



IVUS facilitated PCI to ostial left circumflex CTO

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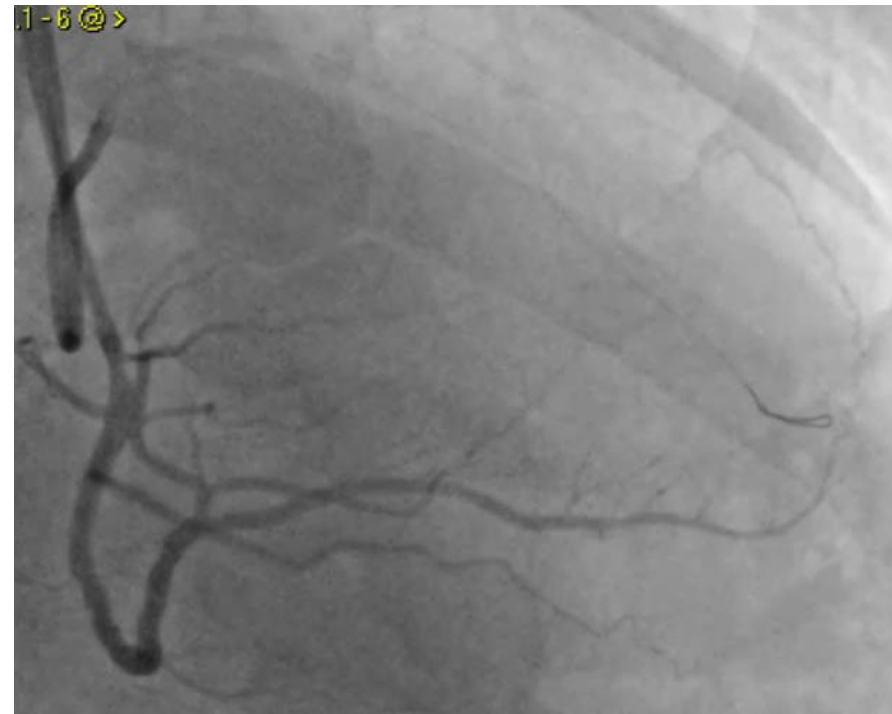
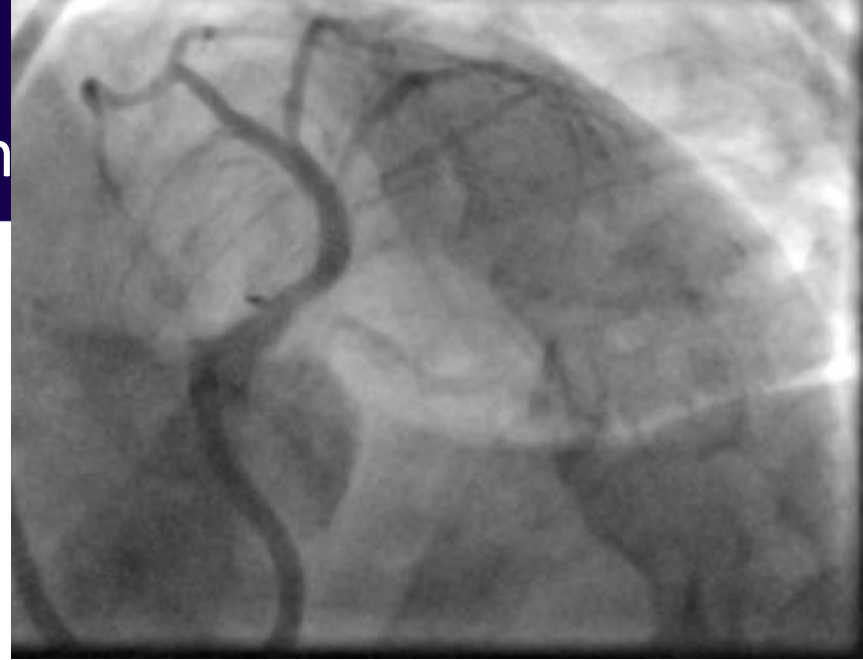
- 57 year old male
- PMH:

Diabetes mellitus type II, Hypertension, previous PCI to left anterior descending and left main artery in 2019 & failed attempted PCI to subtotal Left circumflex (another operator) moderate right coronary artery lesion.

- Anginal symptoms with viable left circumflex territory.

2. Coronary angiogram

- **CTO of Circumflex** (Ostial, calcific and angulated)
- Ambiguous proximal Cap
- Calcific short CTO
- Severely angulated ostial circumflex CTO
- Stent struts in left main to LAD
- Some antegrade channels

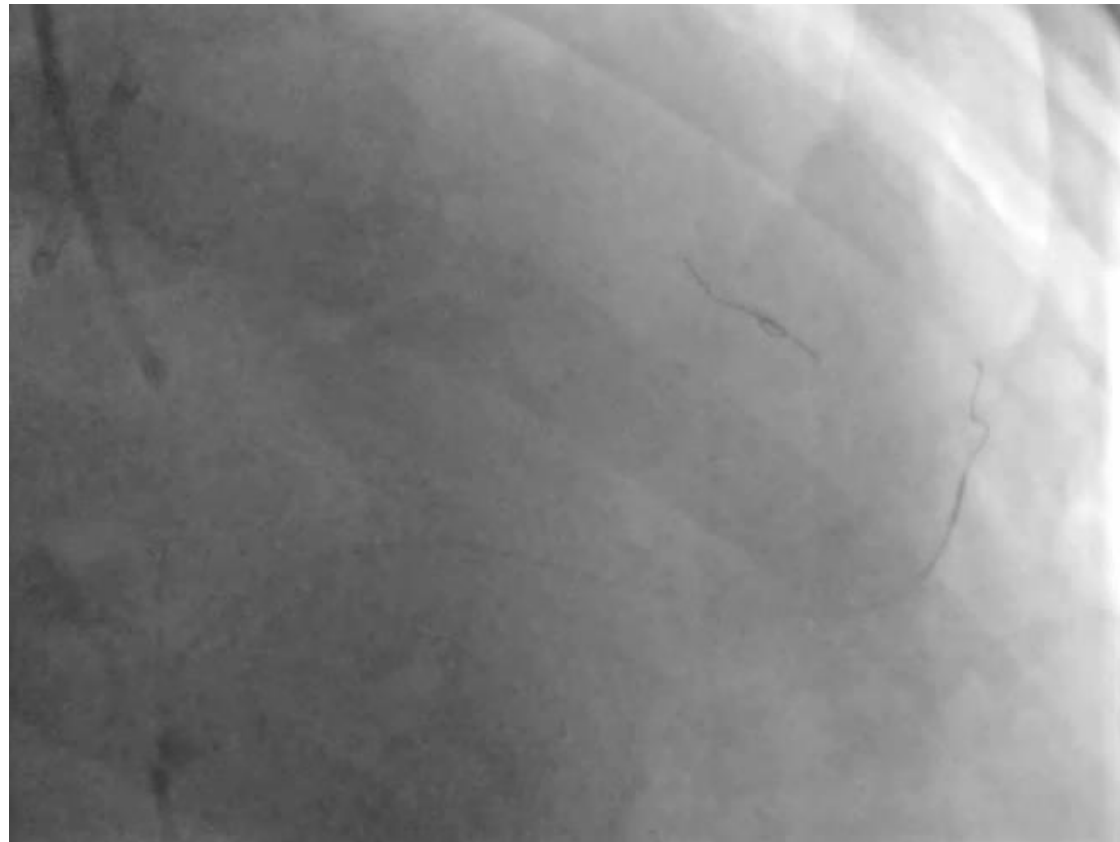
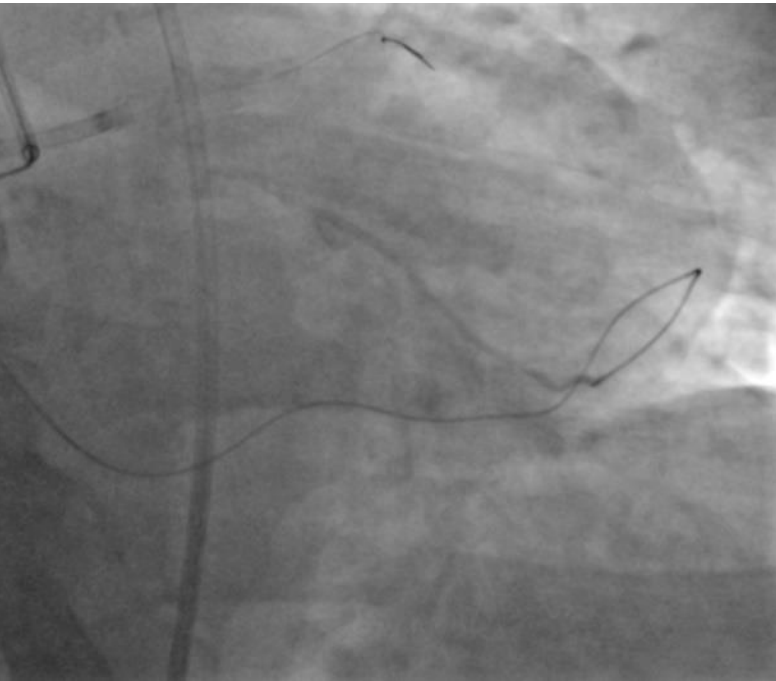


3. Failed antegrade wiring

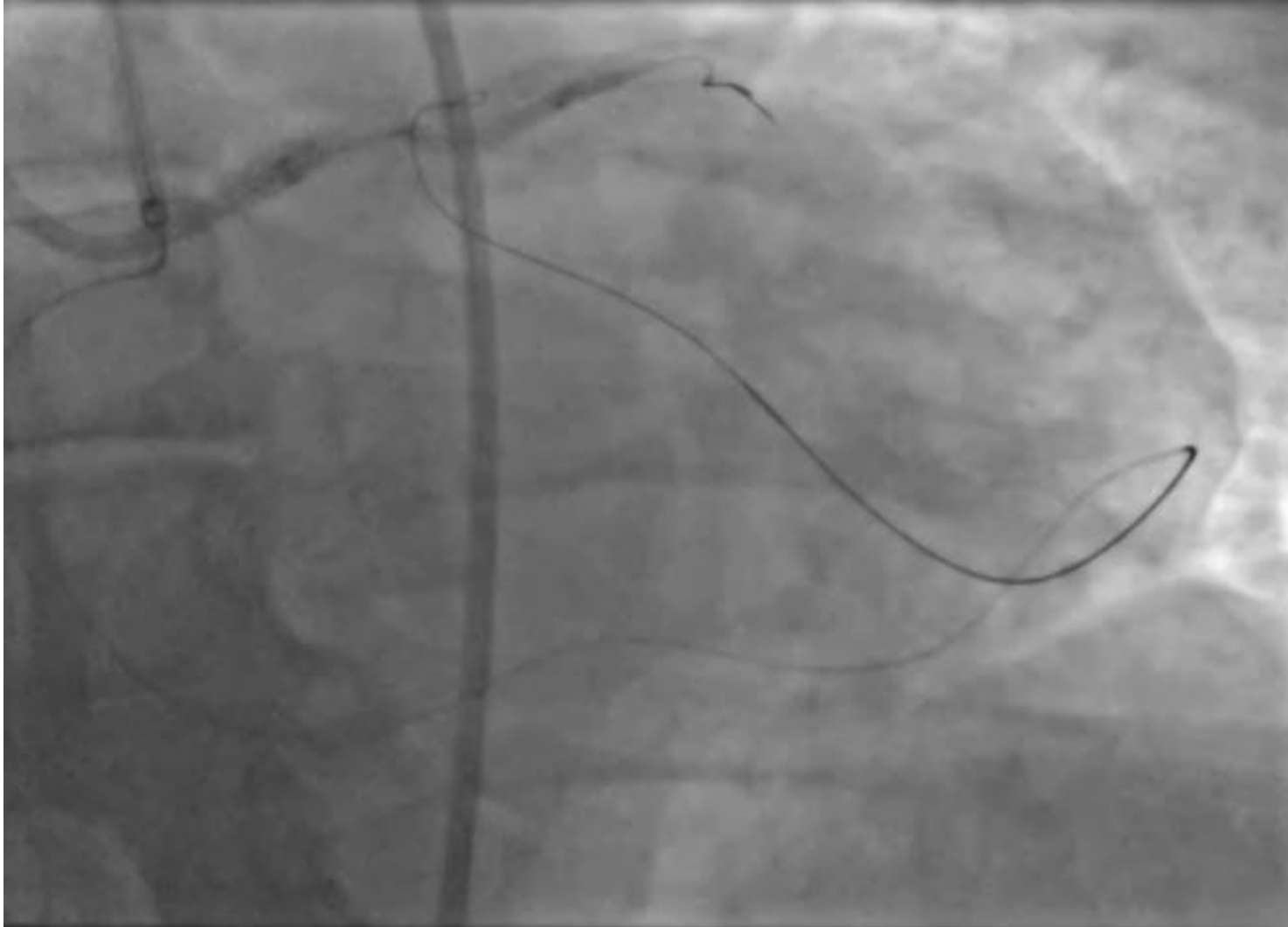
- Antegrade wiring, Sion black, Gladius and Confianza Pro 12, using Corsair, Sausuko, and venture catheters, but unsuccessful.
- Retrograde wiring through epicardial collaterals from RCA

4. Retrograde approach

- Injection through Caraval micro-catheter from retrograde approach to delineate course
- Gladius wire passed in the distal cap through Caraval micro-catheter close to the LMS.

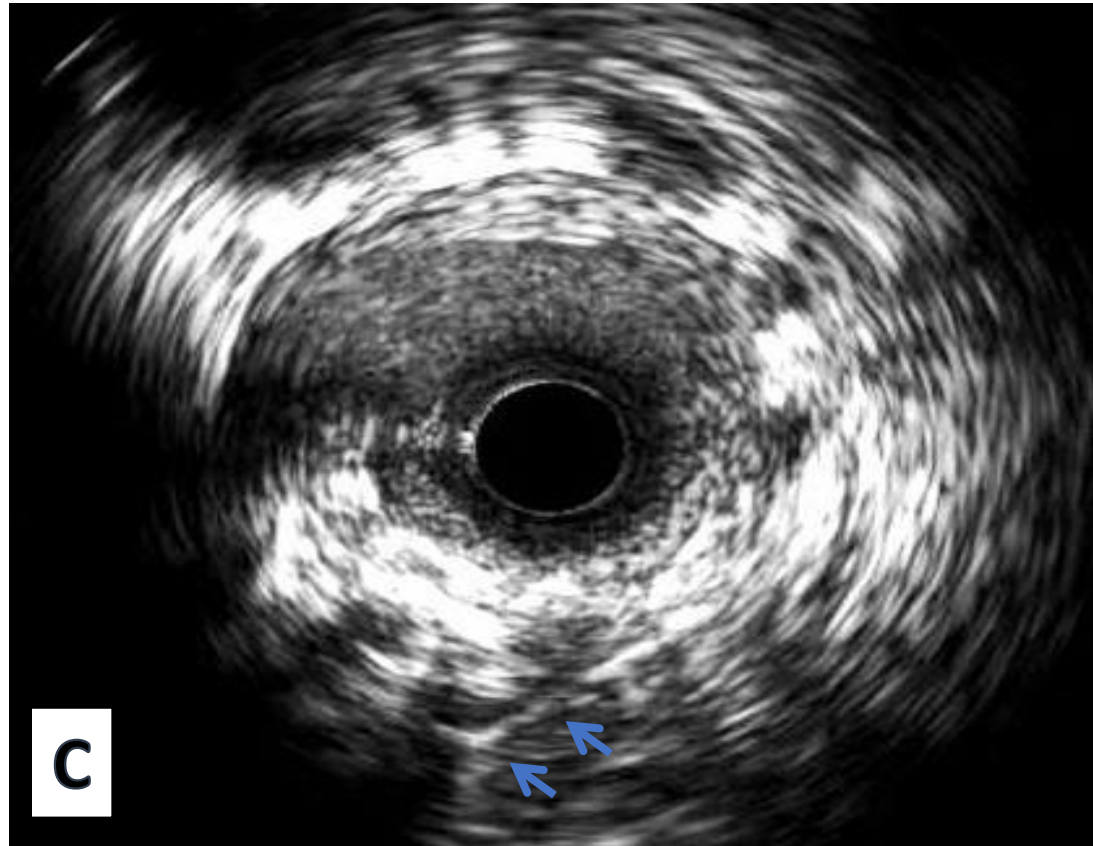
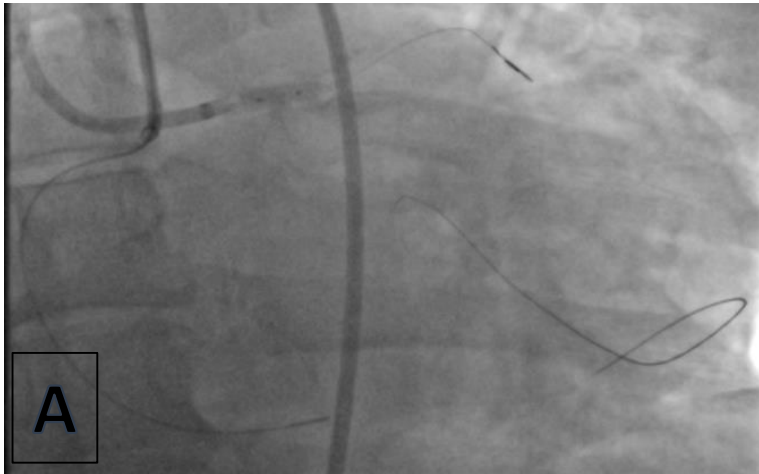


4. Retrograde approach



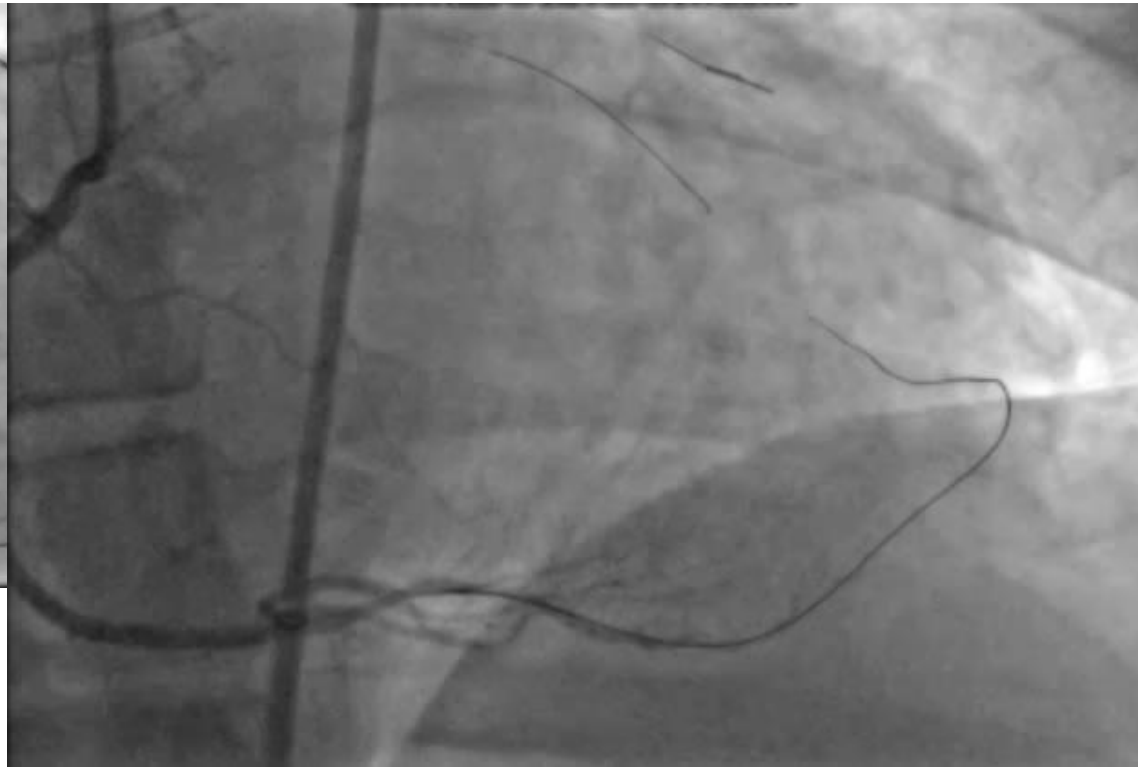
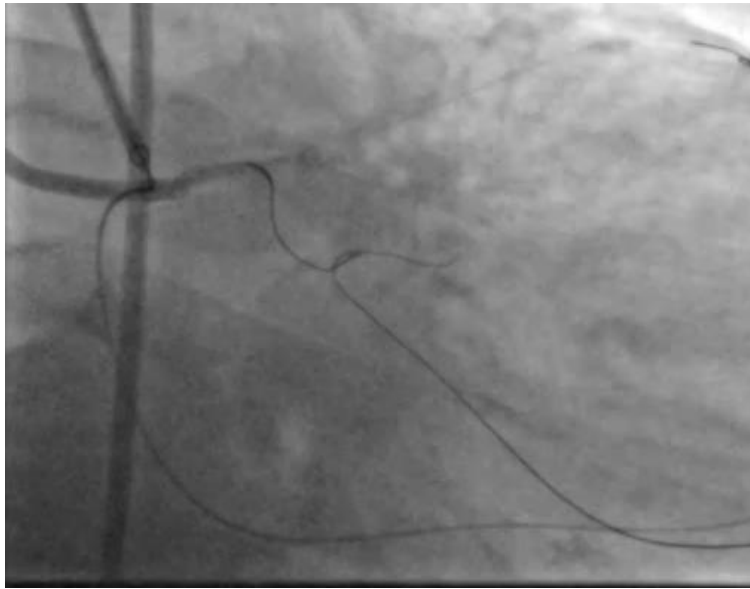
5. IVUS showed wire is sub-intimal

- **Dilatation of left main (A) stent to facilitate IVUS guided re-entry and possibly antegrade wiring again**
- **IVUS (B) from LMS showed the retrograde wire is in subintimal space and under the stent struts (blue arrows(C)). In addition, it showed very calcific stump in ostial LCX**



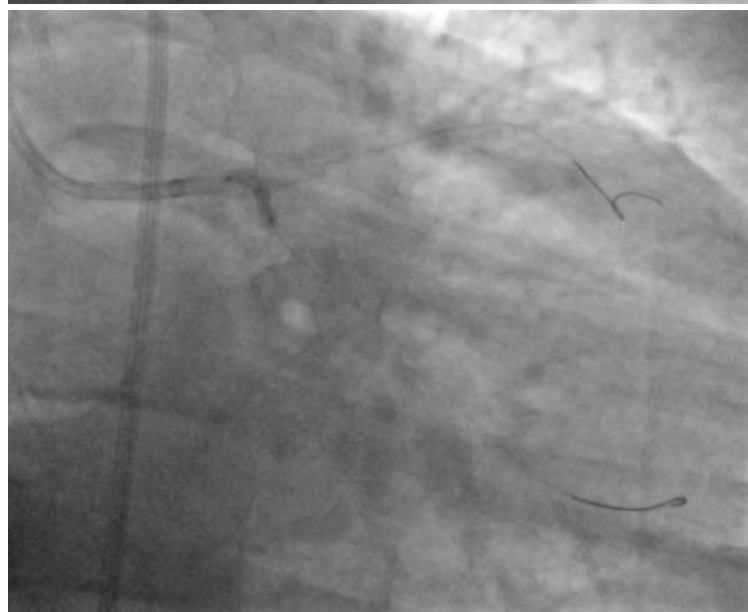
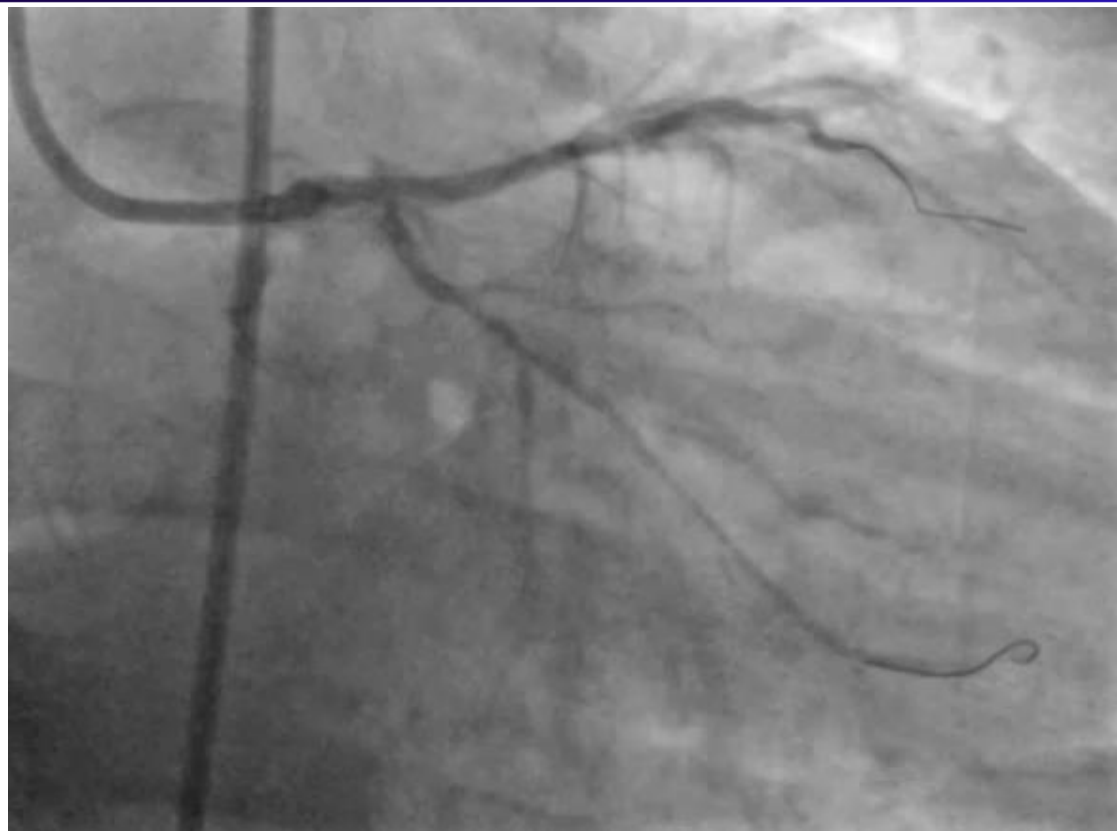
6. Antegrade

- Confianza pro 12 antegradely passed through the proximal and distal caps of circumflex.
- Retrograde injection revealed that Confianza 12 wire in true lumen



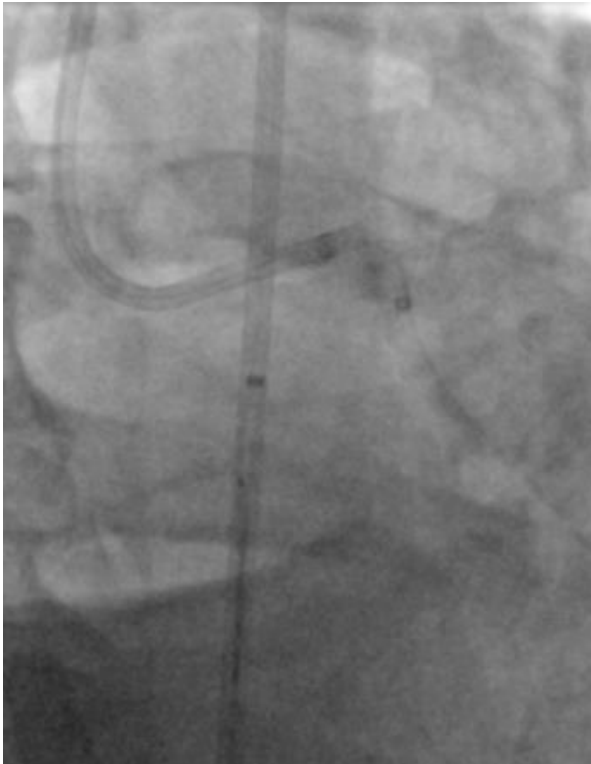
7. De-escalation to Sion blue wire

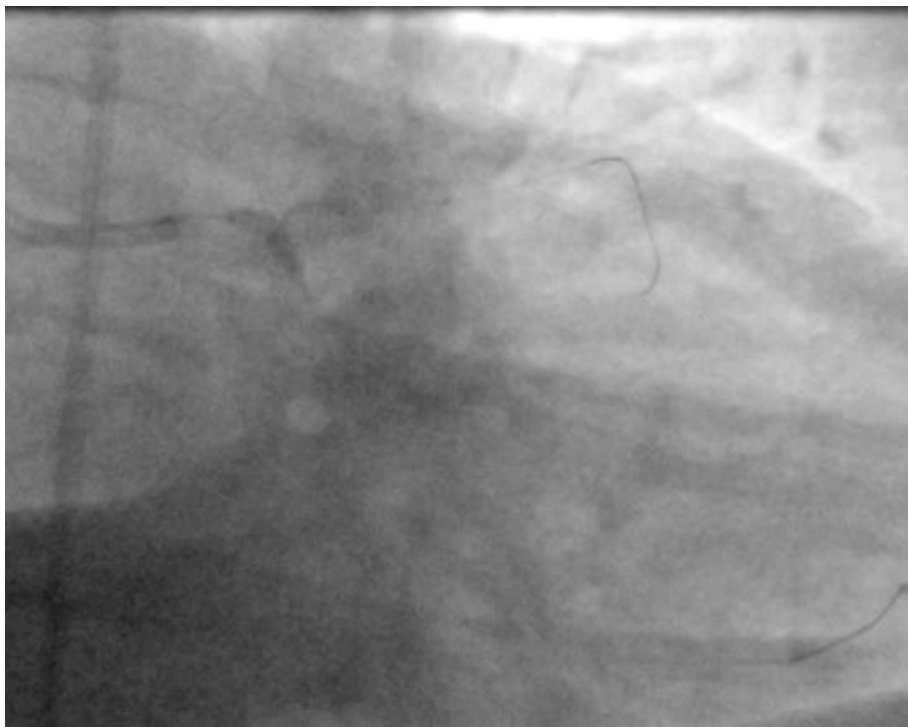
Dilatation with 1.25, 1.5 and 2.5 mm non-compliant balloons.



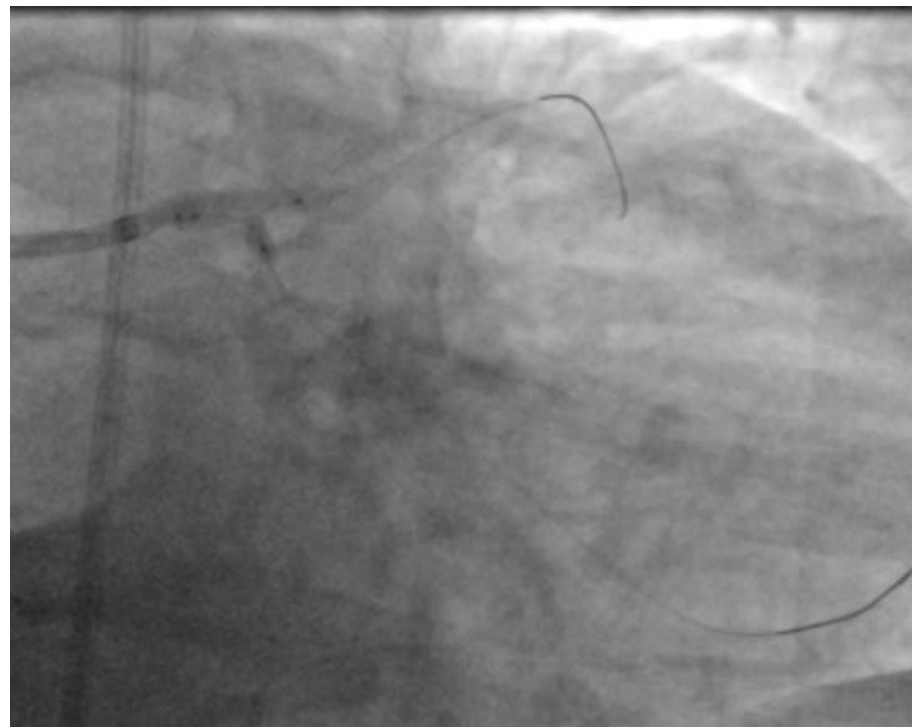
8. Stenting through guideliner

- Advancement of Guide extension catheter 7F, supported by inflated balloon on the proximal LCX to overcome the severe bend.
- Difficulty in advancement of stent inside the proximal part.
- 2.5X 16 mm DES passed and deployed in a T fashion to the previous LMS.

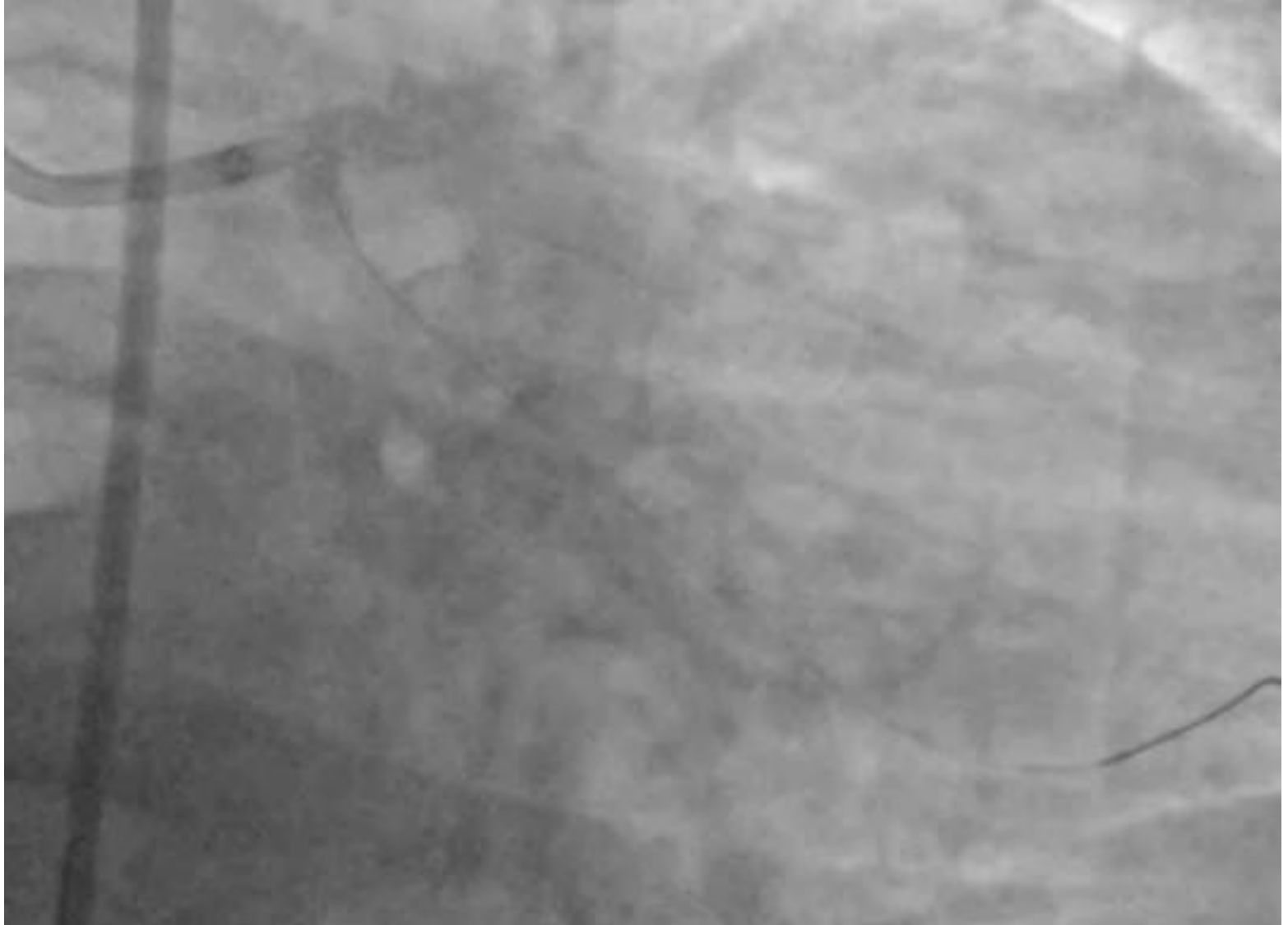




Post dilatation with 3.0 NC balloon



Kissing balloon with 3.0 and 4.0 NC balloon for LCX and LAD; respectively.



- IVUS can facilitate and guide CTO PCI for re-entry into true lumen and is important tool in difficult cases.
- Angulated lesions and particularly CTO can be challenging, deflectable micro catheters can be helpful.
- Guide extension catheter helps difficult delivery situation.
- Experience and the use of multiple complex techniques help improve procedure success and outcome