

A CTO PCI

“When Geography and History Disagree”

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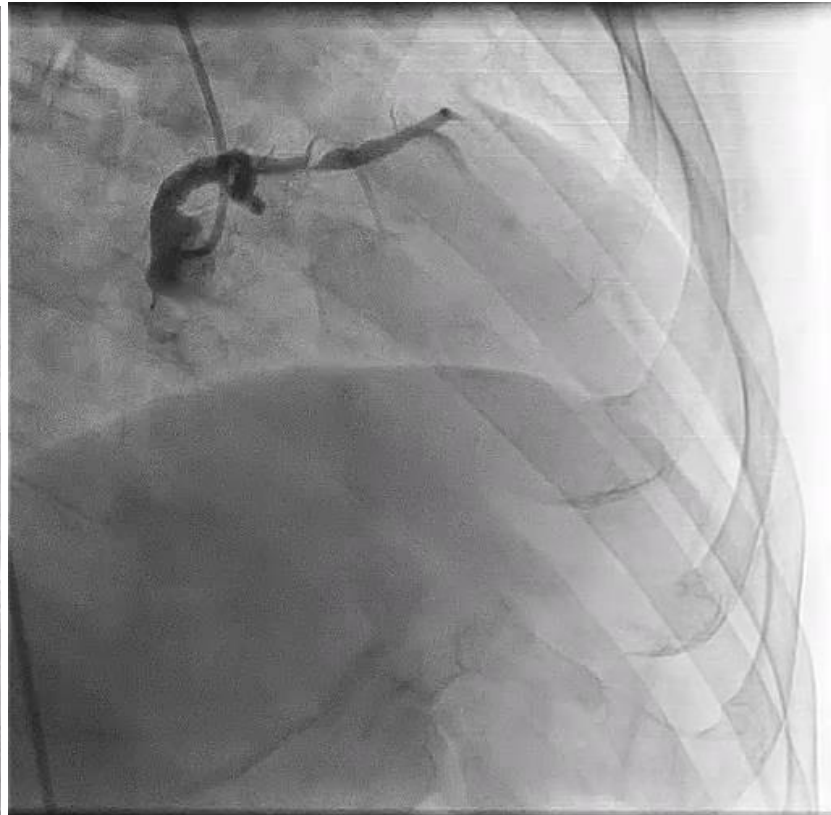
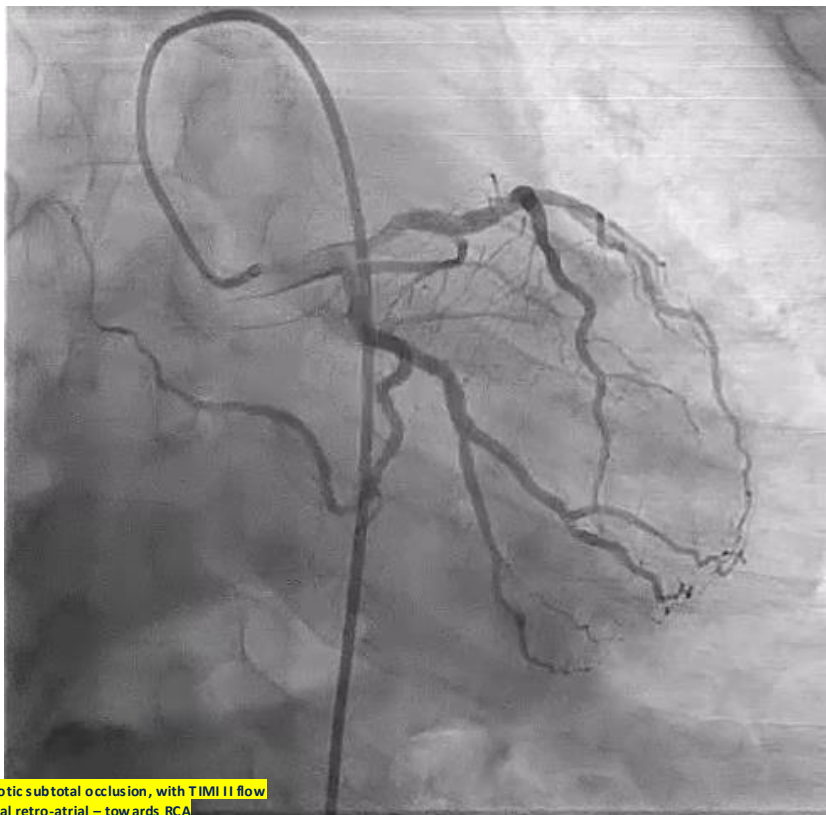
67yo male, exsmoker, Obese, HTN & not DM

CCS, angina class 2-3 for >1Y;

Echo through previous FU → LVEF 45% with inferior and posterior hypokinesia

Although refractory to medical Rx, but he was refusing ICAG

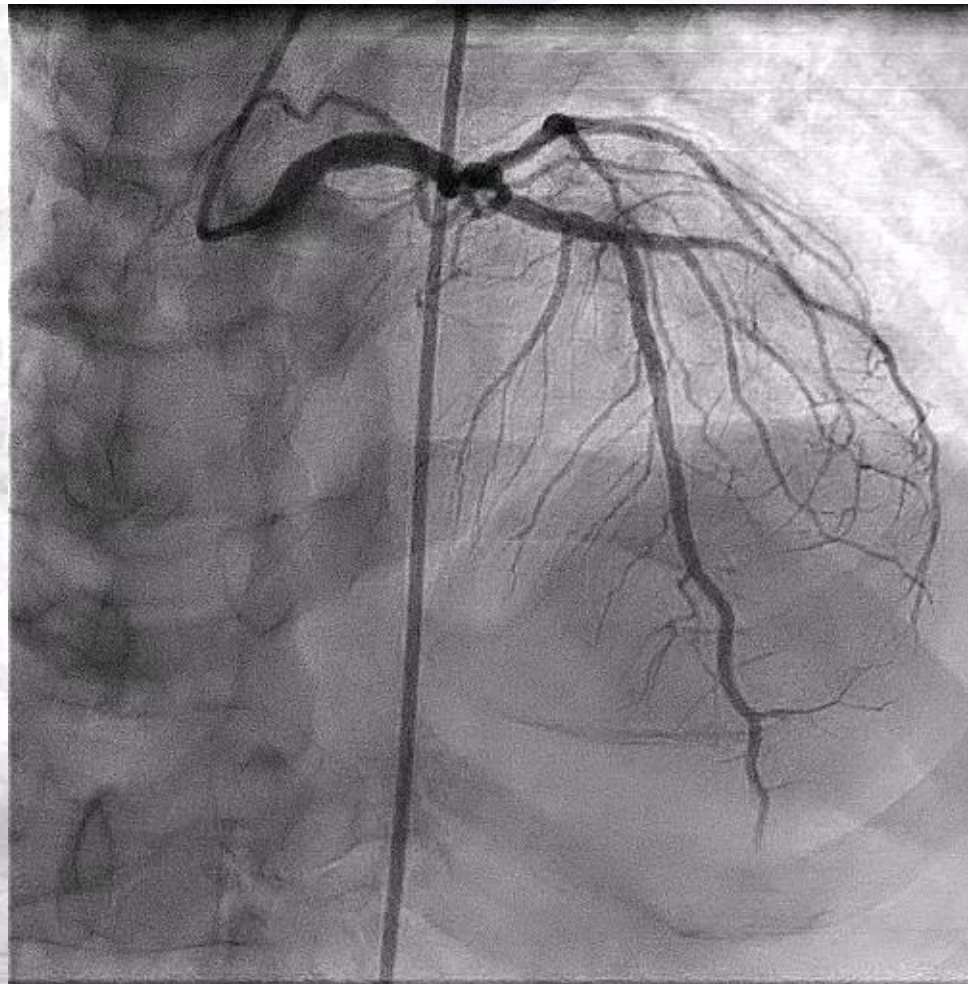
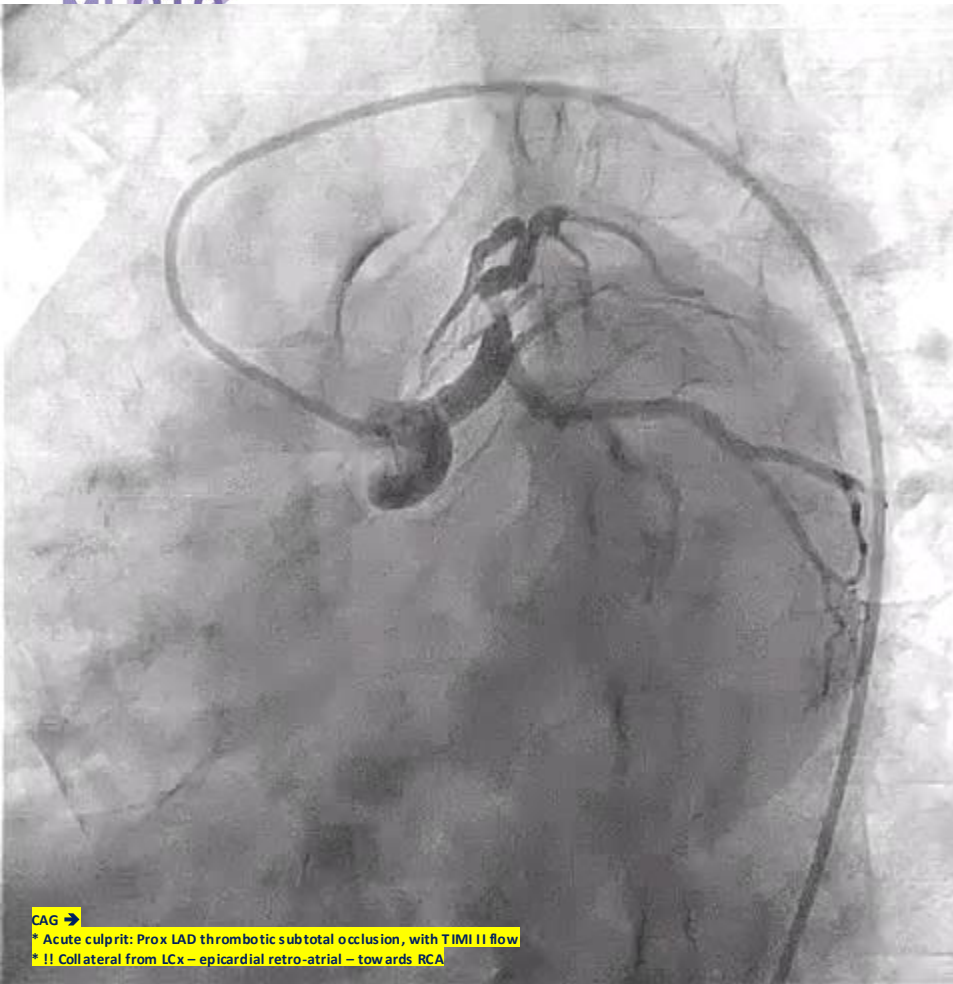
→ On the day of presentation = Acute NSTEMI, severe chest pain → Pt accepted CAG



CAG →

* Acute culprit: Prox LAD thrombotic subtotal occlusion, with TIMI II flow

* !! Collateral from LCx – epicardial retro-atrial – towards RCA



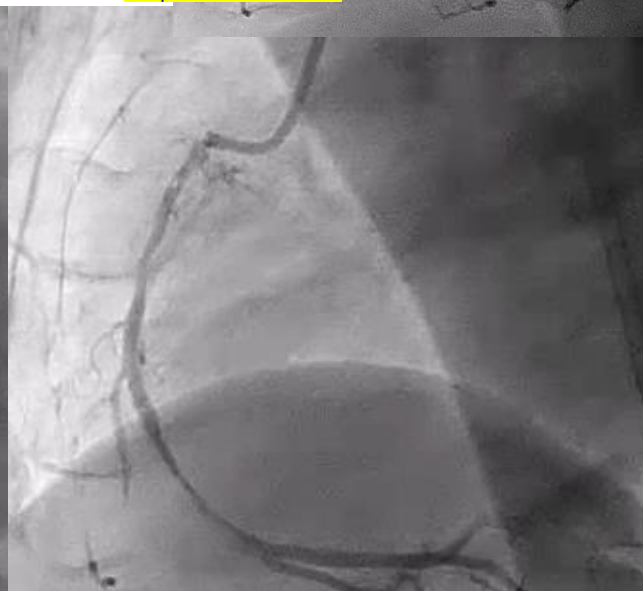
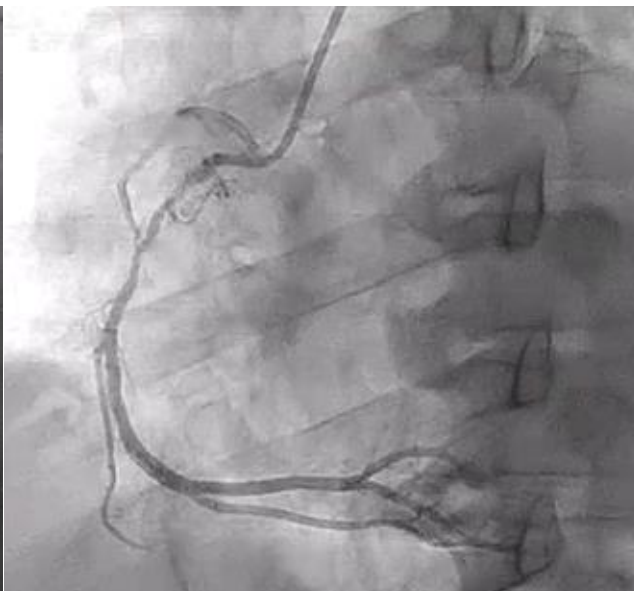
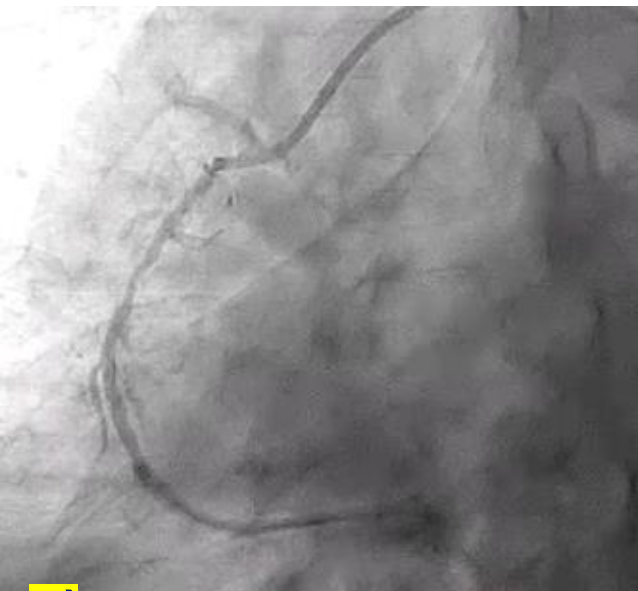
CAG →

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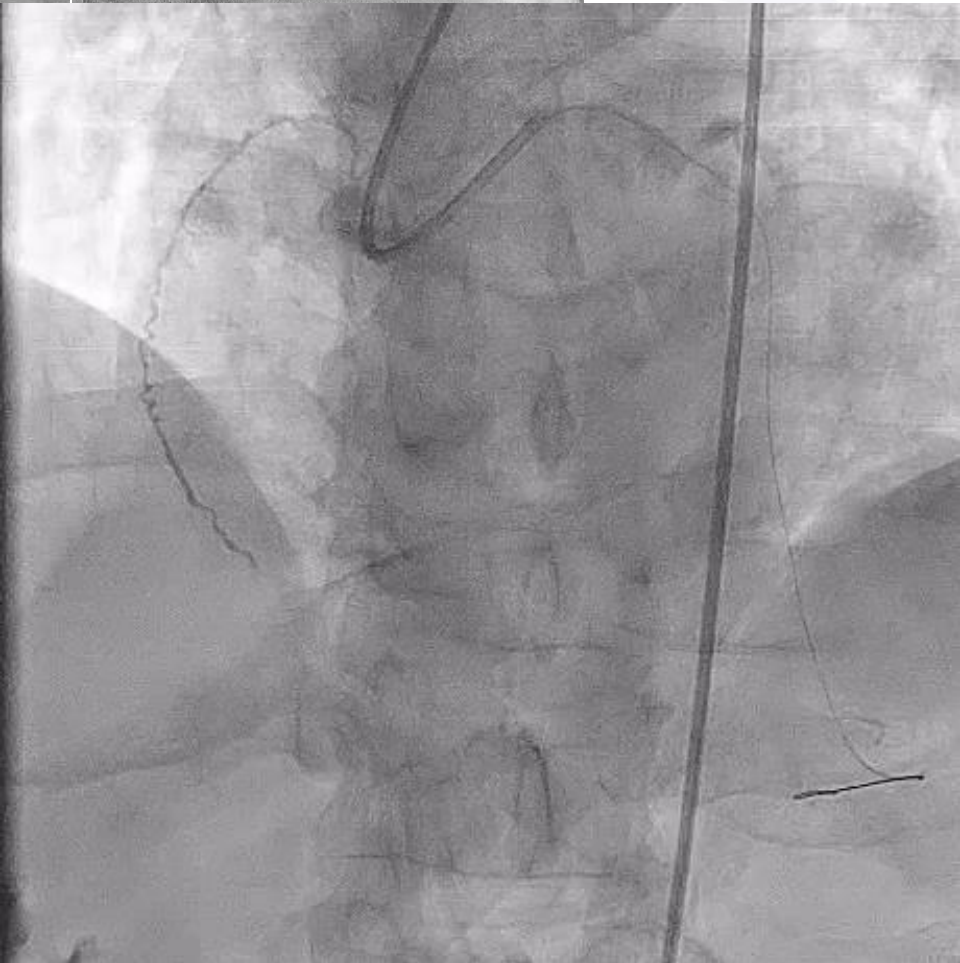
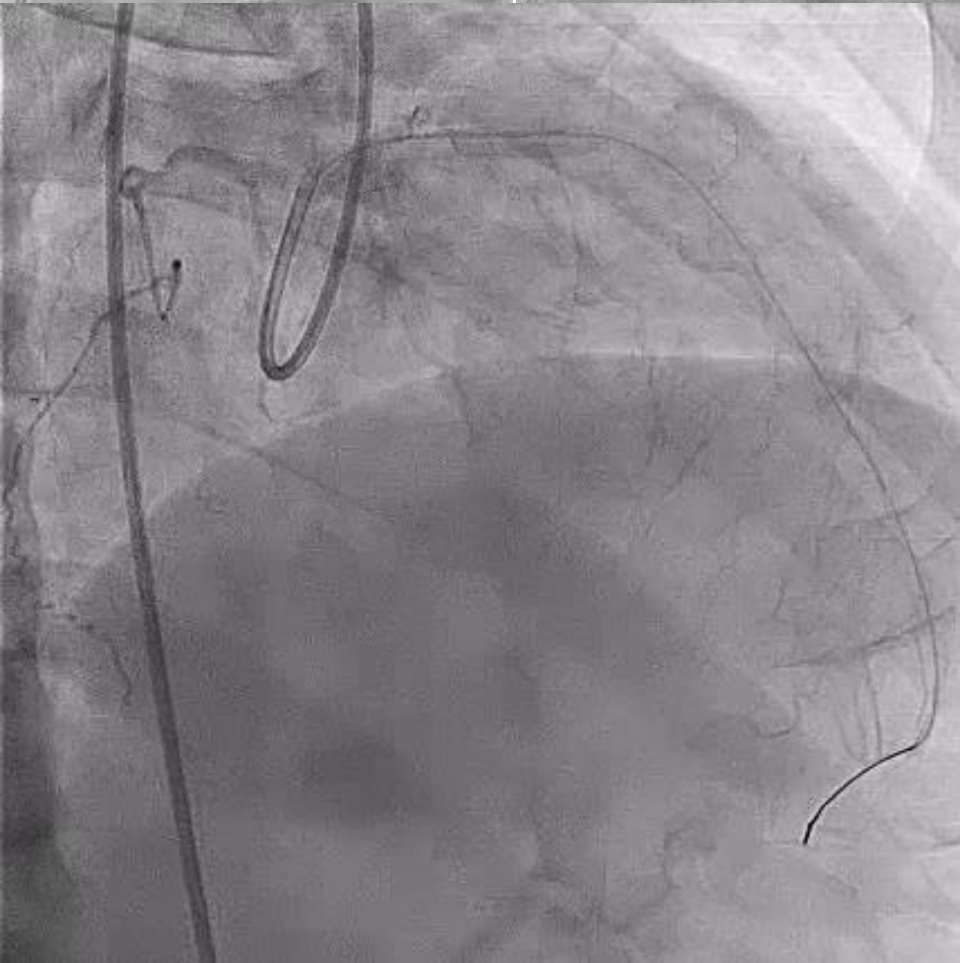
Woven – Highly suggestive of healed SCAD

Negative contrast effect
"competition from Cx collateral"



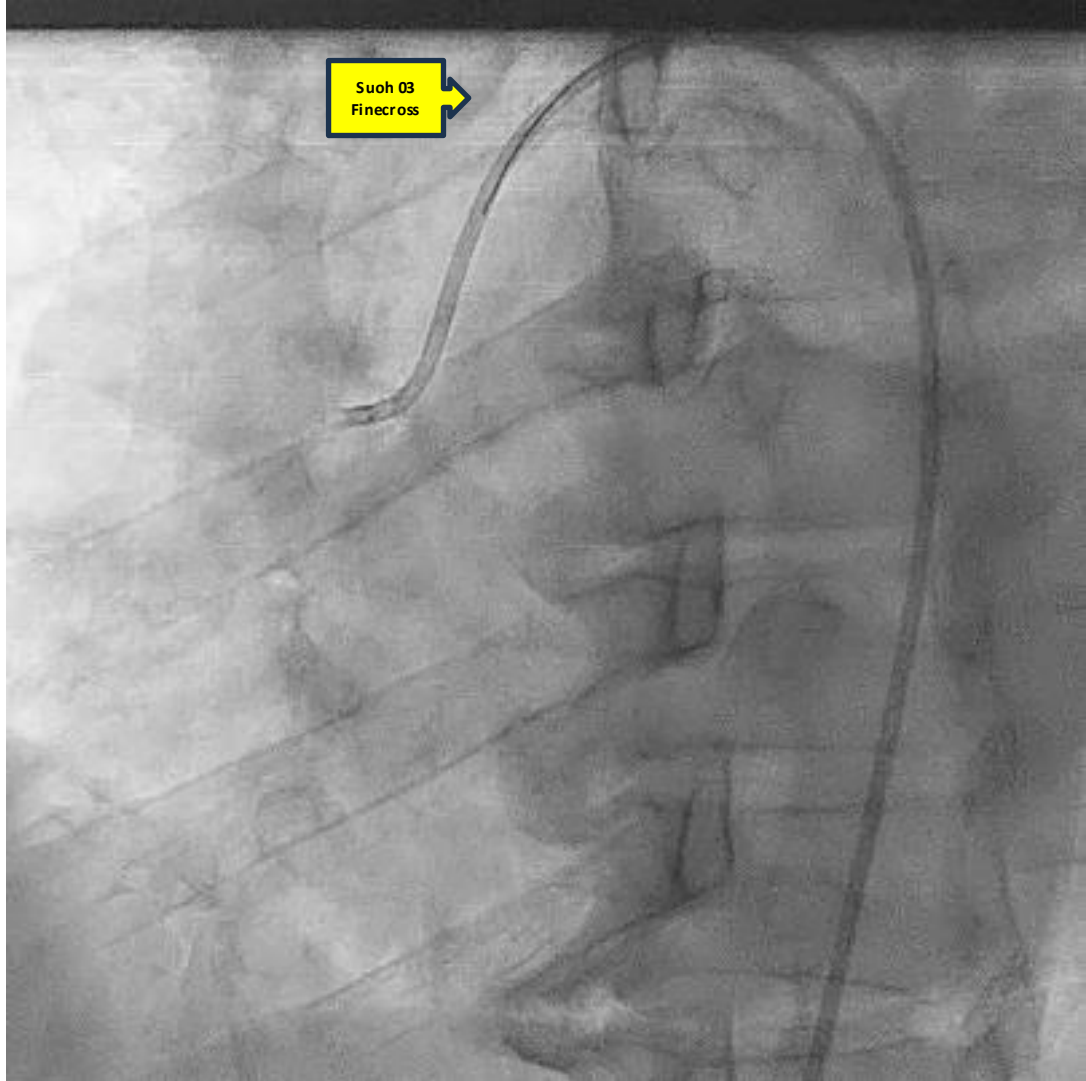
CAG →

* RCA: Upon engagement, catheter was sucked with dampening but still a cceptable wave form

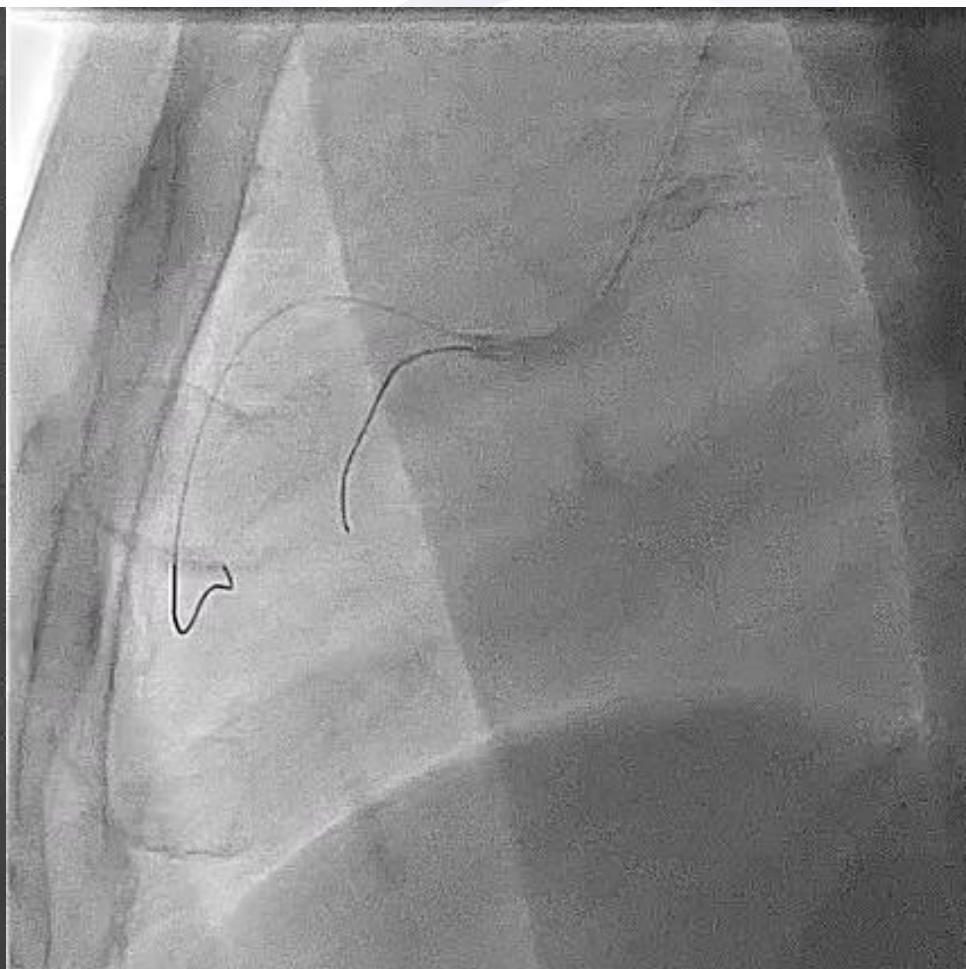
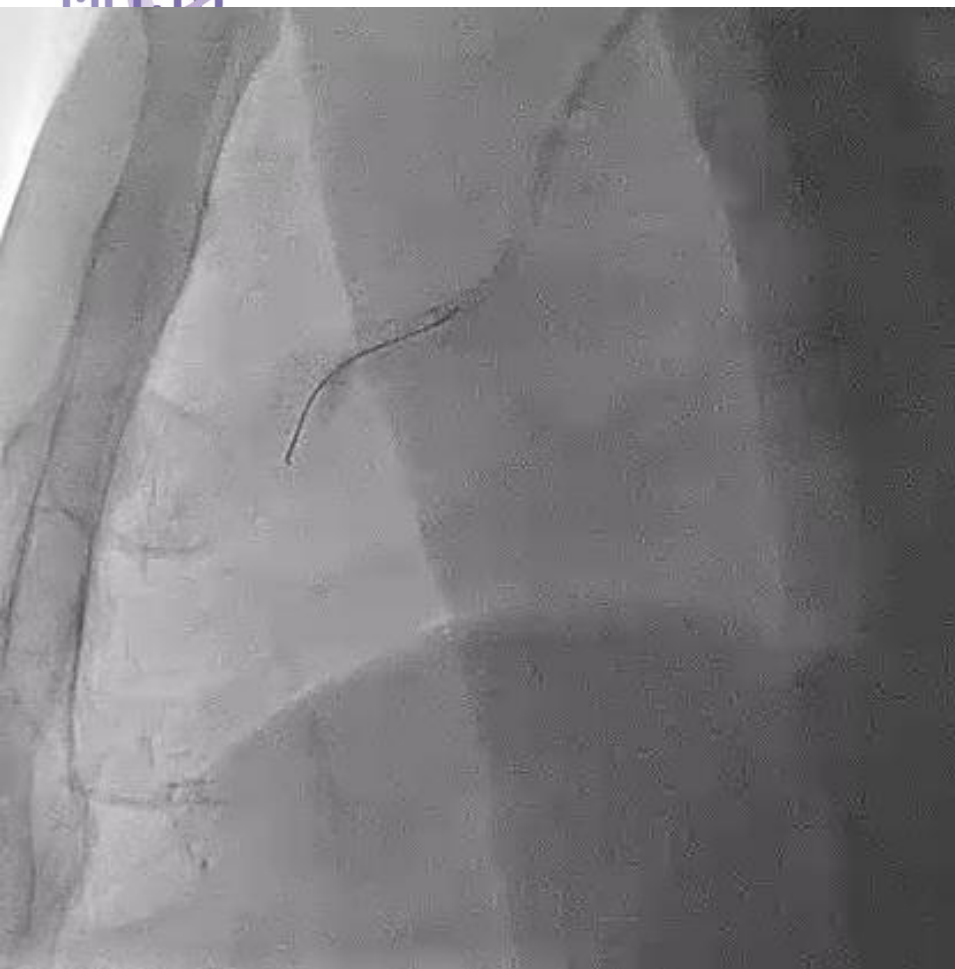


Fully explained to the Pt that:

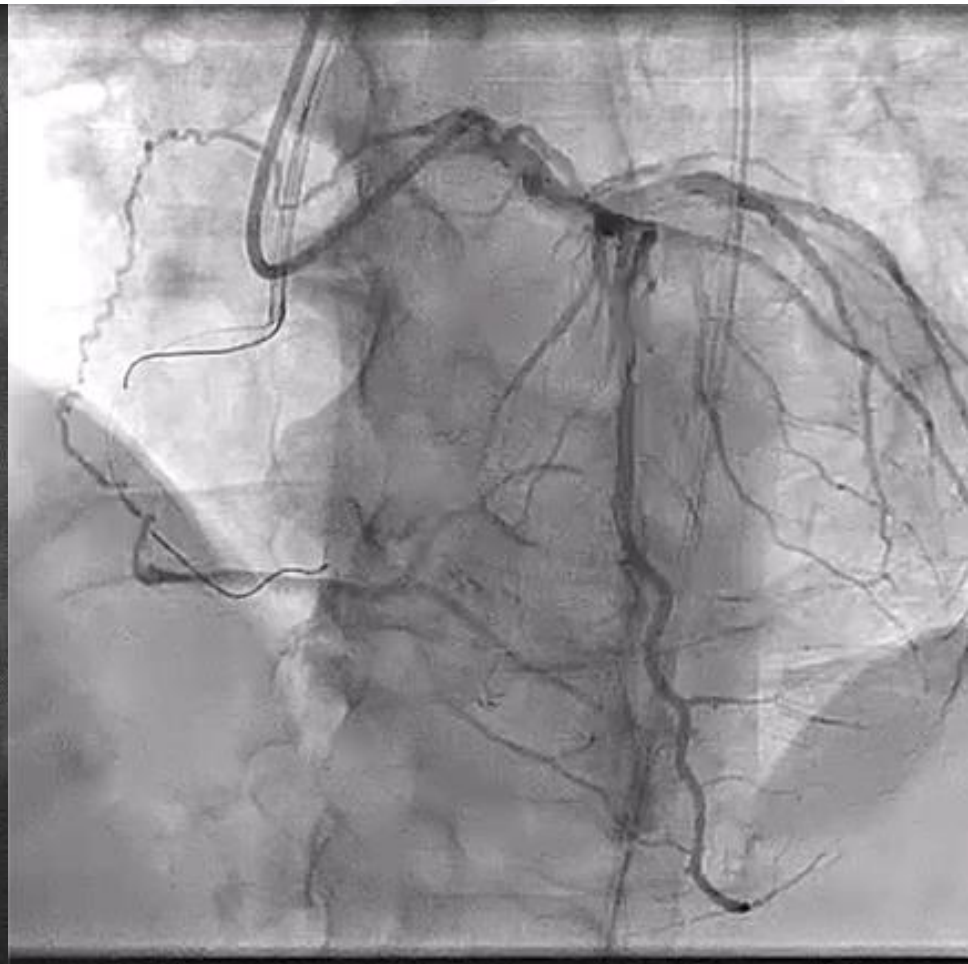
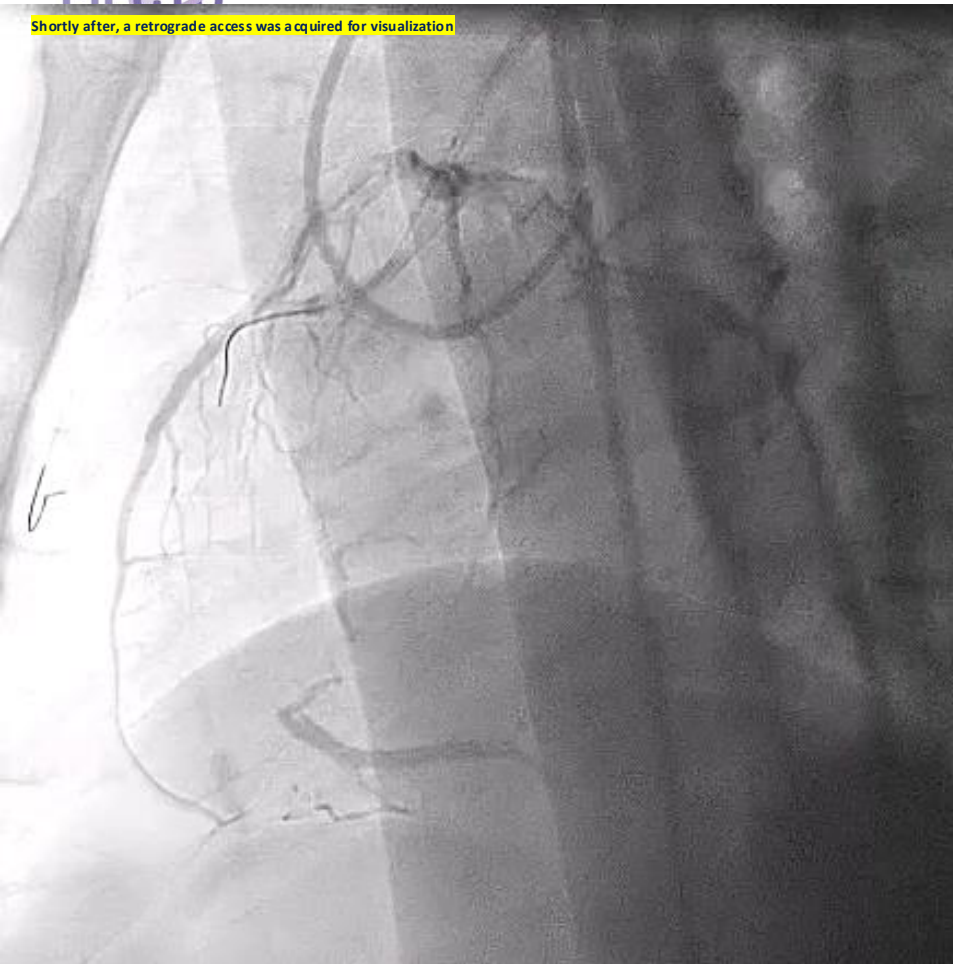
- Acute lesion is fixed, [Easy fix]
- The long-lasting prior complaint is most-likely from the RCA
 - That one is a much more complex PCI with success ~90% [not fully guaranteed]
- The PCI to the Woven/SCAD RCA was scheduled on 3rd day
- Planned a delicate attempt, JR4 – Fine cross 135 - Suoh 03
- Already engaged and got a test shot,
- While delivering the wire and MC,
- astonishingly noticed the sudden excessive dampening of the pressure wave
- Dis-engaged to get pulsatile wave, took a tiny puff, BUT what has happened has happened

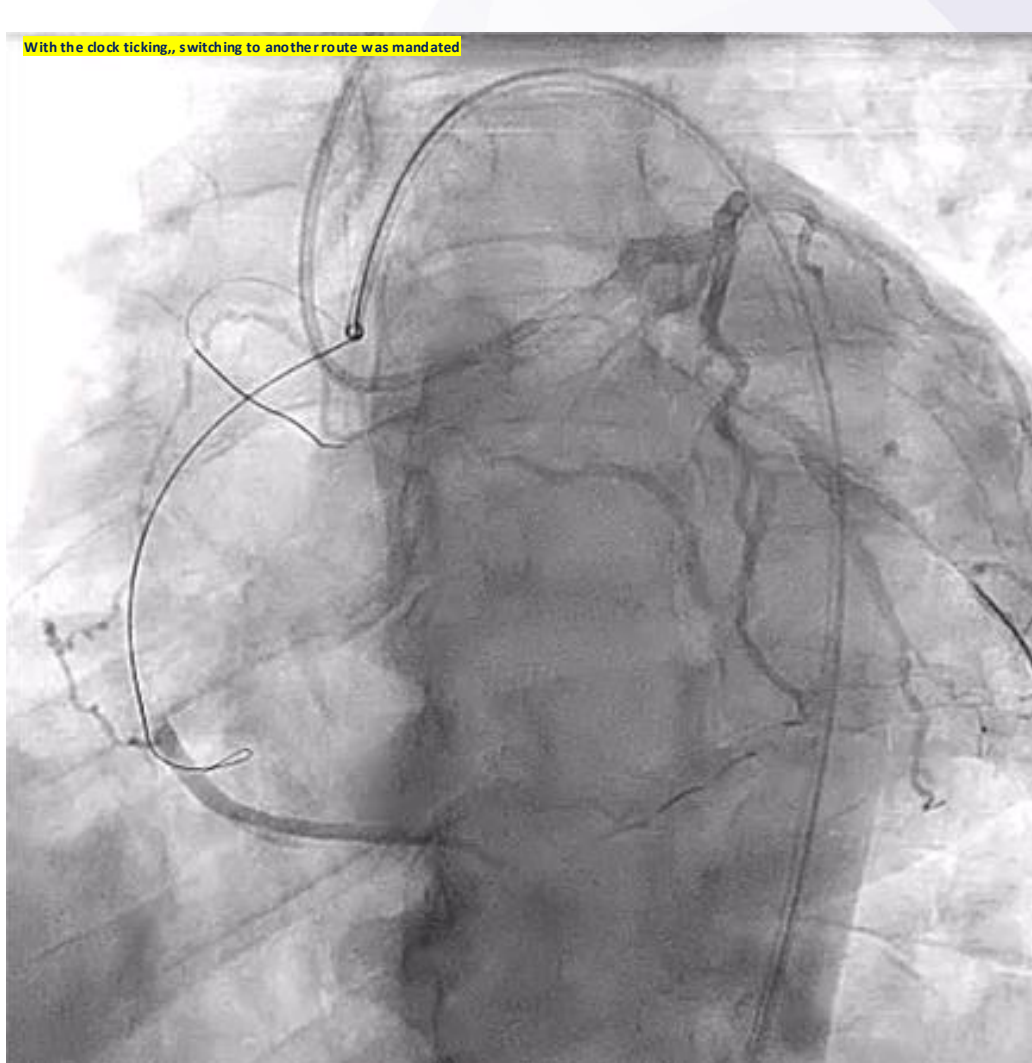
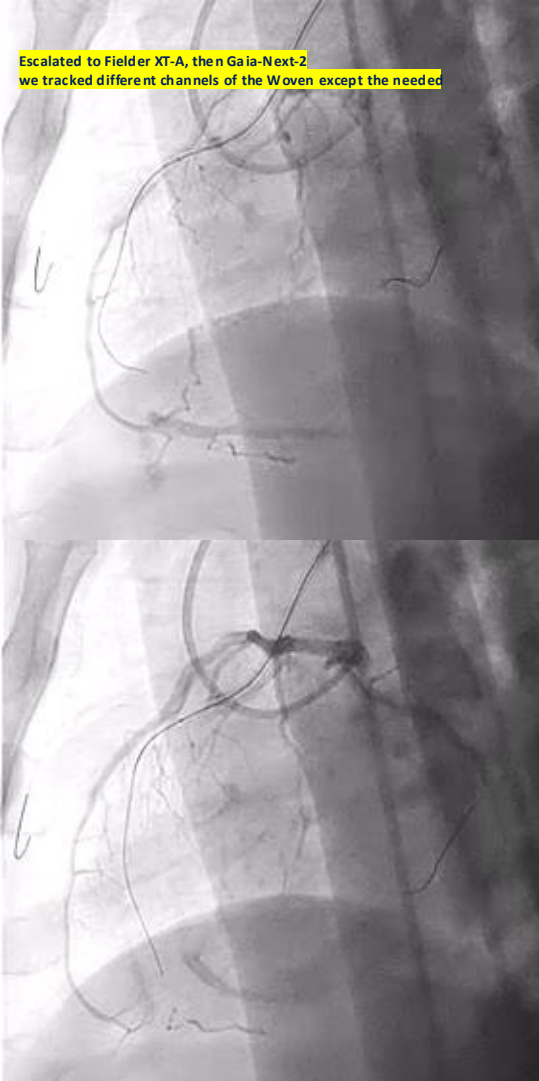


With hardly engaging JR, tried to track the true lumen with the Suoh
Then, put a Sion blue in the conal to protection and guide-stabilization, unfortunately same track
Unfortunately, it seemed as if the arteriopathy/SCAD rendered the RCA very vulnerable to dissect,

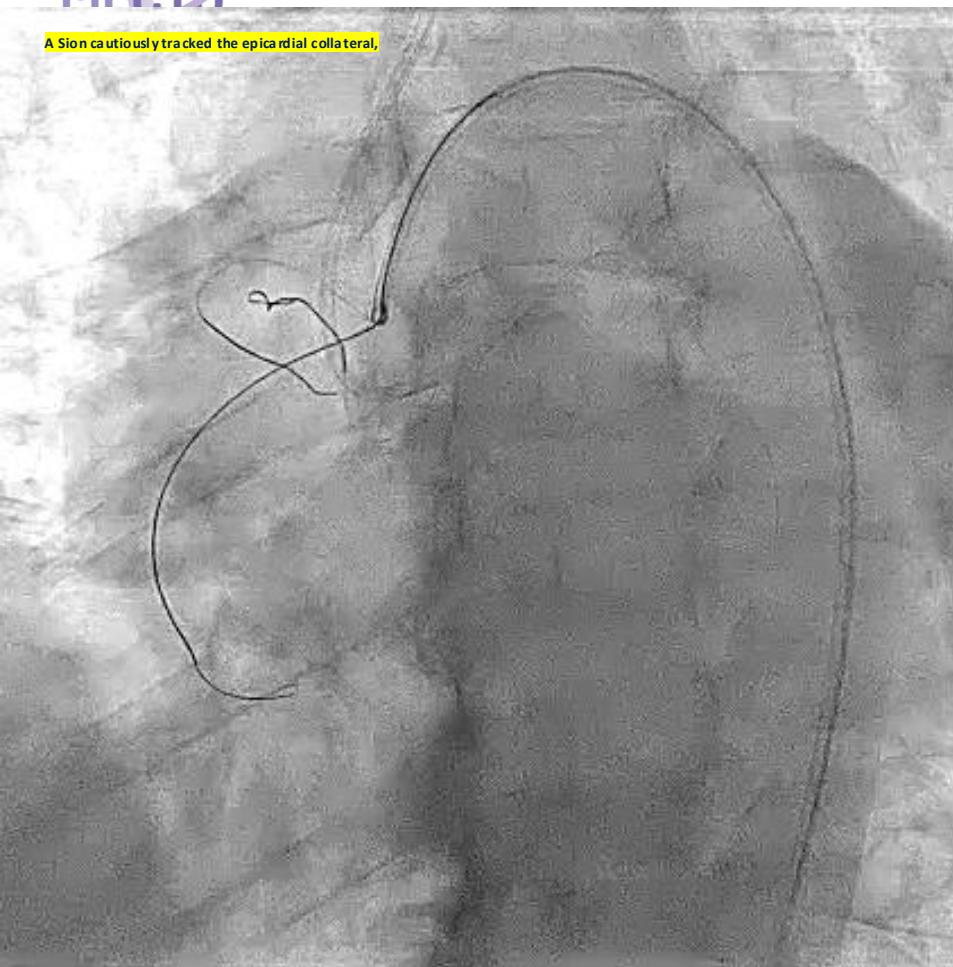


Shortly after, a retrograde access was aquired for visualization

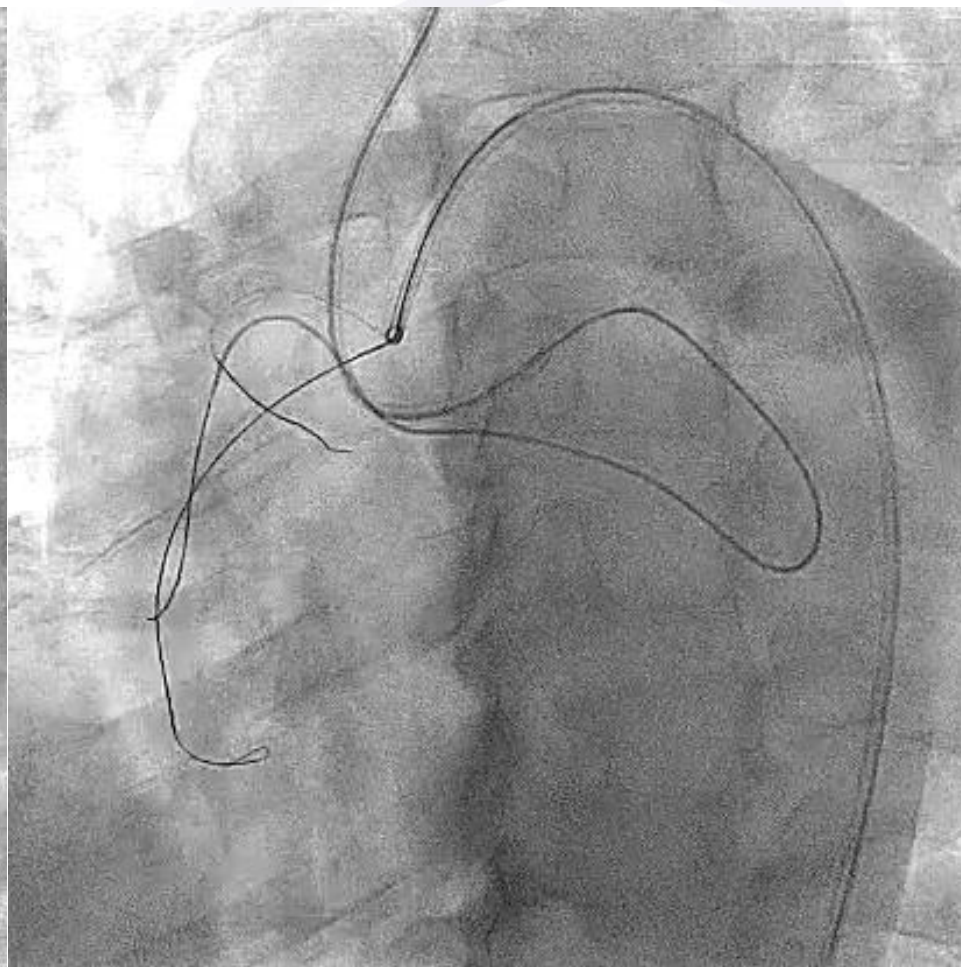




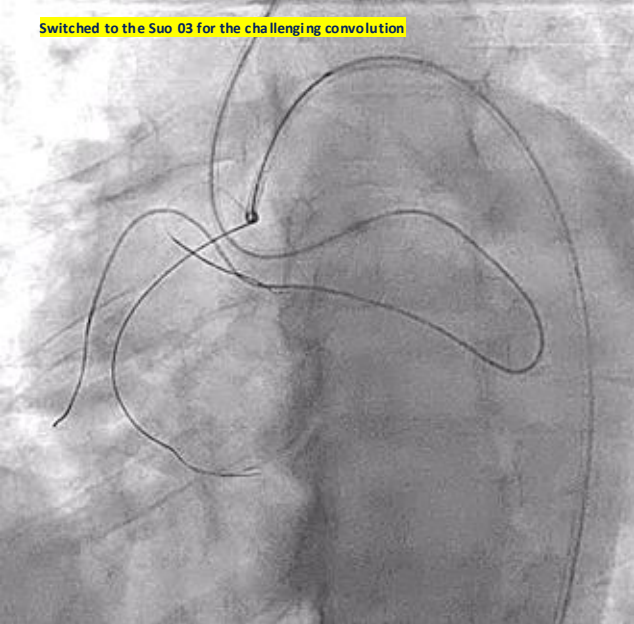
A Sion cautiously tracked the epicardial collateral,



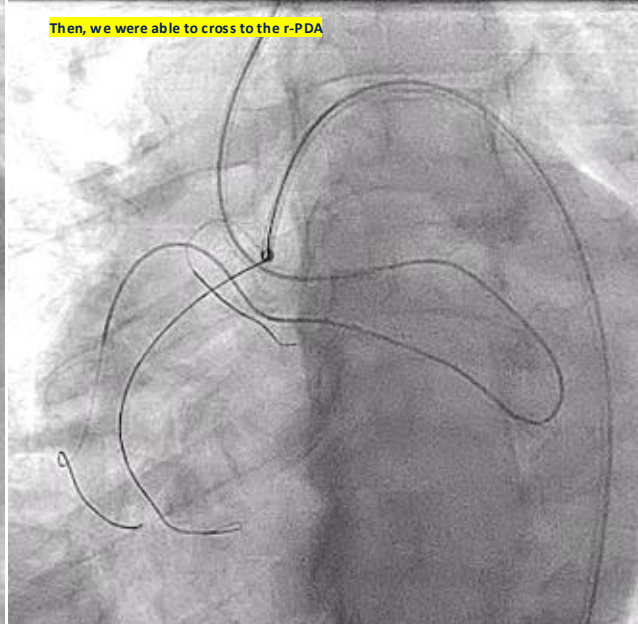
Then, followed by a Corsair pro 150 MC



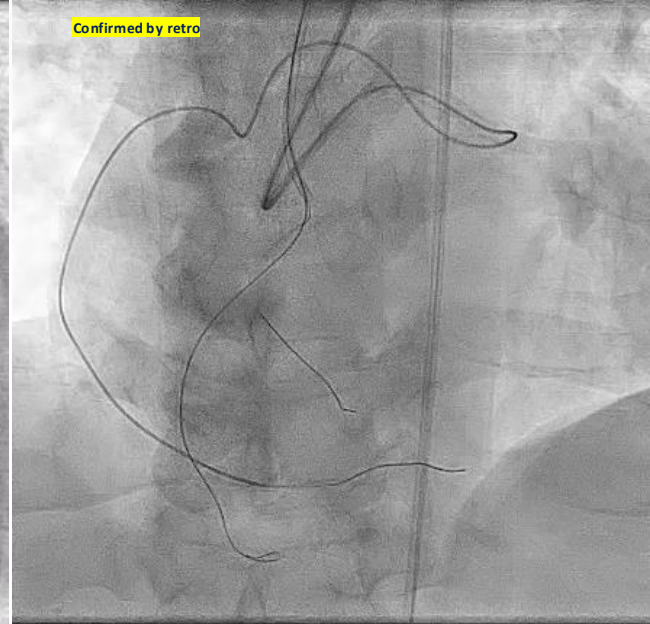
Switched to the Suo 03 for the challenging convolution



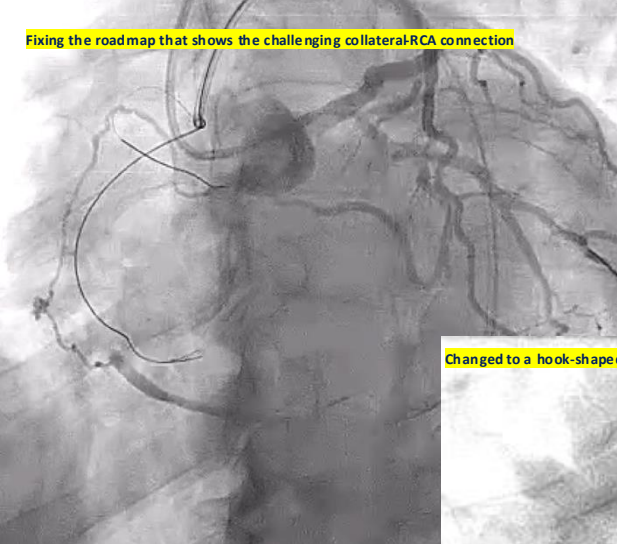
Then, we were able to cross to the r-PDA



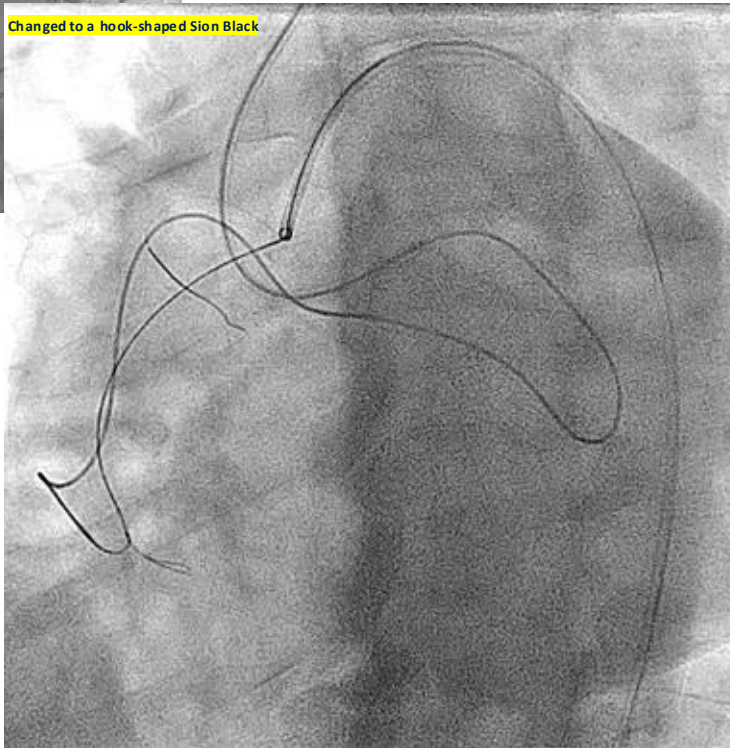
Confirmed by retro



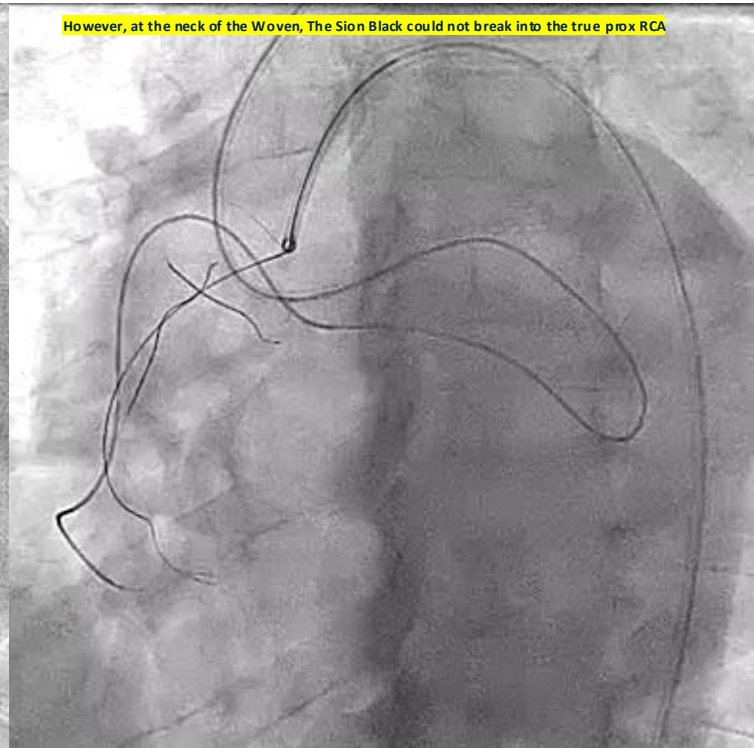
Fixing the road map that shows the challenging collateral-RCA connection



Changed to a hook-shaped Sion Black



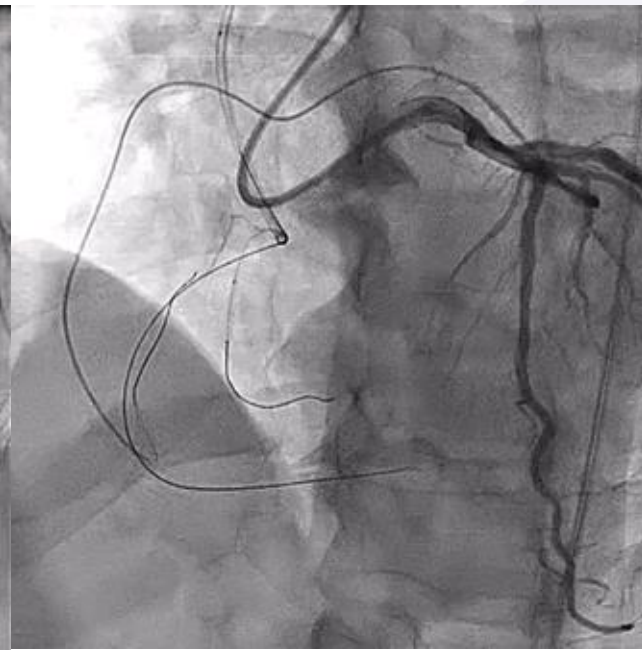
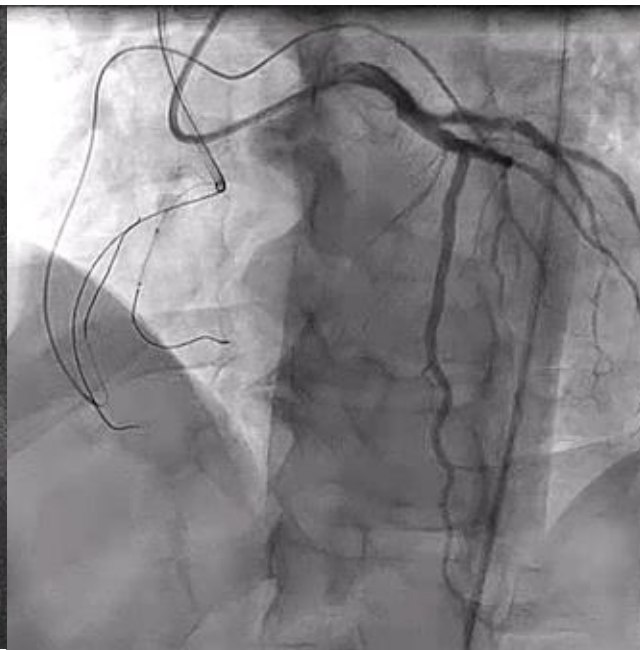
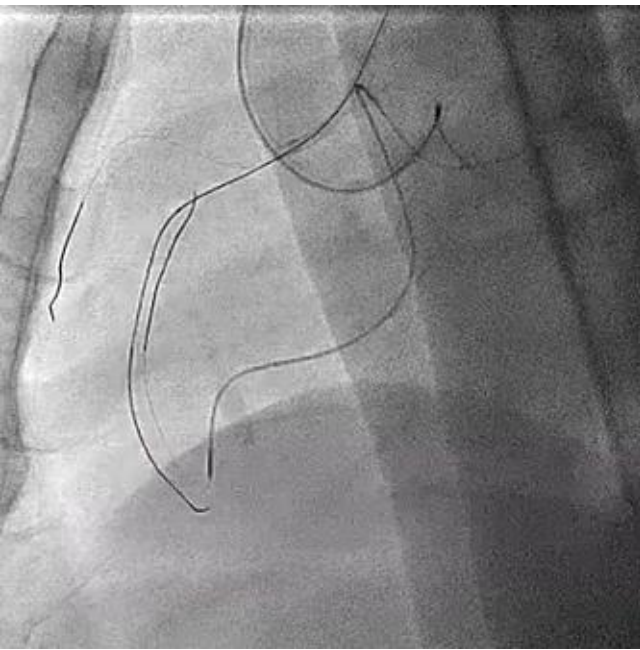
However, at the neck of the Woven, The Sion Black could not break into the true prox RCA



Trying to avoid upsetting the collateral, utilized the retro Sion Black "just a marker"
Tried to fish for a new antegrade entry

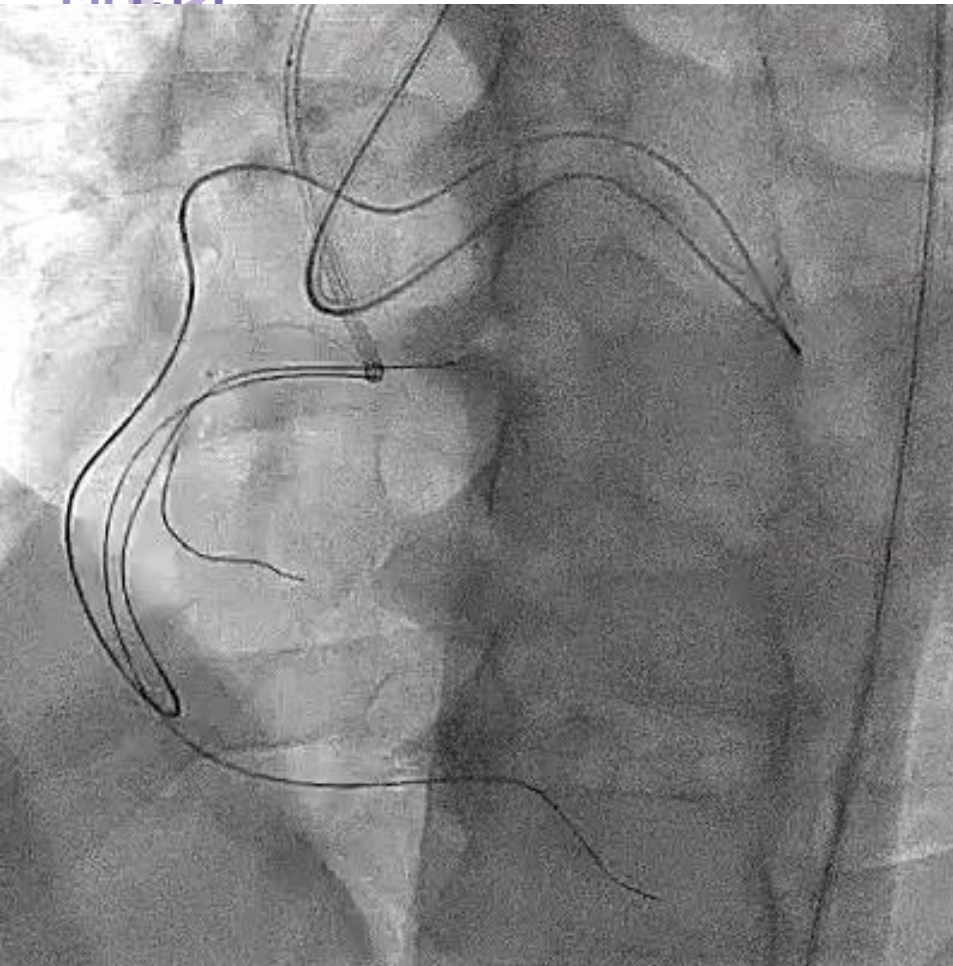
Even with an anchor balloon in the conal to freely disengage the JR, but didn't work

However, with straightening the convoluted segment of the collateral resulted in ZERO visualization = not a single septal connection
With the resultant ischaemia, Pt haemodynamics were getting compromised

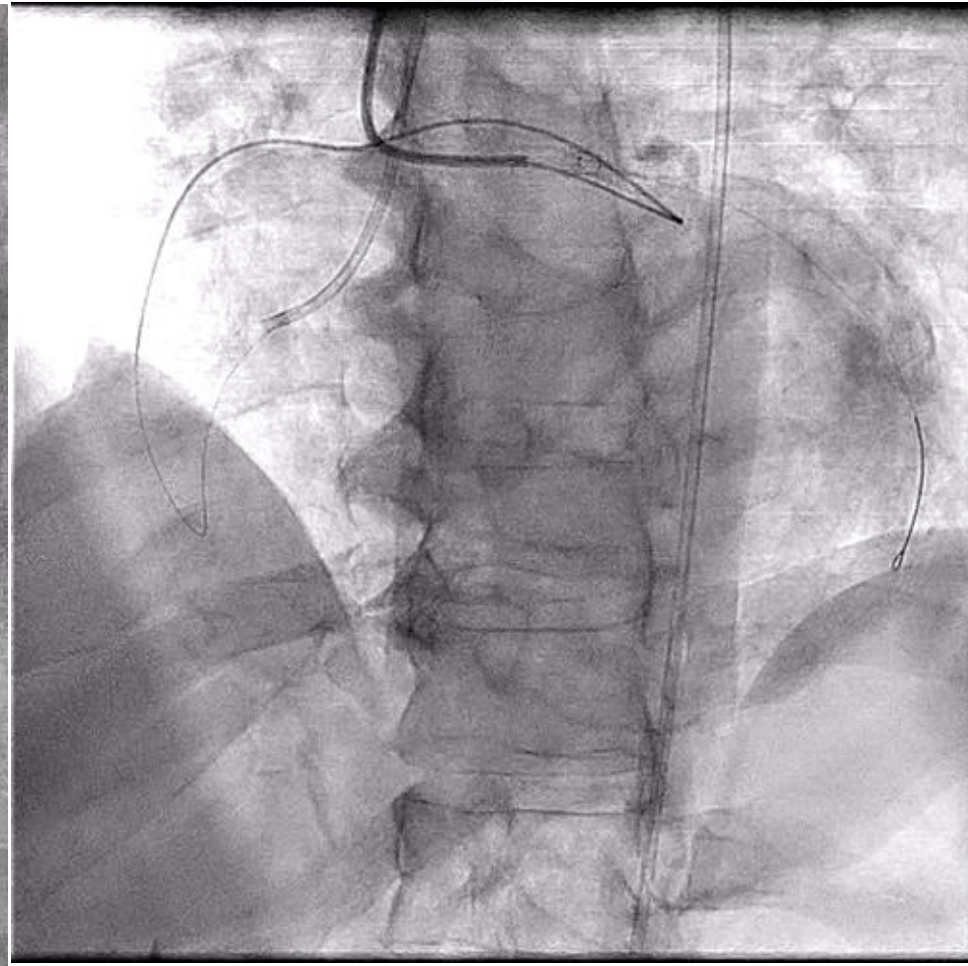


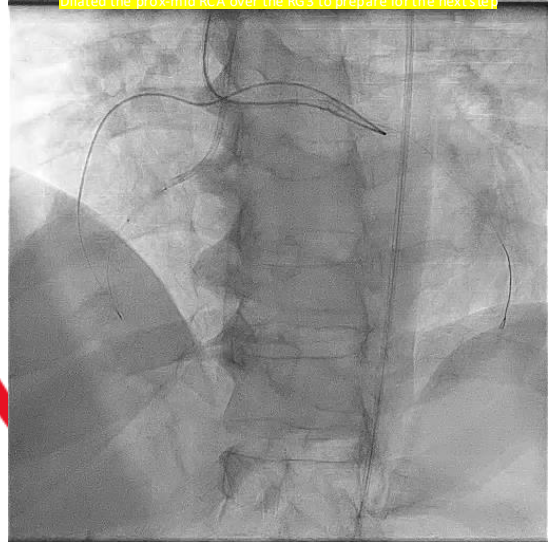
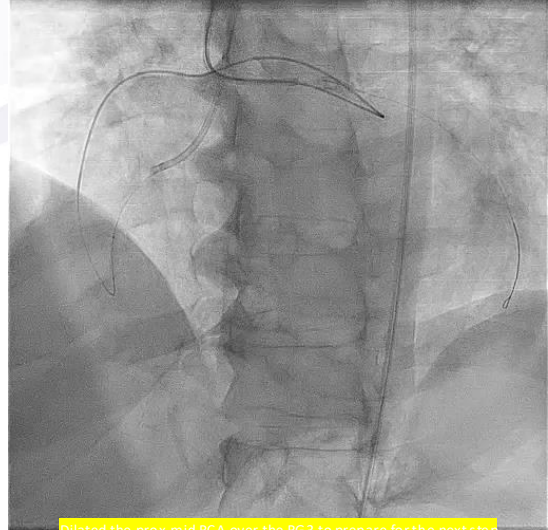
Whatever is needed, it was needed to be fast

advanced the Corsair retrogradely into the RCA body
Escalated the retro Sion Black to a Gaia Next 2, and it reached the aorta

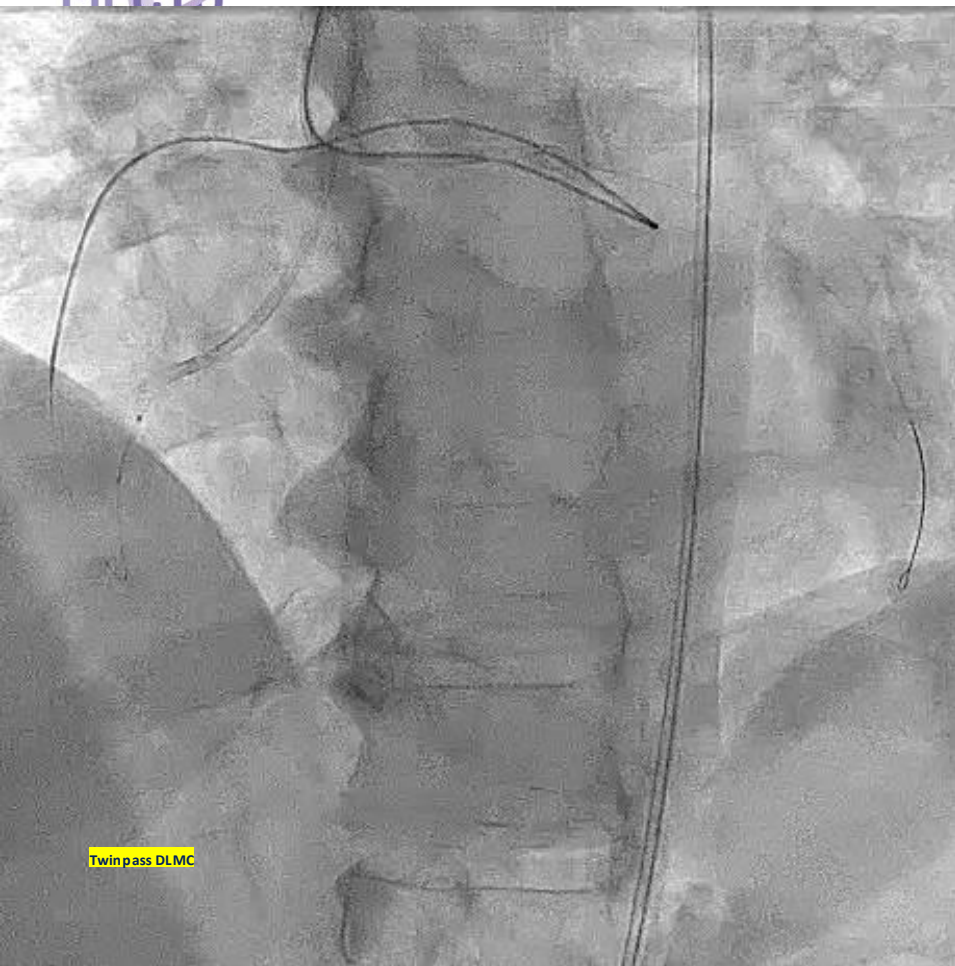


Eventually, we externalized an RG3 all the way into the JR hub

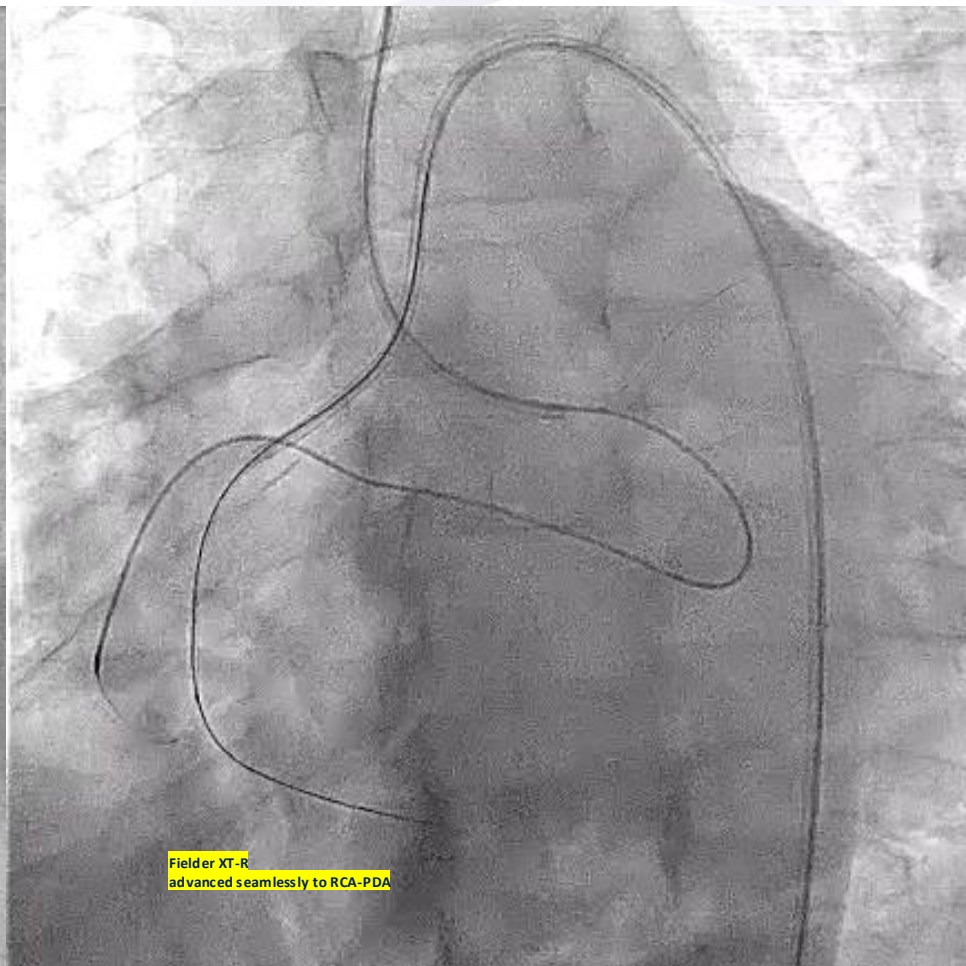






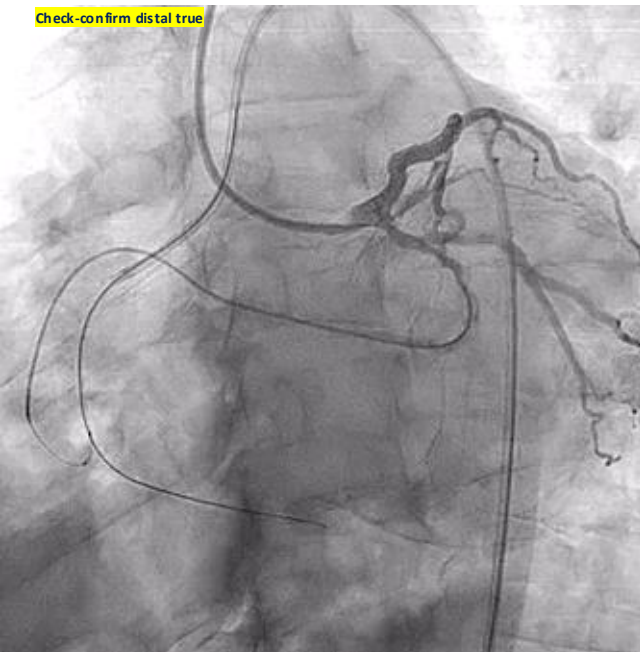


Twinpass DLMC

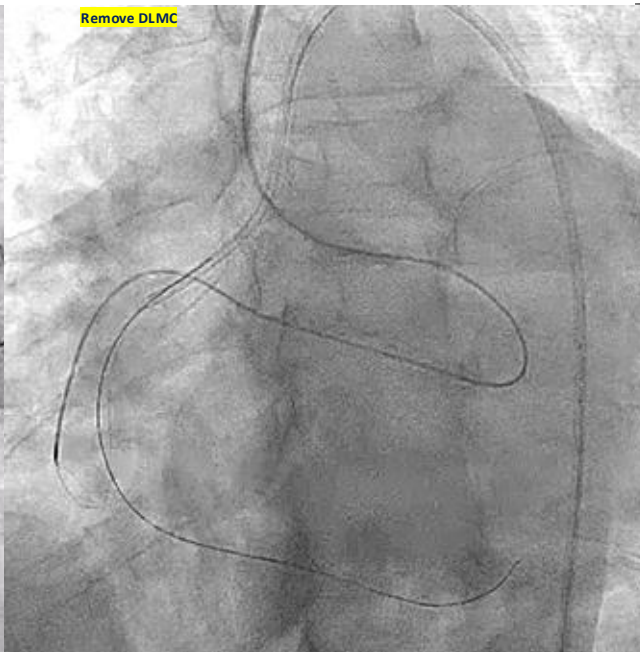


Fielder XT-R
advanced seamlessly to RCA-PDA

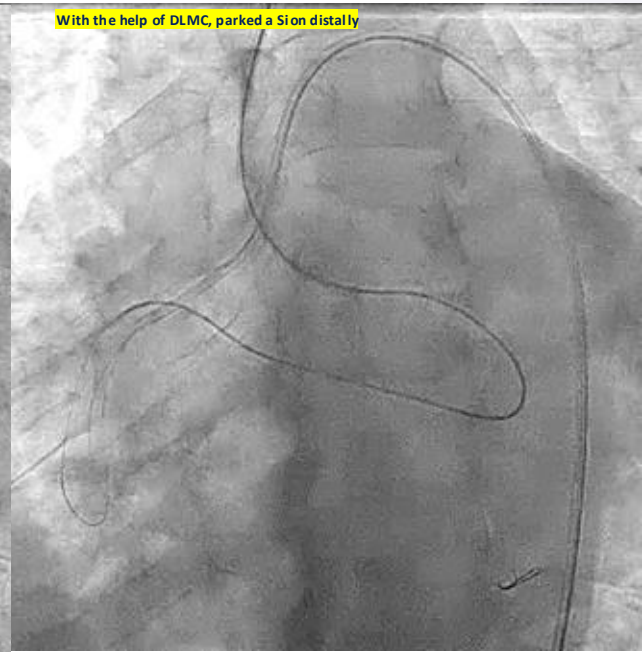
Check-confirm distal true



Remove DLMC



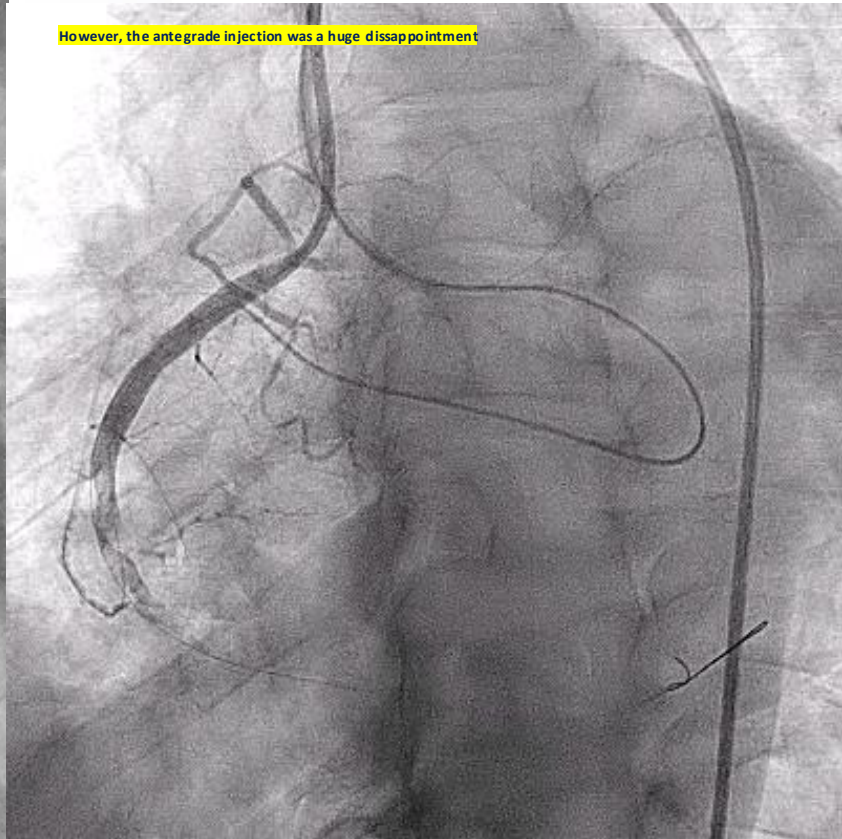
With the help of DLMC, parked a Sion distally

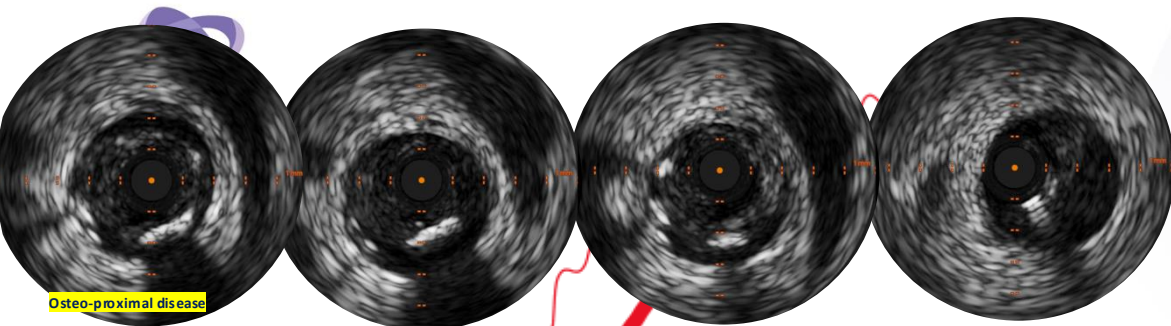


Further dilated over the Sion, with bonus scoring by the RG3

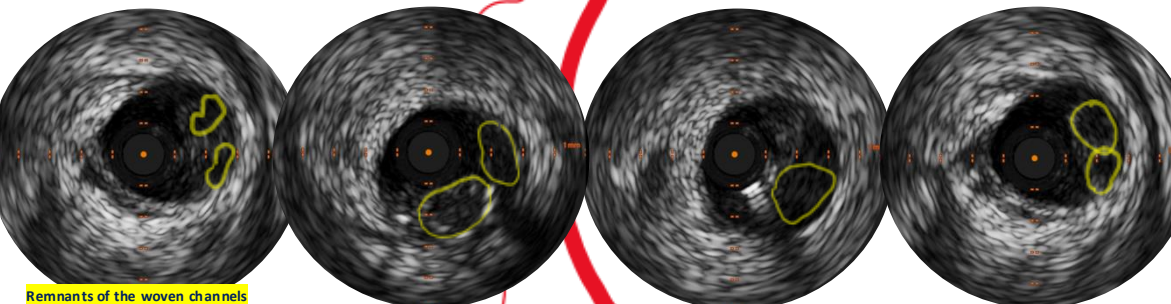


However, the antegrade injection was a huge disappointment

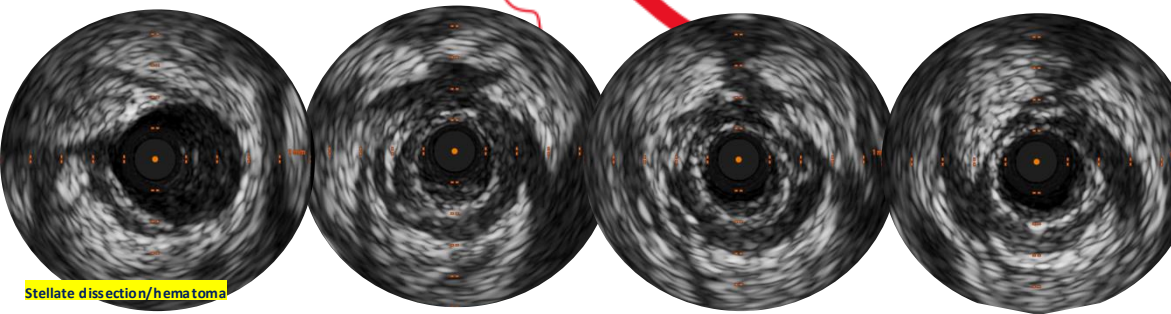




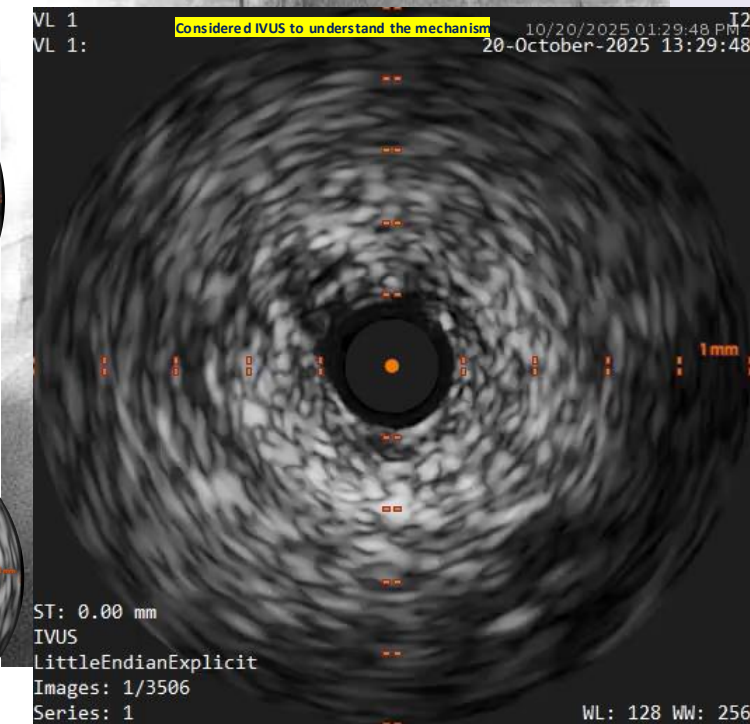
Osteo-proximal disease



Remnants of the woven channels



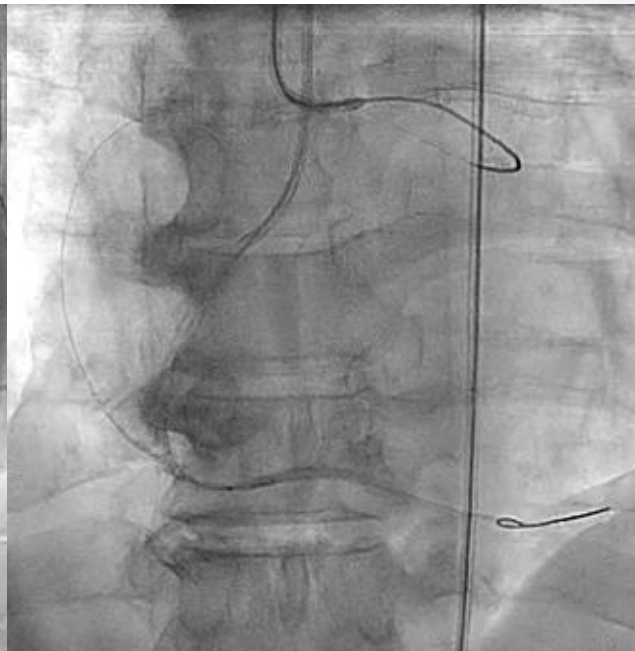
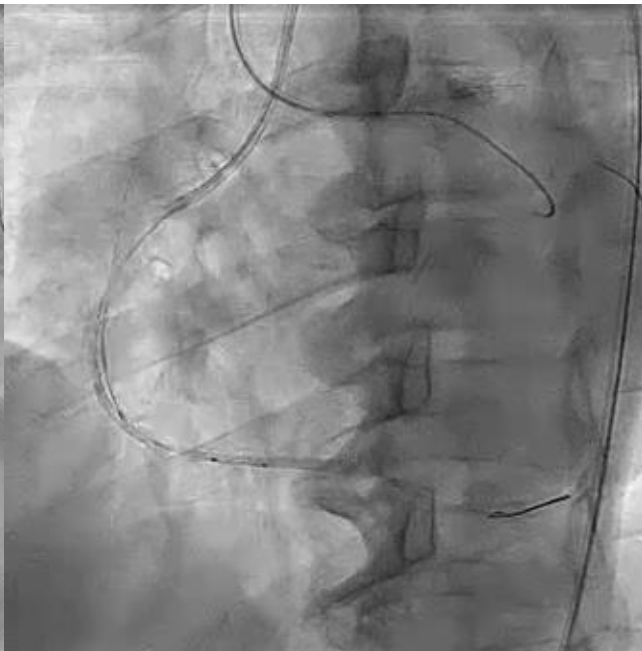
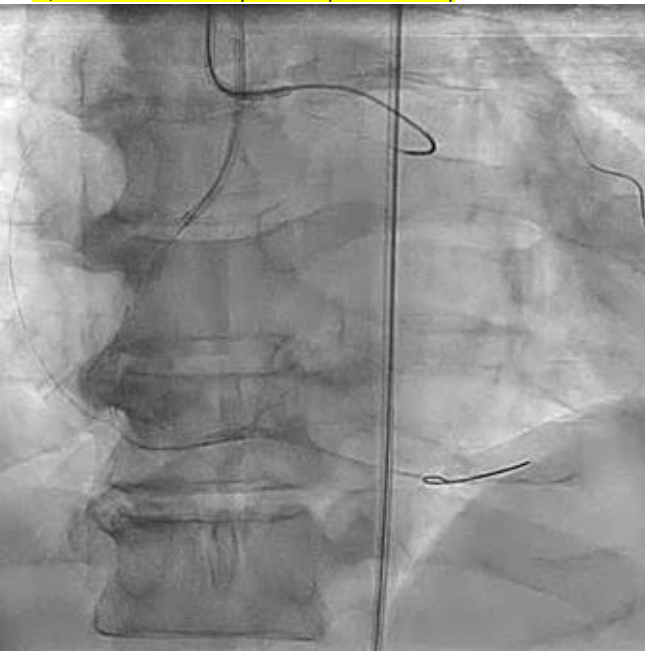
Stellate dissection/hematoma



ST: 0.00 mm
IVUS
LittleEndianExplicit
Images: 1/3506
Series: 1

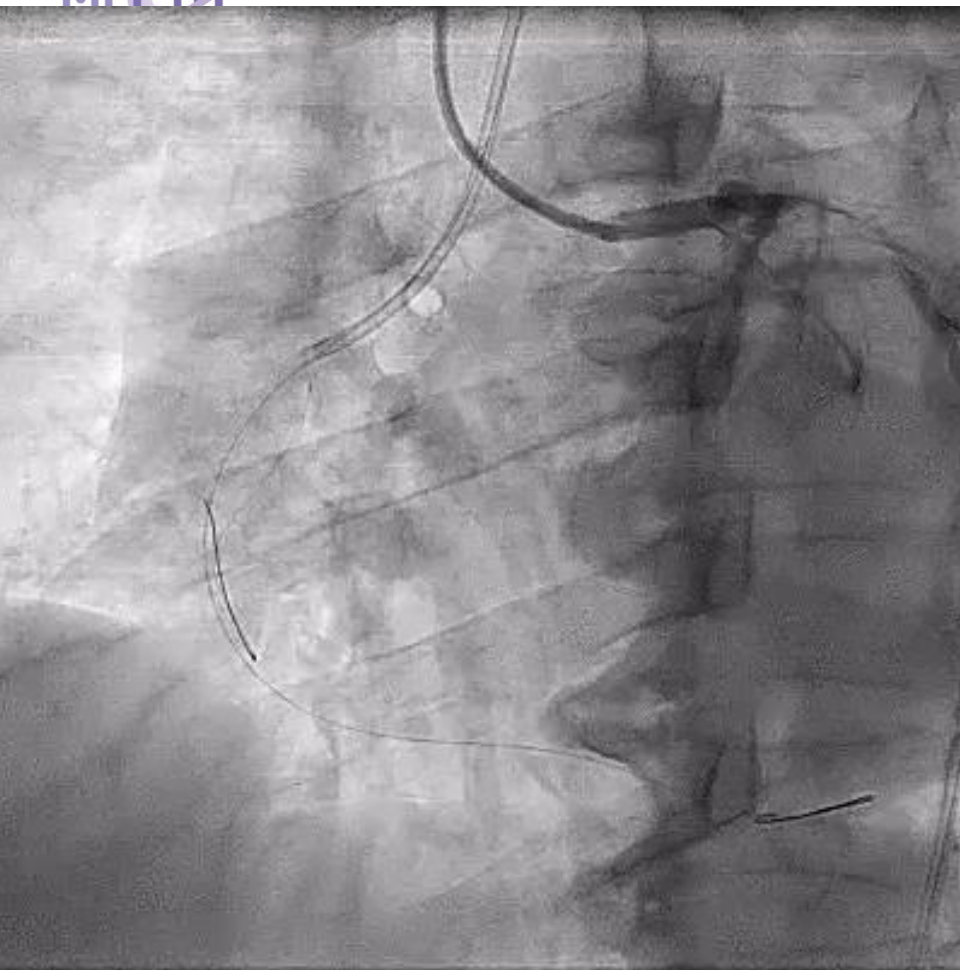
WL: 128 WW: 256

Realized that antegrade flow is impeded by the Woven/hematoma/dissection complex
So, utilized the DLM C to identify the sweet-spot to land distally

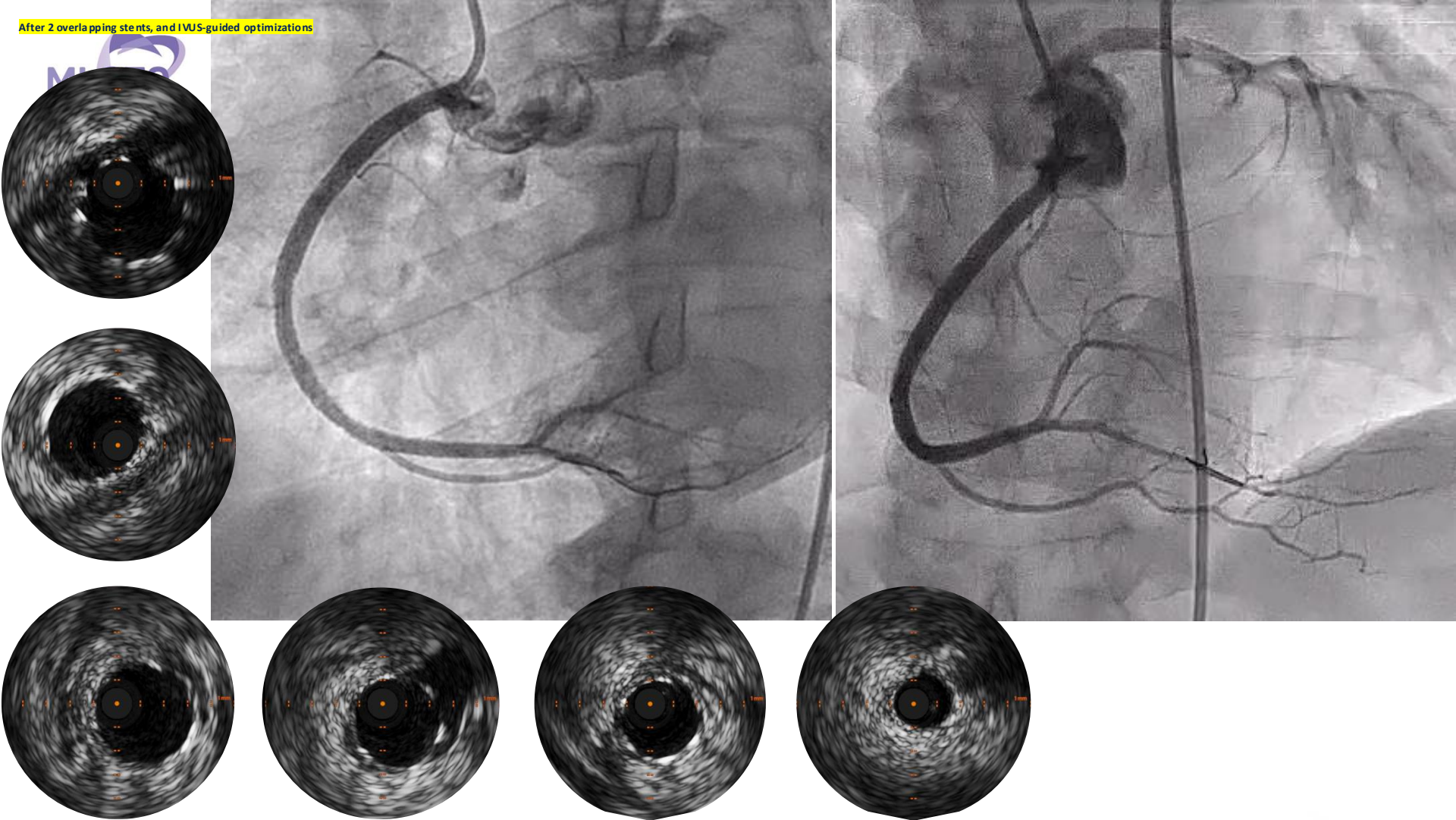




Before stenting,
withdrew the retrograde gear stepwise and confirmed the collateral was safe and healthy



After 2 overlapping stents, and IVUS-guided optimizations



Lessons Learnt



Woven coronary arteries are extremely unpredictable; they can look decent while hiding worrisome vulnerability



CTO skills can be very handy in different PCI scenarios, particularly when HISTORY and GEOGRAPHY decide to disagree



In the present case, that was a real nightmare of acute vessel closure, that necessitated the skills of complex CTO PCIs to manage