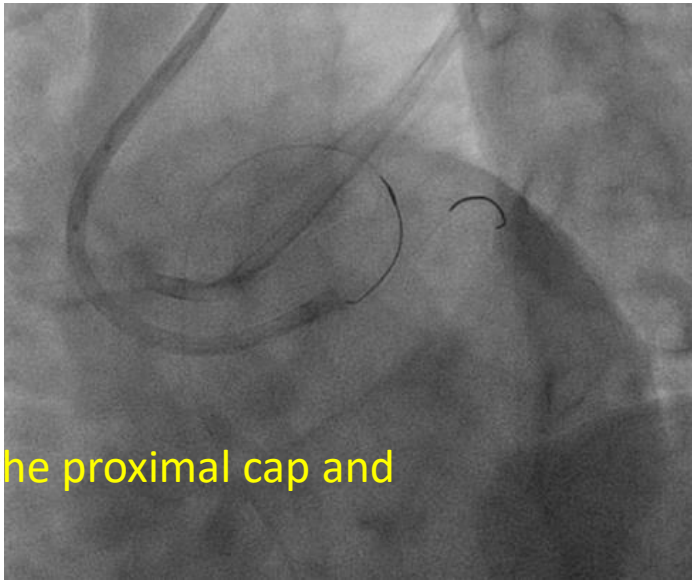

Corsair would not cross through septal br
Exchanged to Caravel 150

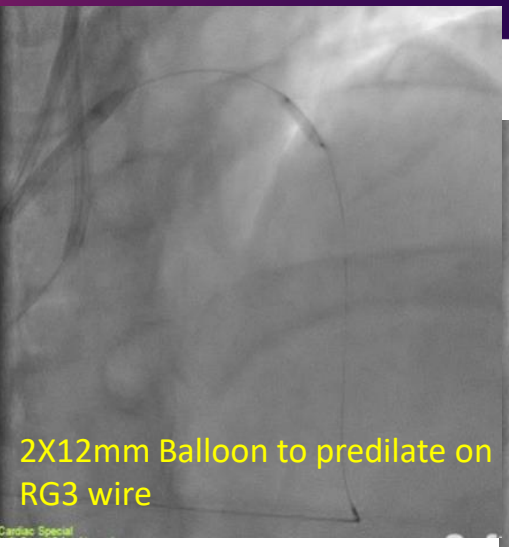

Sion black crossed distal cap,

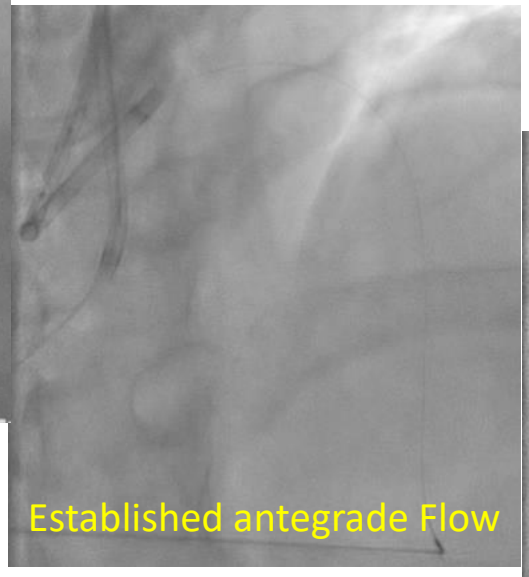

GAIA 2 to puncture the proximal cap, then exchanged back to SION black- with caravel crossed proximal cap

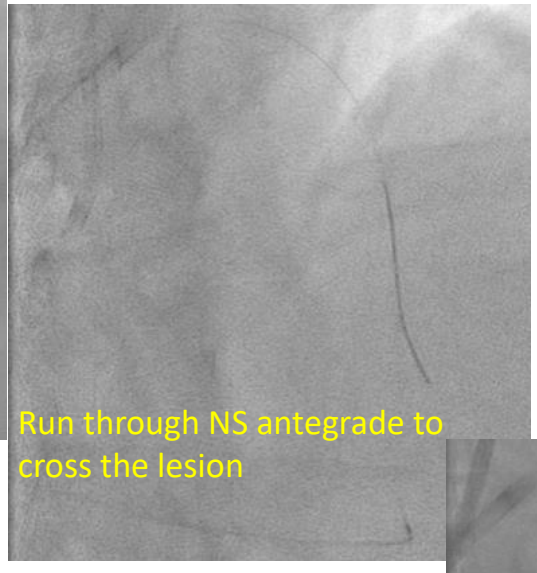

Balloon trapped sion in the antegrade guide to negotiate caravel across- but unsuccessful

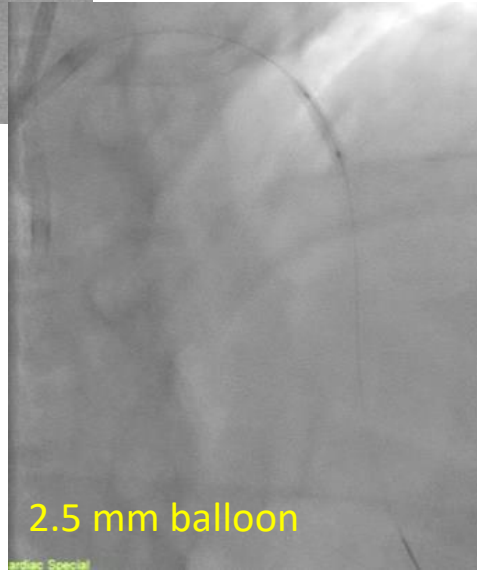

So Caravel wedged at the proximal cap and exchanged to RG3

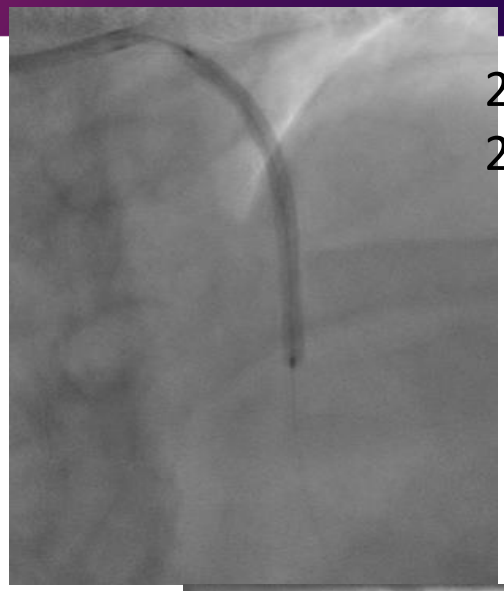



2X12mm Balloon to predilate on
RG3 wire


Established antegrade Flow

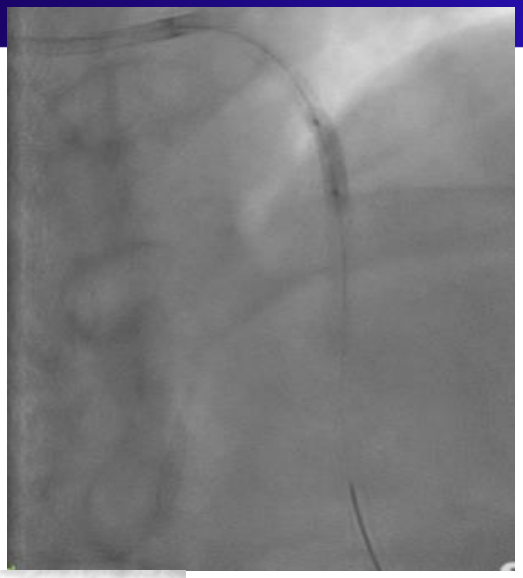

Run through NS antegrade to
cross the lesion

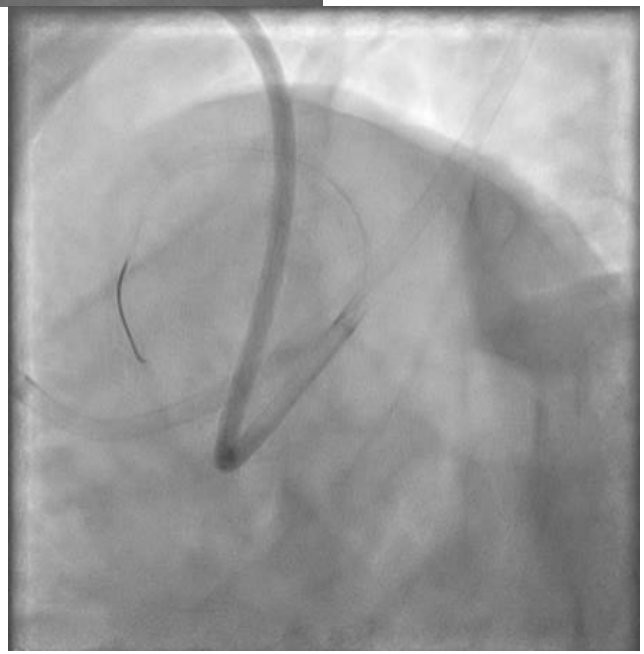

2.5 mm balloon



2.75 * 48mm DES

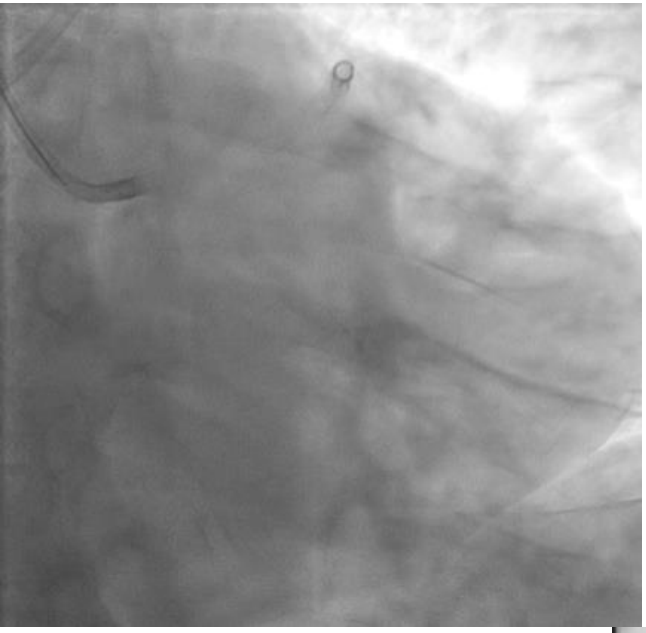
2.75 * 15mm balloon to post dilate

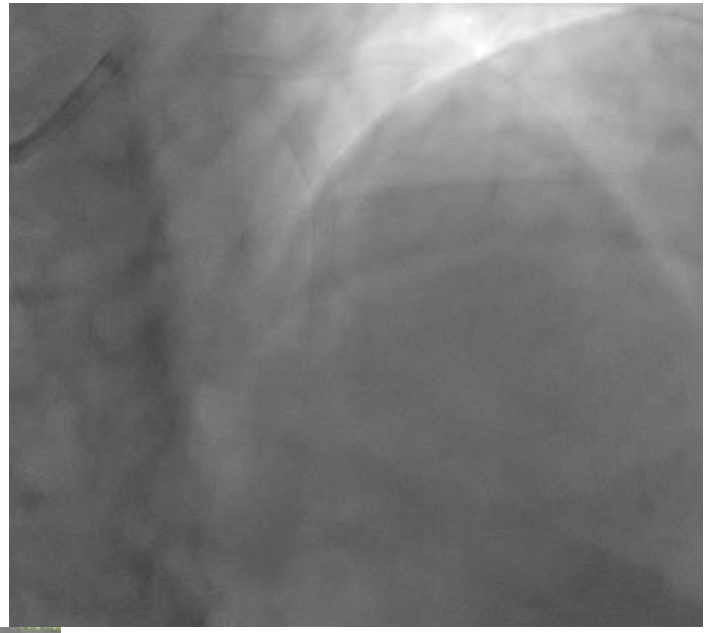


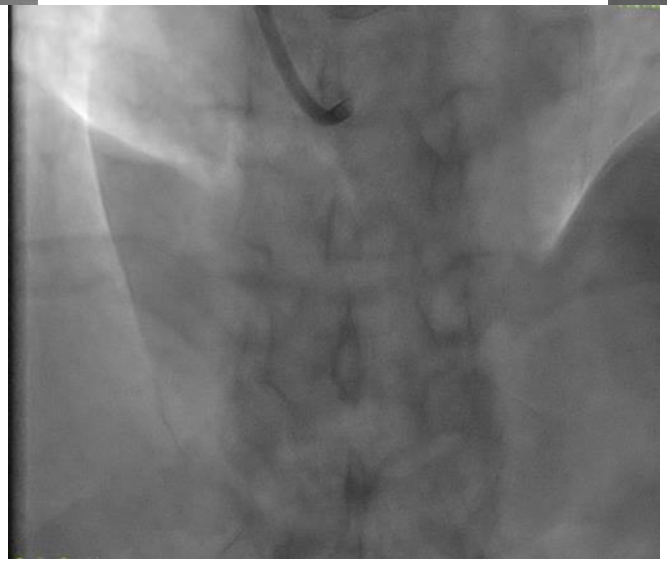


PCI to LCX – 2.5* 33mm DES

FINAL RESULT







DONOR ARTERY

CONCLUSION

- Studying the diagnostic images carefully and selecting the best coronary collateral is the key to success in CTO PCI
- Septal collaterals are the safest and should be preferable whenever possible
- The success of collateral crossing depends on appropriate collateral selection, wire tip curve and wire handling
- It is easier to steer the wire through septal collaterals from LAD to RCA compared with from the RCA to LAD because of significant tortuosity at RCA end of collaterals.
- **WHY RADIAL FOR COMPLEX CTO PCI**

- reduces risk of vascular complications

- when multiple access needed for LV support devices (Impella, IABP etc), facilitates femoral use with ease

- ACT level should be kept high for CTO PCI (indirectly increases femoral access bleed)