

When the Distal Cap Says No : A Retrograde True-to-True Solution for an Ambiguous Proximal LAD CTO

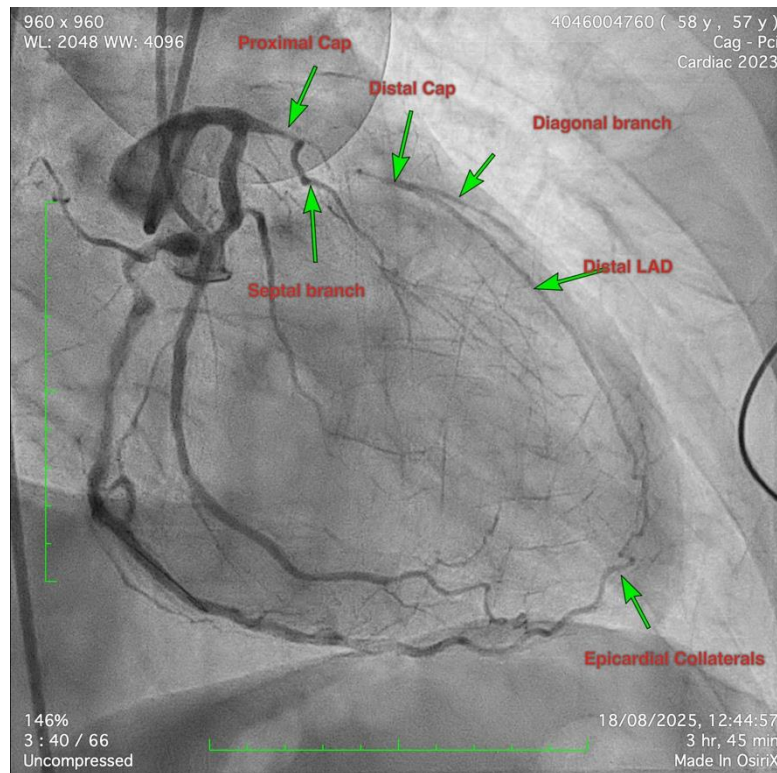
Clinical Presentation

- A 57 years old male
- Angina CCS-2 on GDMT
- Risk Factors: HTN and DL
- LVEF 40% with no valve pathology
- Coronary Angiography: a proximal LAD CTO lesion receiving both, septal and epicardial collaterals from RCA

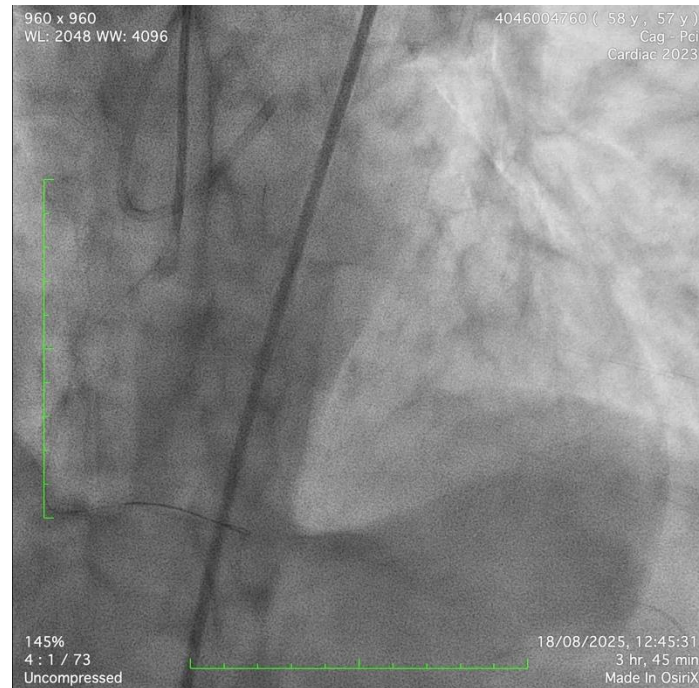
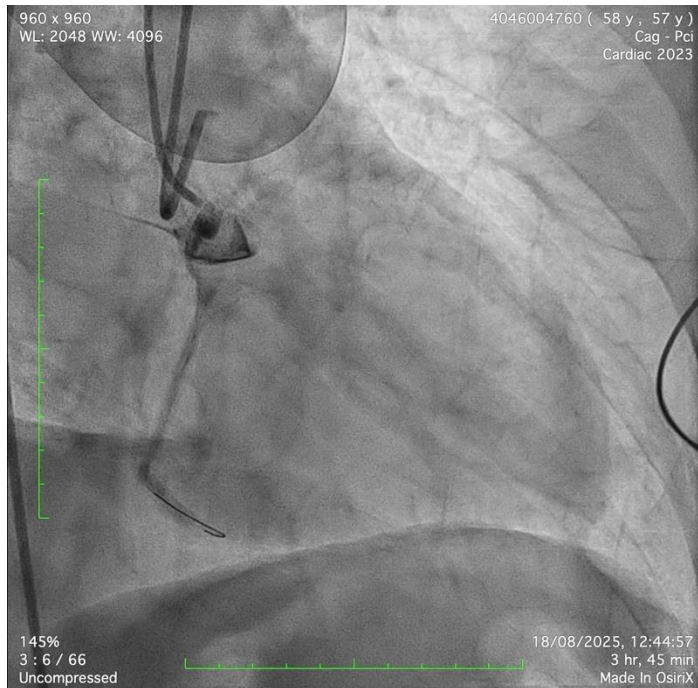
Coronary Angiography

Challenges:

- Ambiguous proximal cap
- Important bifurcation
- Mild Calcium
- J-CTO = 3



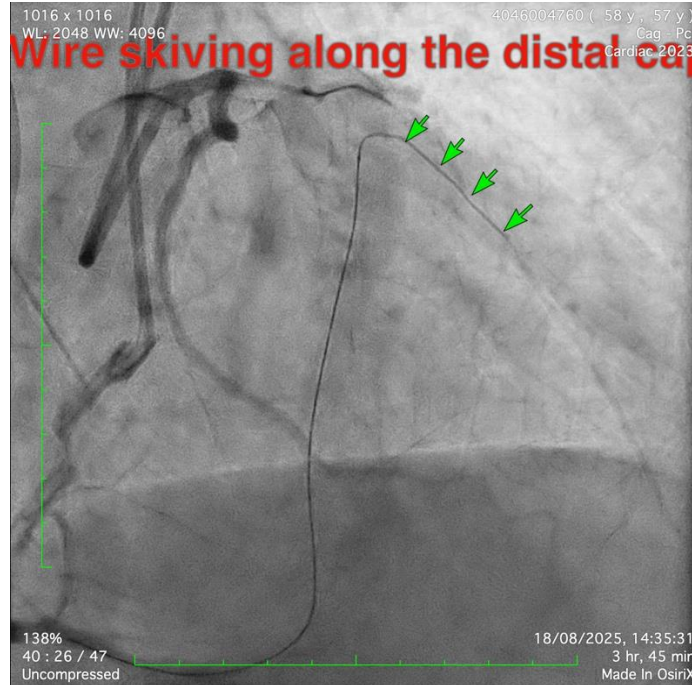
Coronary angiography



Planning

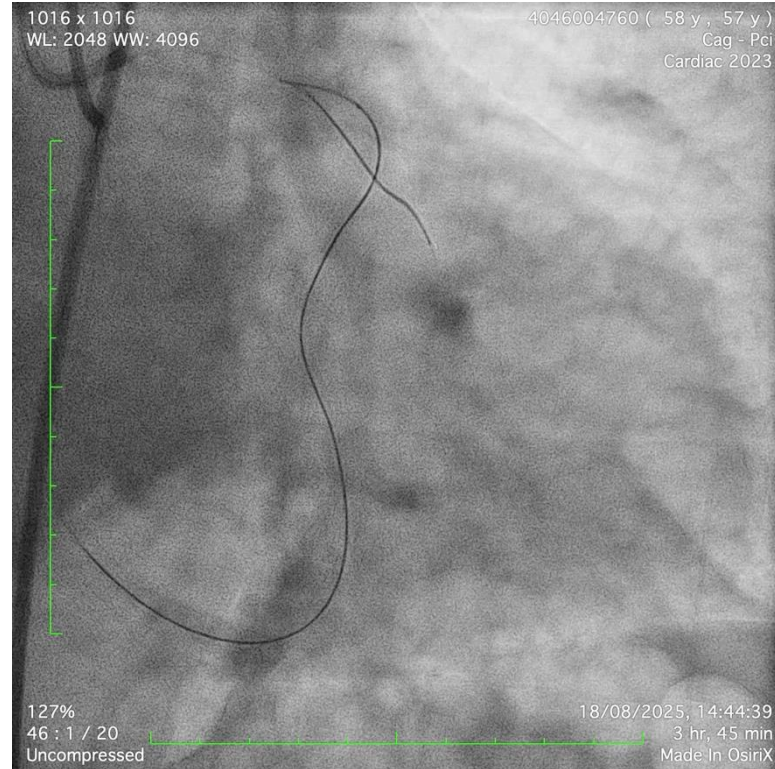
- Hybrid algorithm
- Retrograde first
- Reasons:
 - Ambiguous cap
 - Good septals
 - Short CTO
 - Side branch preservation

First Challenge: The distal cap refused entry

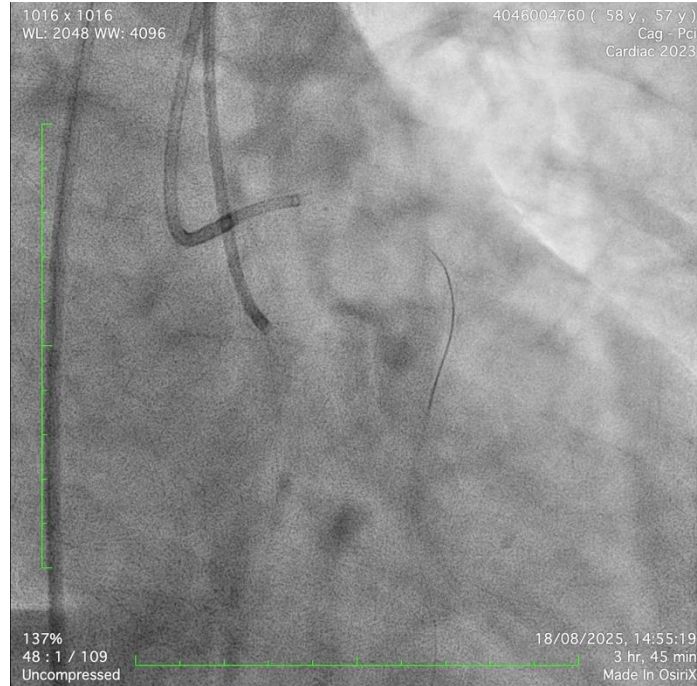


Strategy Modification

- Confirm the wire position
- Bring the retrograde microcatheter close to the distal cap
- Exchange to a higher penetration wire >>> Gia Next 3
- Change the wire angle and aim directly at the centre of the distal cap
- Successful distal cap penetration and crossing proximal cap true-to-true



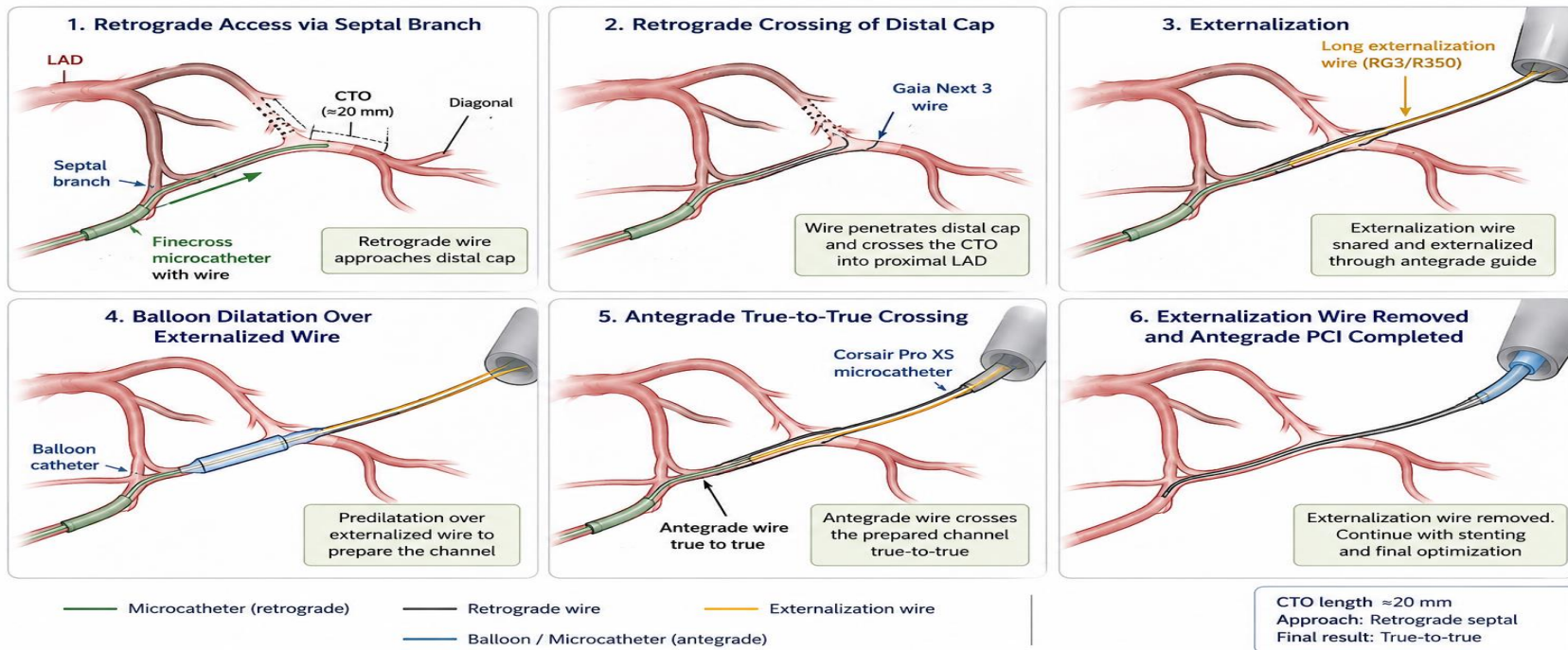
Extrnalisation



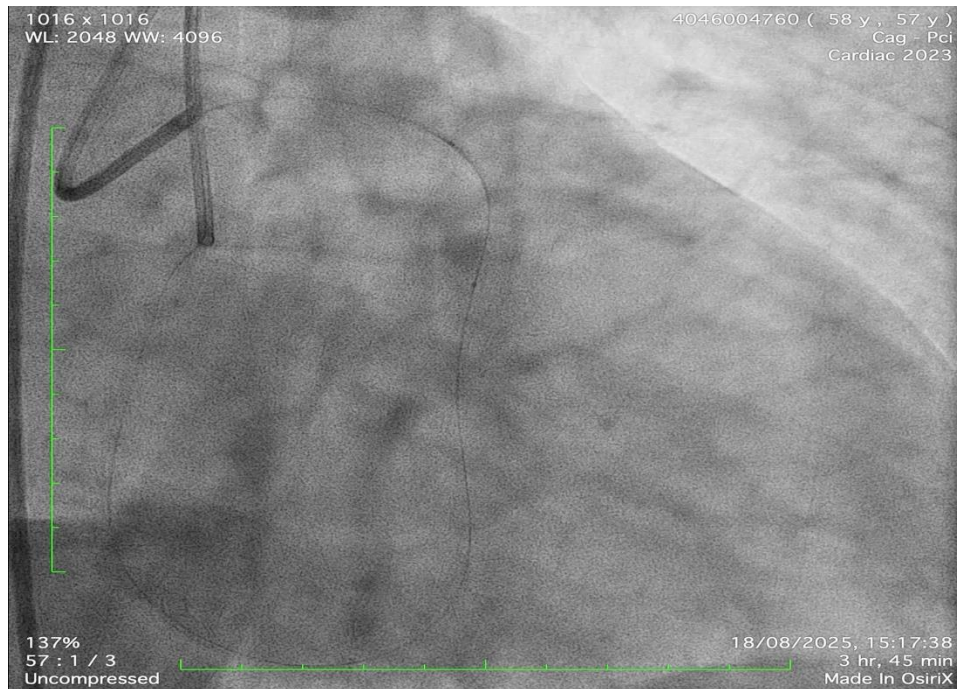
Retrograde success without Reverse CART

Retrograde Crossing, Externalization and Balloon Dilatation

Proximal LAD CTO – Retrograde Septal Approach

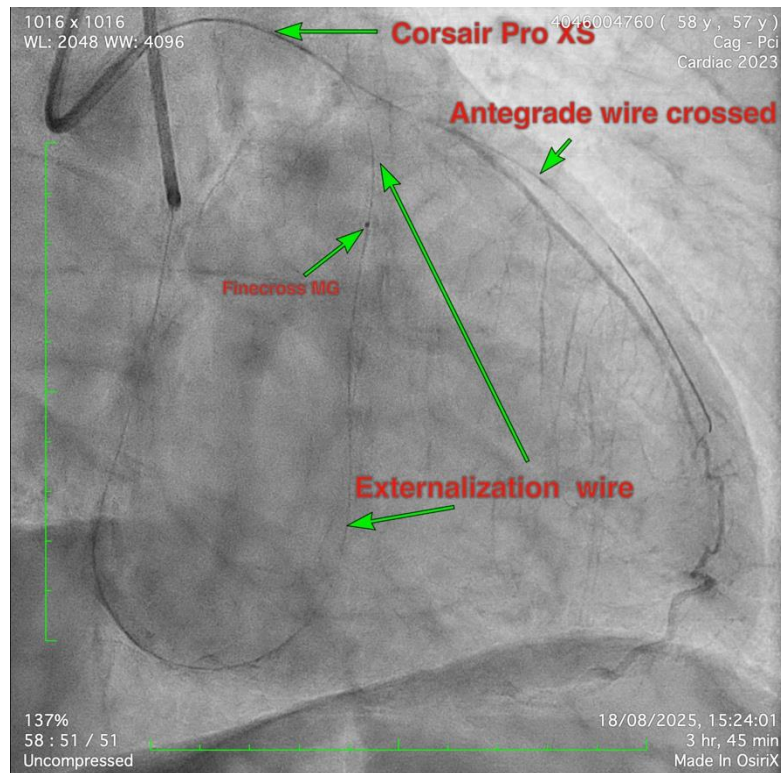


Ballooning on the externalization wire

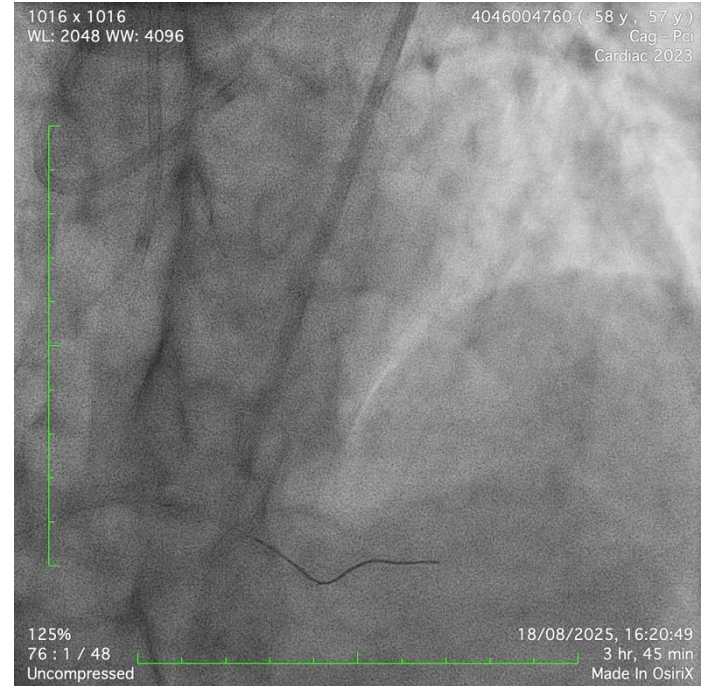
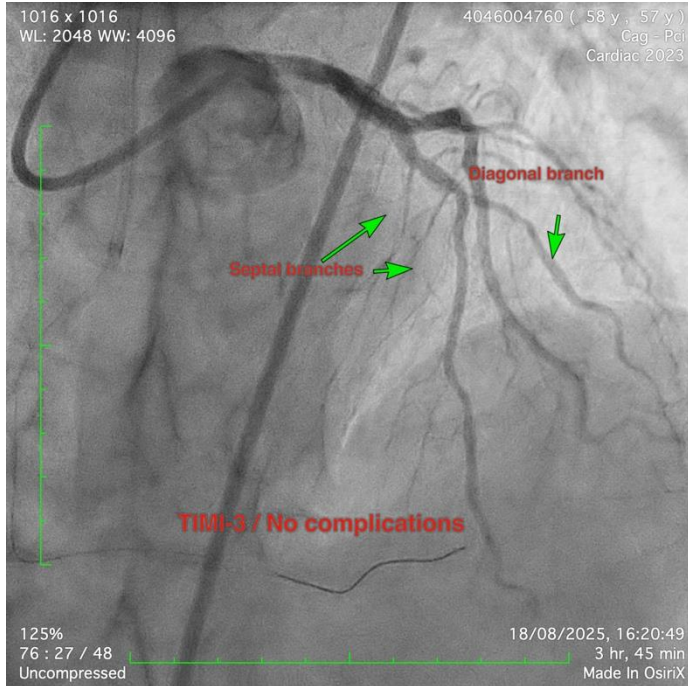


Restoring antegrade control

“The procedure was completed entirely antegradely after creating a true-lumen channel.”



Final Angiogram



PCI Summary

- Baseline dual injection.
- Ambiguous proximal cap.
- Septal collateral crossing.
- The wire repeatedly skiving off the distal cap (this is a key educational moment).
- Successful Gaia Next 3 penetration.
- Externalization.
- Antegrade true-lumen crossing.
- IVUS pullback.
- Final angiographic result.

Discussion

- **Why did the initial wire fail?**
 - Eccentric distal cap
 - Wire followed least resistance
 - Deflection into distal true lumen
- **Why Gia Next 3?**
 - Penetration
 - Torque
 - Controlled steering
- **Why no reverse CART?**
 - Because “The lesion was crossed true-to-true.”

Learning Points

1. An Ambiguous proximal cap does not necessarily mandate Reverse CART.
2. Distal cap engagement is often the key challenge in retrograde CTO PCI.
3. Wire escalation should be deliberate and anatomy-driven.
4. Once true-lumen crossing is achieved, restoring antegrade control simplifies the remainder of the procedure.
5. IVUS Confirms the crossing route and optimizes the final PCI result.