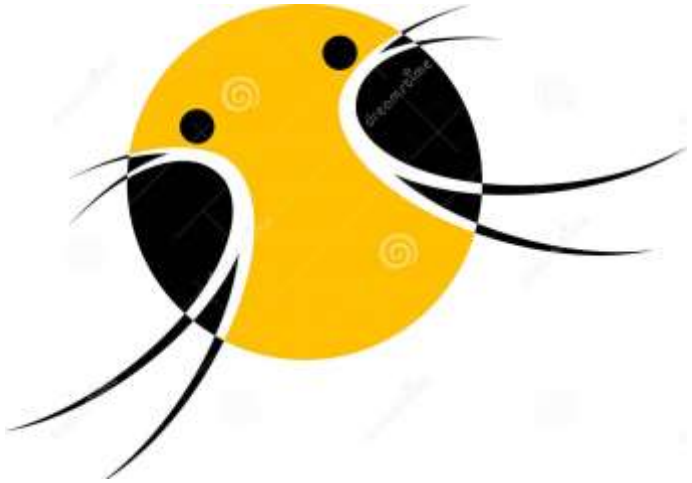
A rendez-vous between two CTOs

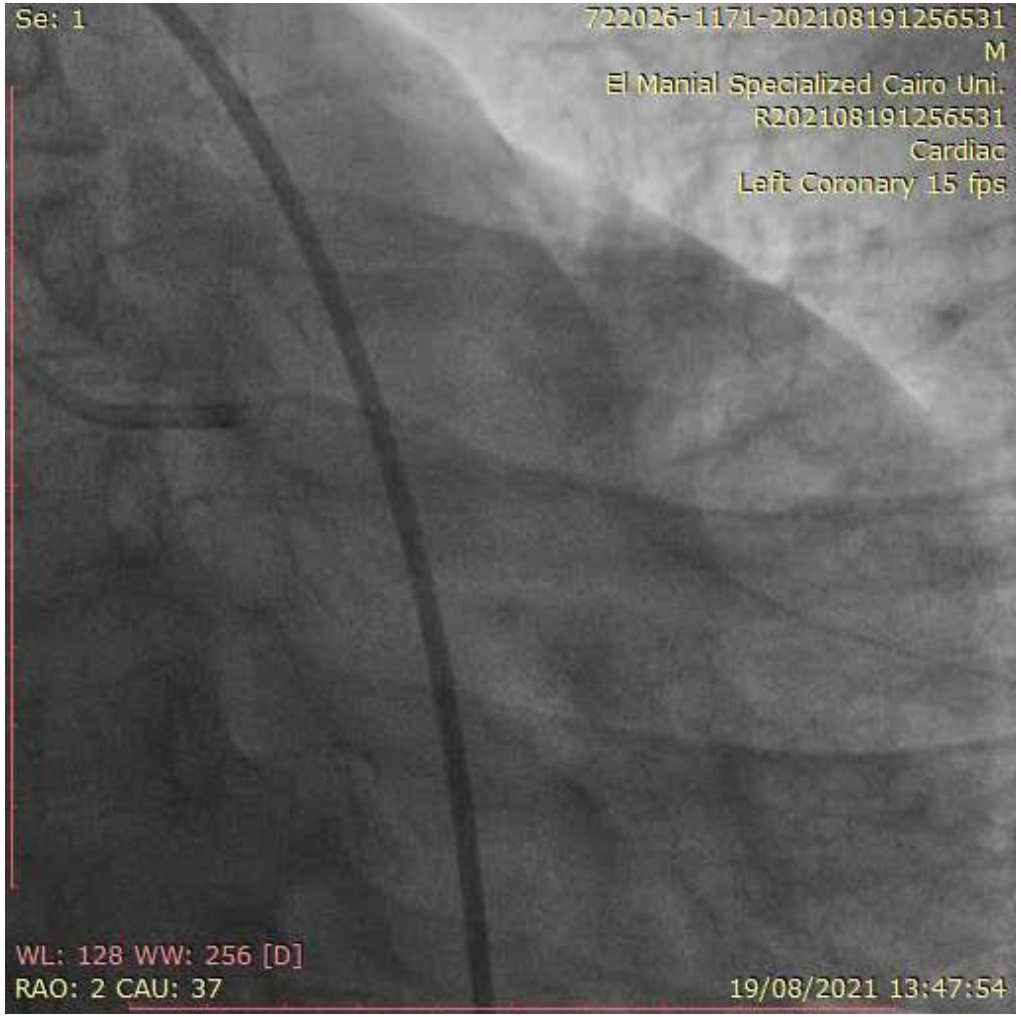


Sherif Rizk, MD

Consultant and Lecturer of interventional Cardiology

Kasr Al Aini Hospital, Cairo University

- A 45-year-old male patient, HTN, smoker
- Acute chest pain → New onset LBBB
- Past history of exertional chest pain on mild to moderate exertion for the past year.
- Echo: preserved systolic function (58%) with hypokinetic apex and apical adjoining segments.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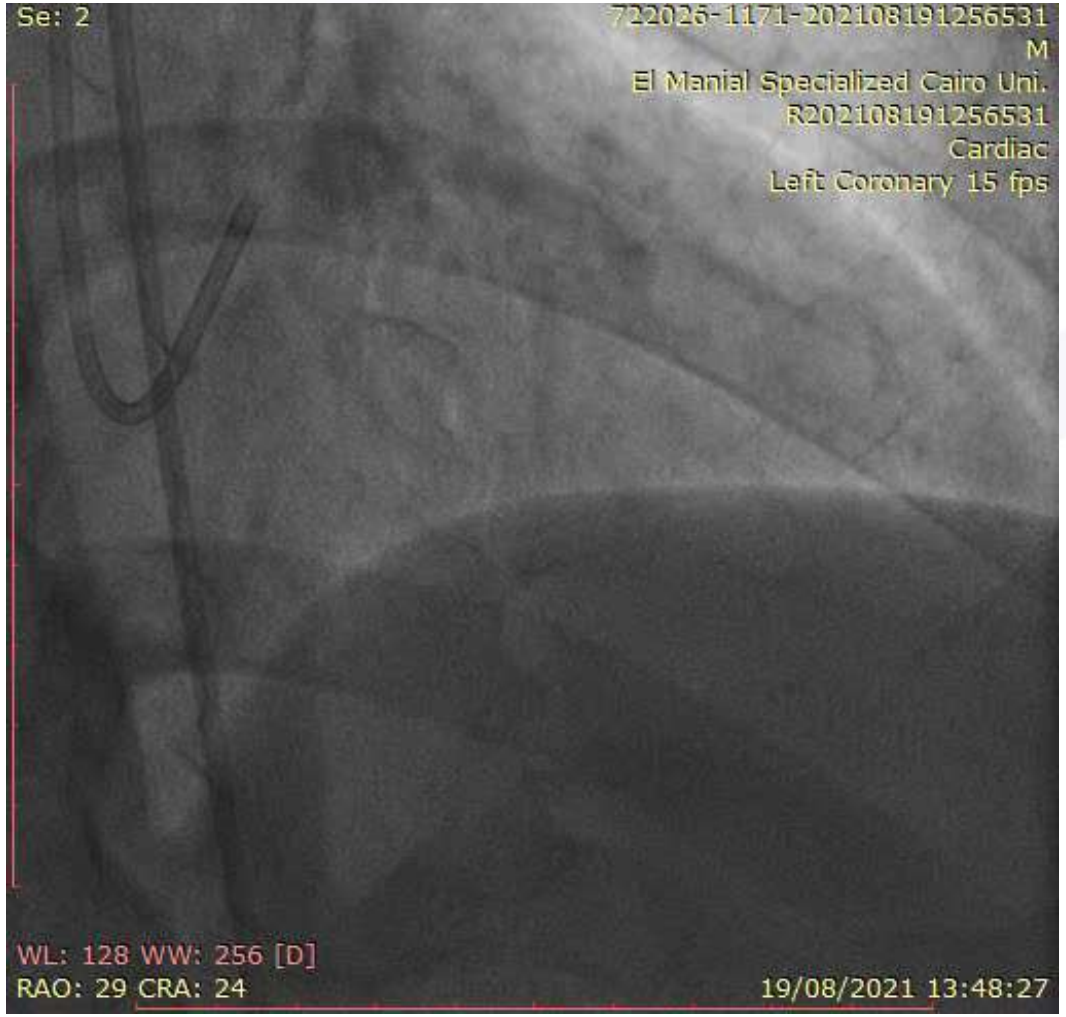
El Manial Specialized Cairo Uni.
R202108191256531
Cardiac
Left Coronary 15 fps
WL: 128 WW: 256 [D]
RAO: 2 CAU: 37
19/08/2021 13:47:54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R202108191256531
Cardiac
Left Coronary 15 fps
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RAO: 29 CRA: 24
19/08/2021 13:48:27


Se: 3
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El Manial Specialized Cairo Uni.
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RAO: 1 CRA: 24
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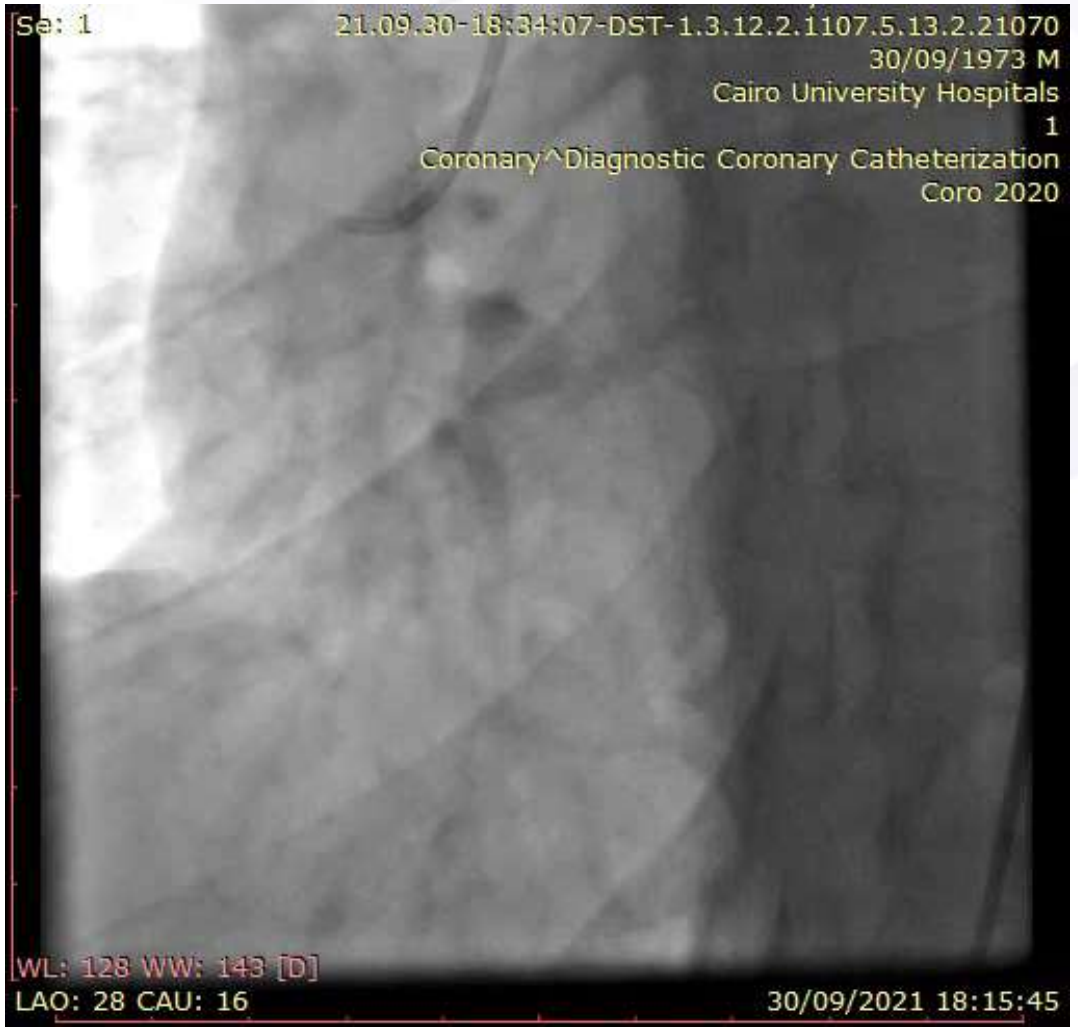
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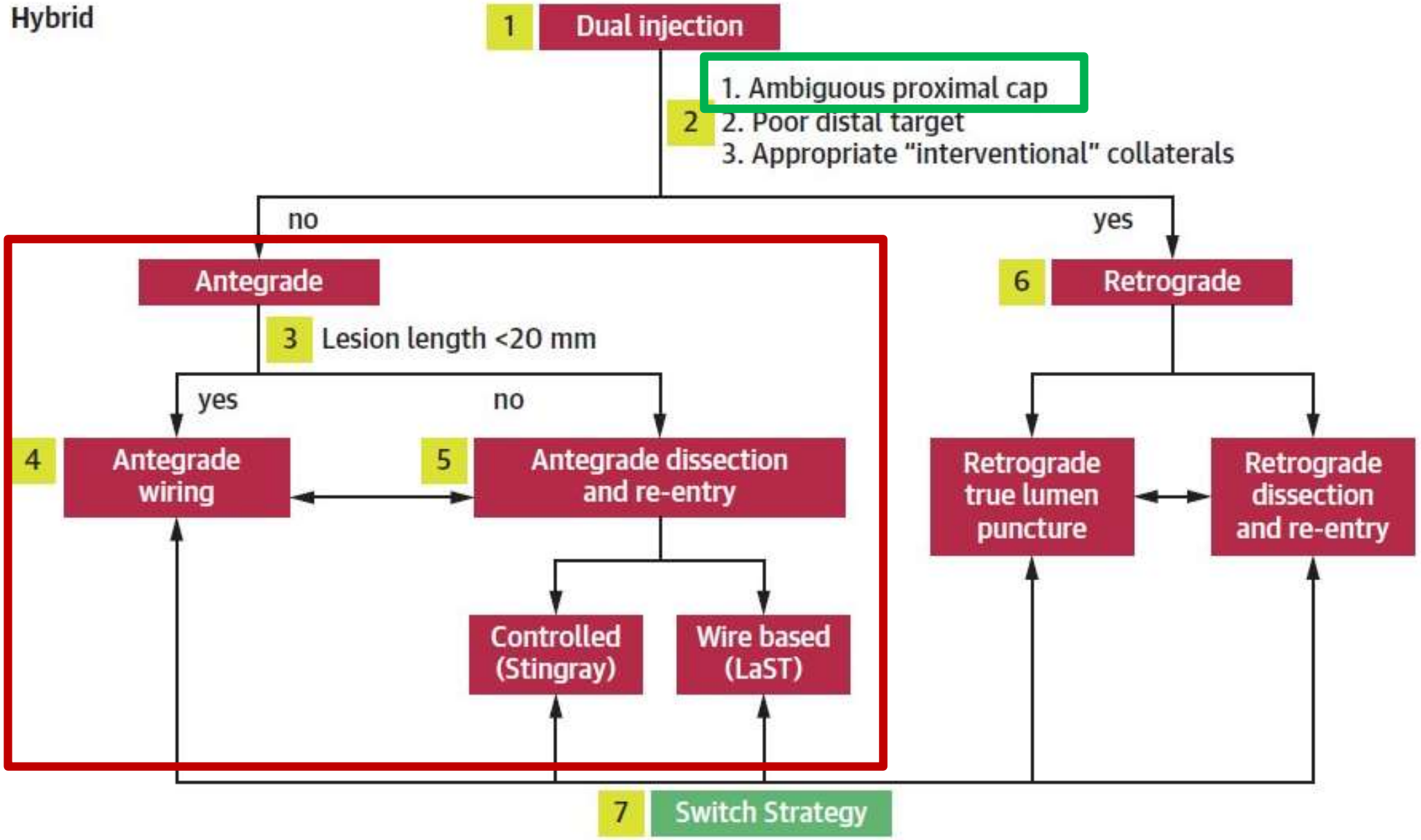
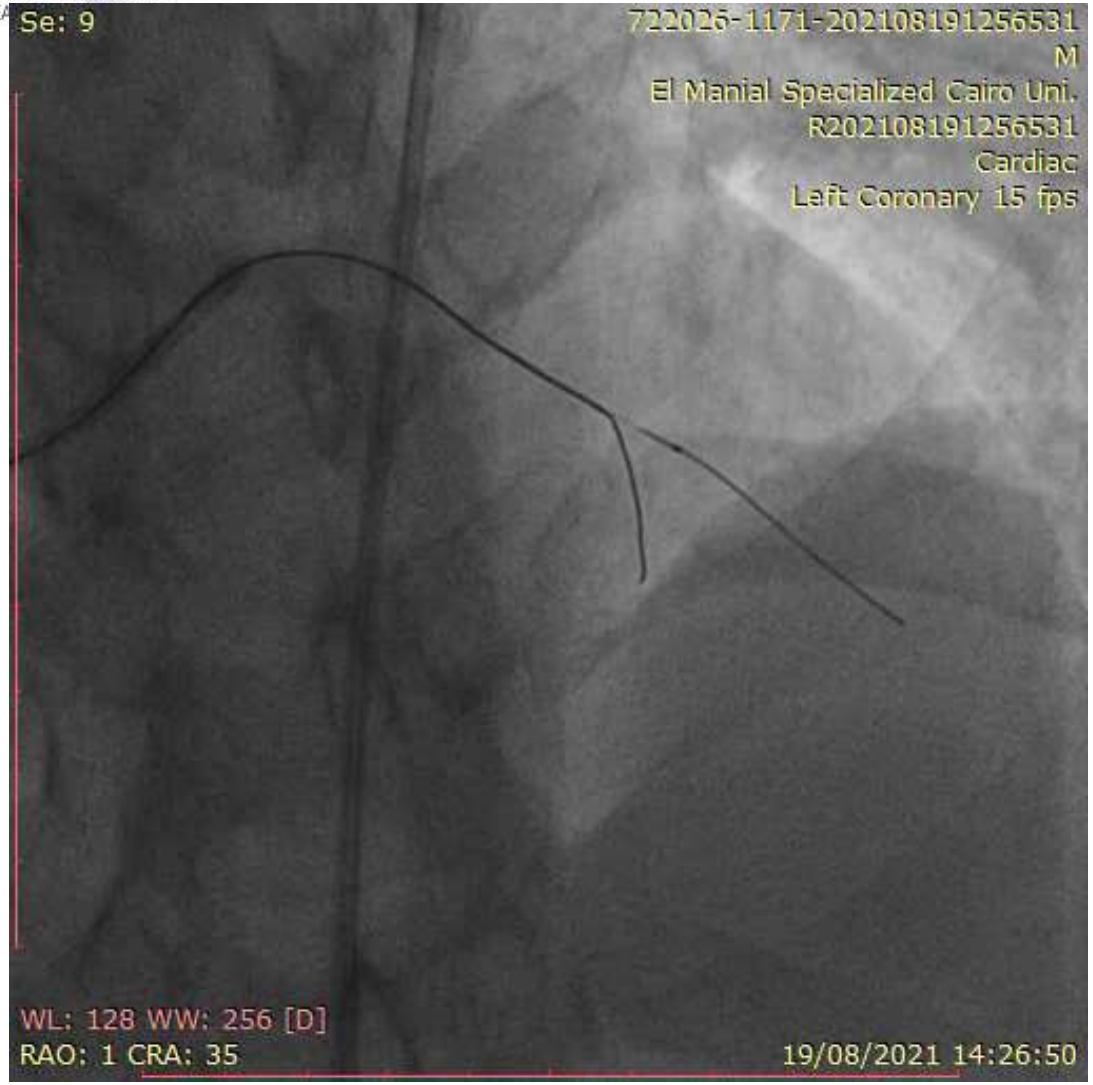
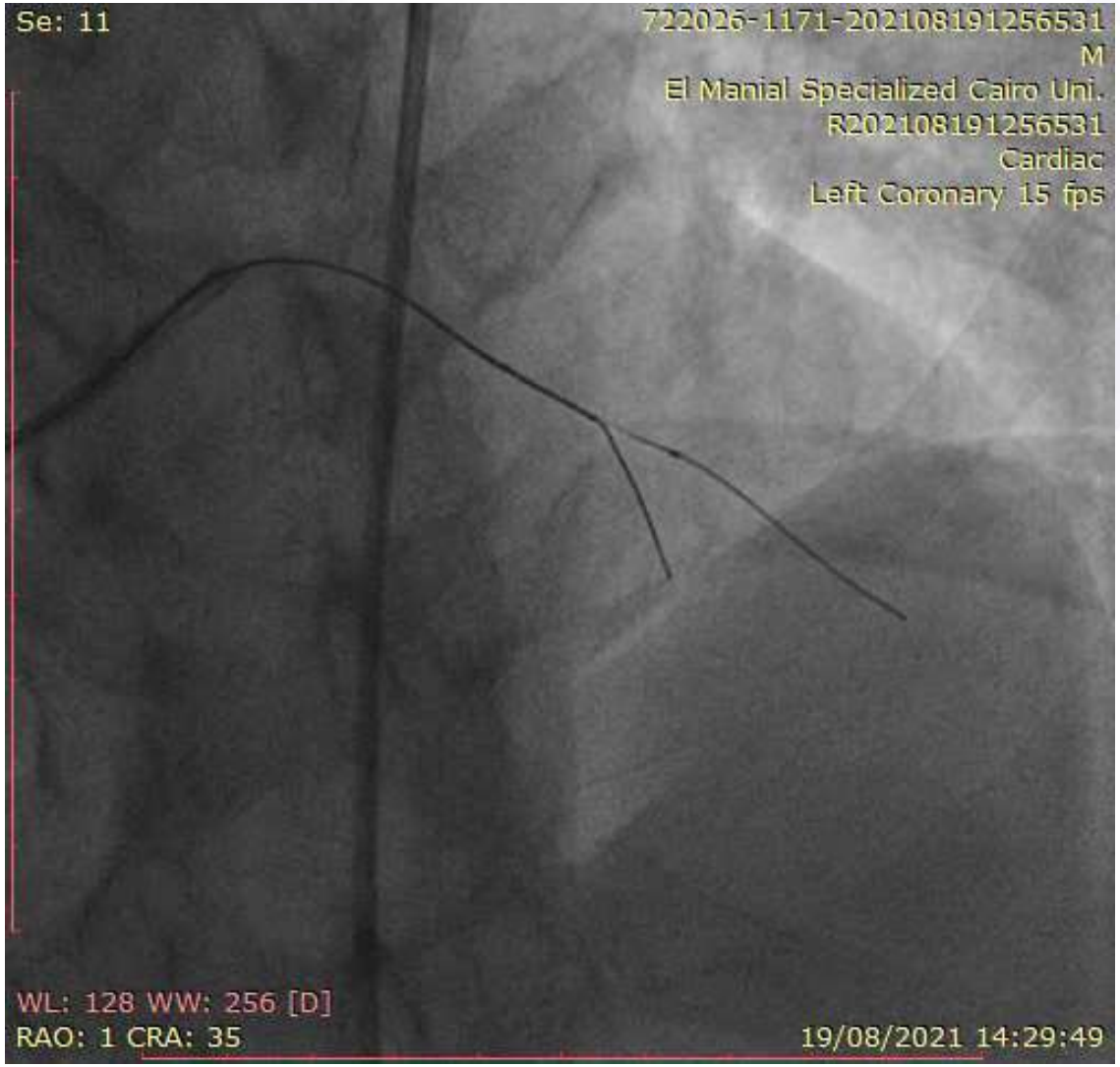
30/09/1973 M
Cairo University Hospitals
1
Coronary^Diagnostic Coronary Catheterization
Coro 2020
WL: 128 WW: 143 [D]
LAO: 28 CAU: 16
30/09/2021 18:15:45

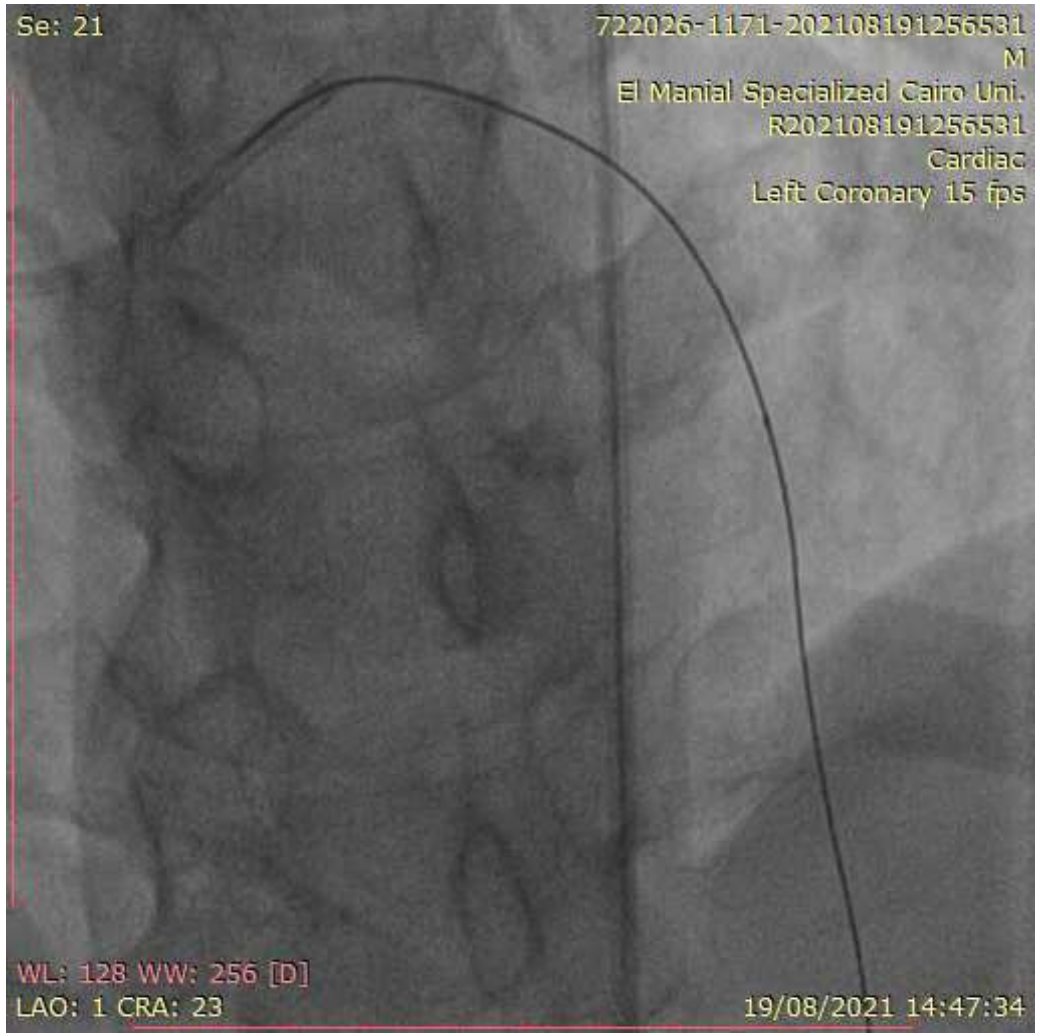


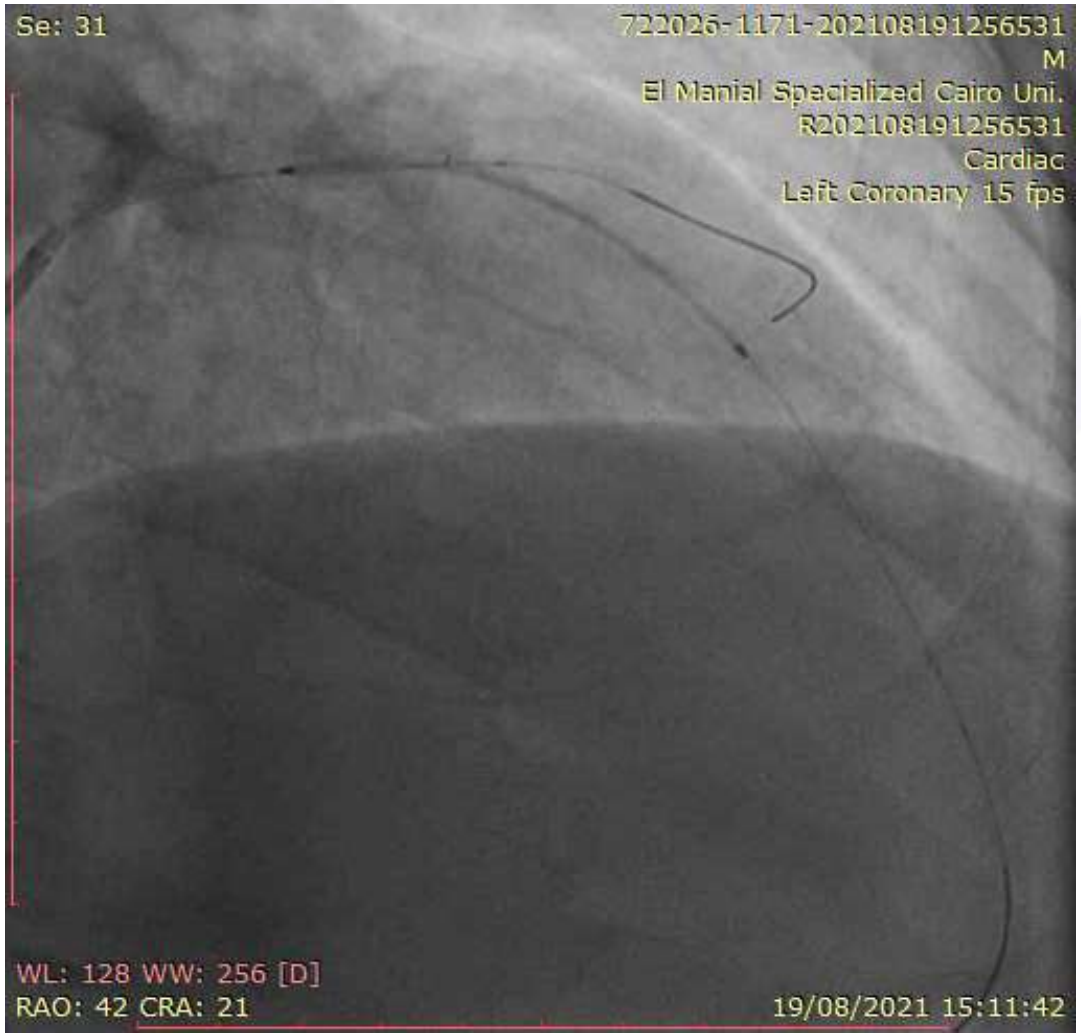
Brilakis ES, Grantham JA, Rinfret S, et al. A percutaneous treatment algorithm for crossing coronary chronic total occlusions. *JACC Cardiovasc Interv* 2012;5:367-79.





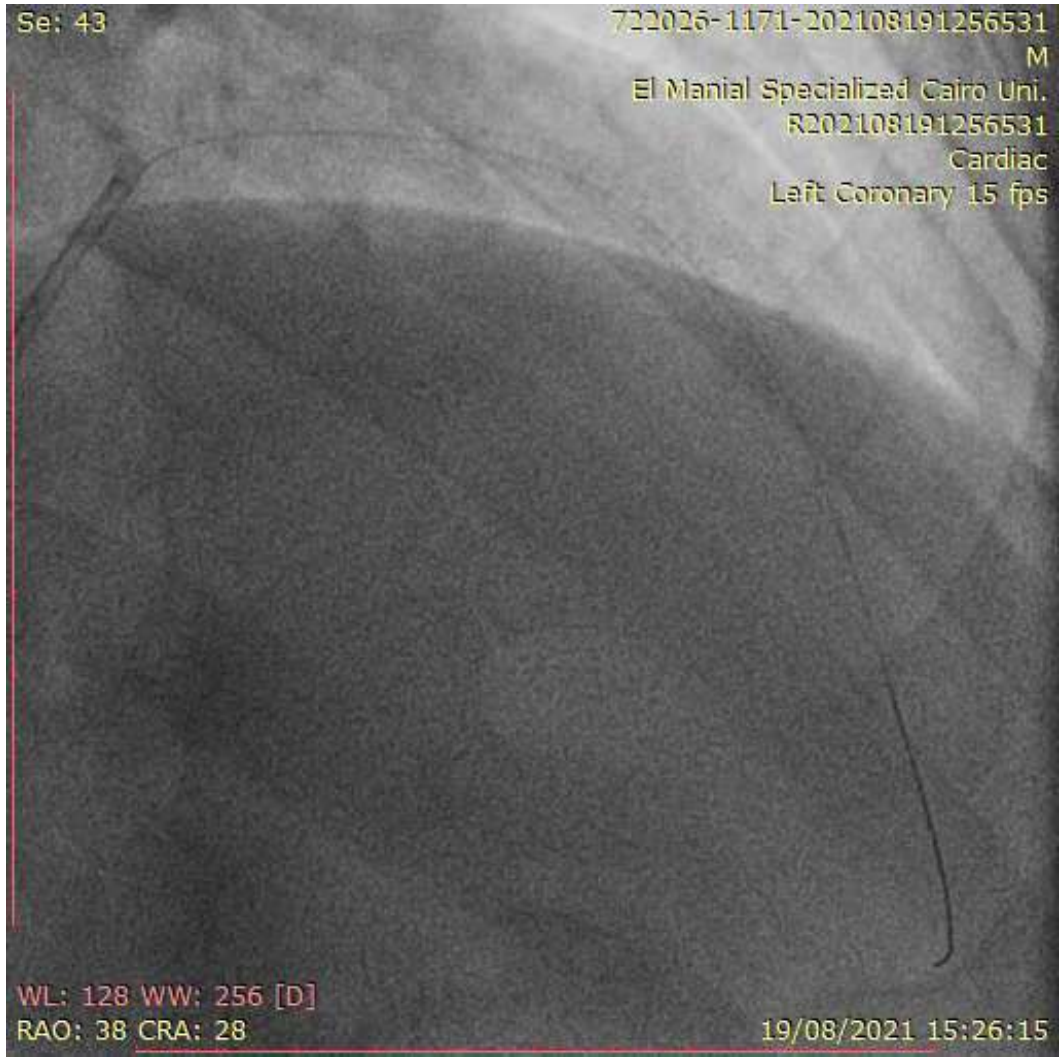
Using dual-lumen microcatheter (twin-pass) and Gaia 2nd then 3rd (as 2nd went extra-plaque)



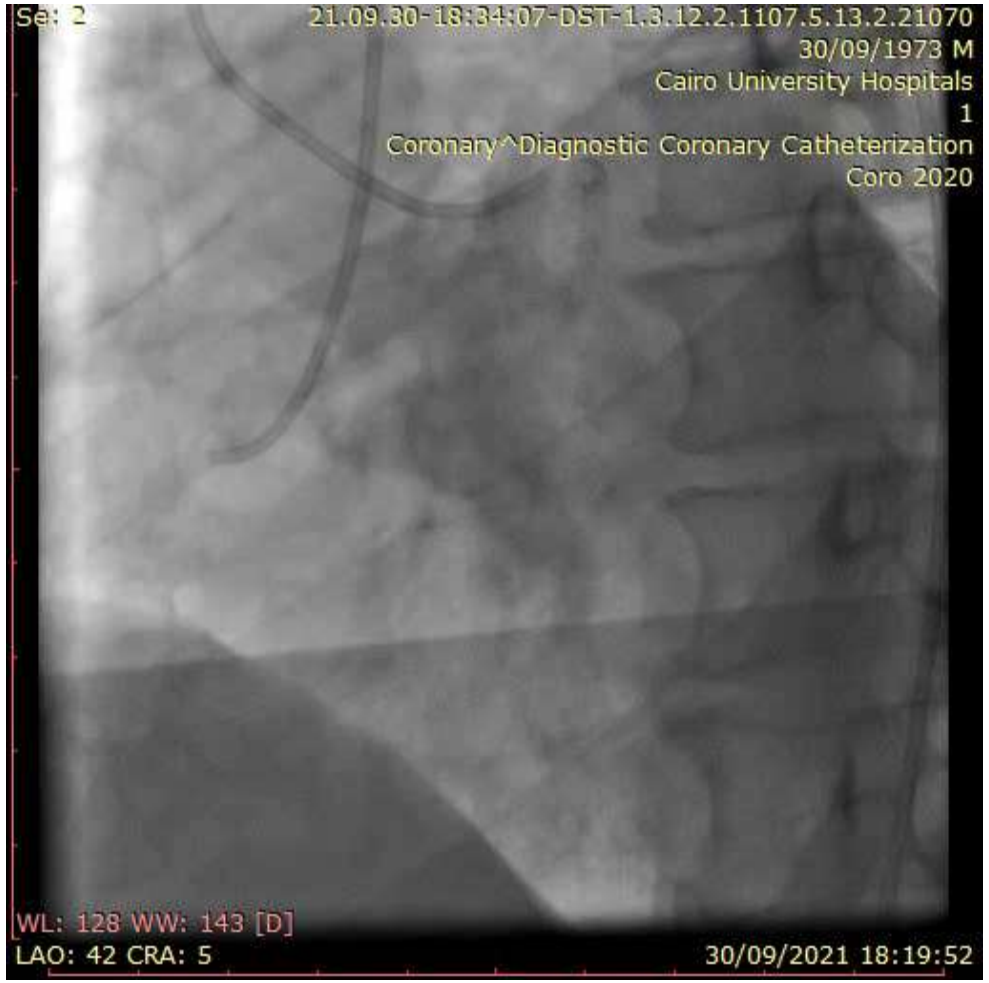


Pre-dilatation over Gaia 3rd as microcatheters failed to cross the LAD CTO then corsair microcatheter crossed successfully followed by wire exchange with a BMW wire.

Final Result



- **Patient discharged on extensive anti-ischemic treatment**
- **Scheduled for RCA CTO PCI one month later**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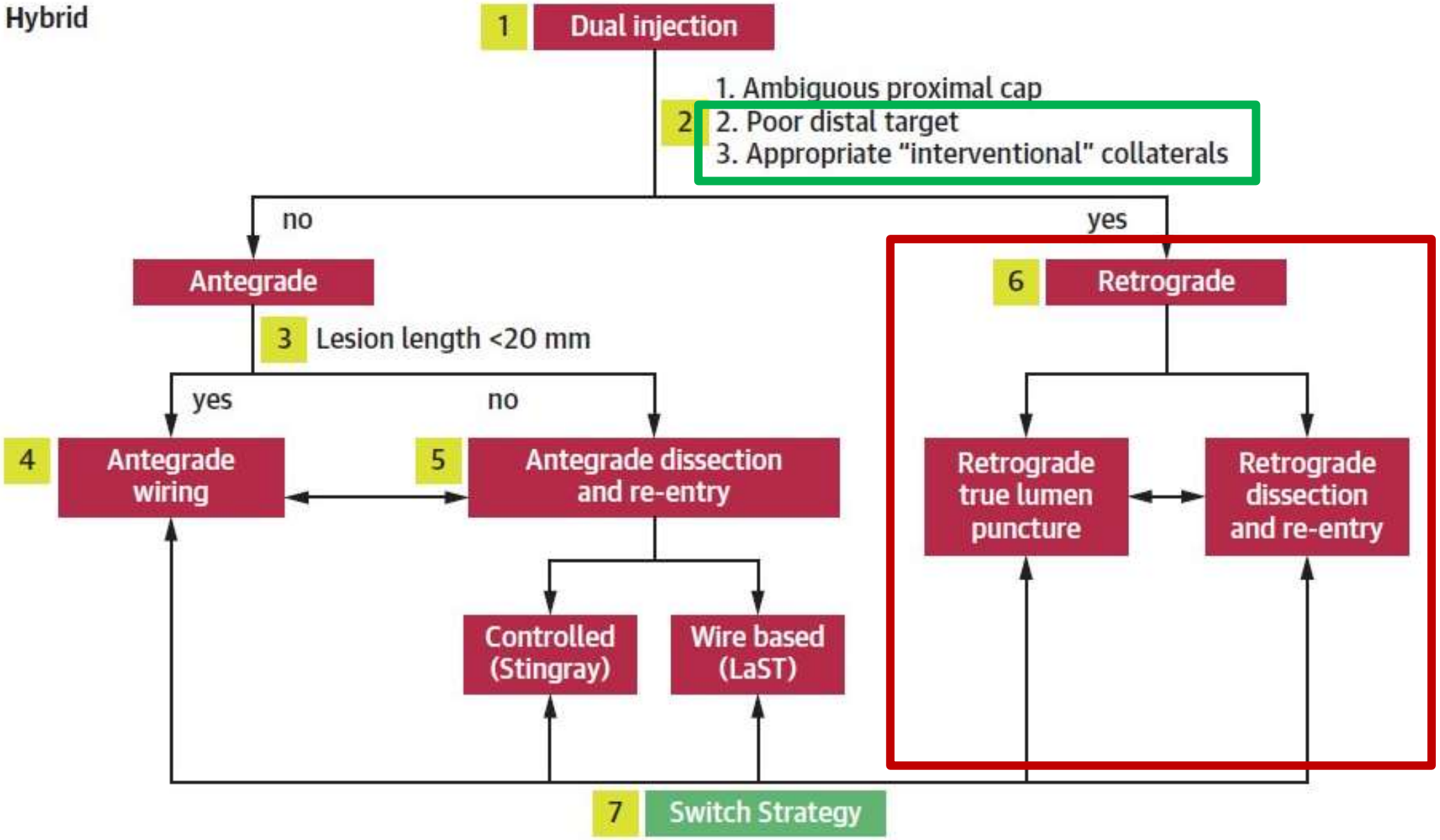
30/09/1973 M
Cairo University Hospitals
1
Coronary^Diagnostic Coronary Catheterization
Coro 2020
WL: 128 WW: 143 [D]
LAO: 42 CRA: 5
30/09/2021 18:19:52


Se: 3
21.09.30-18:34:07-DST-1.3.12.2.1107.5.13.2.21070
30/09/1973 M
Cairo University Hospitals
1
Coronary^Diagnostic Coronary Catheterization
Coro 2020
WL: 128 WW: 143 [D]
RAO: 10 CRA: 18
30/09/2021 18:20:33



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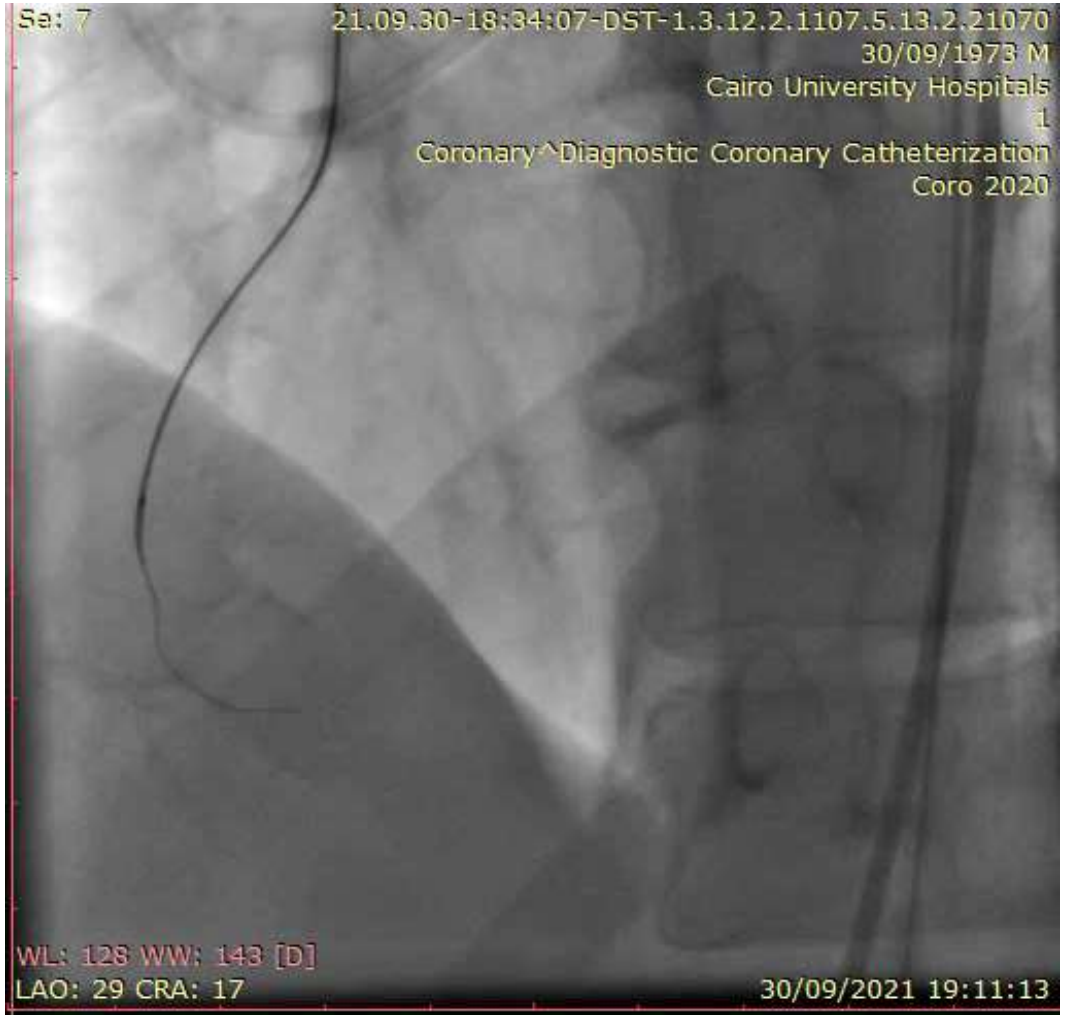
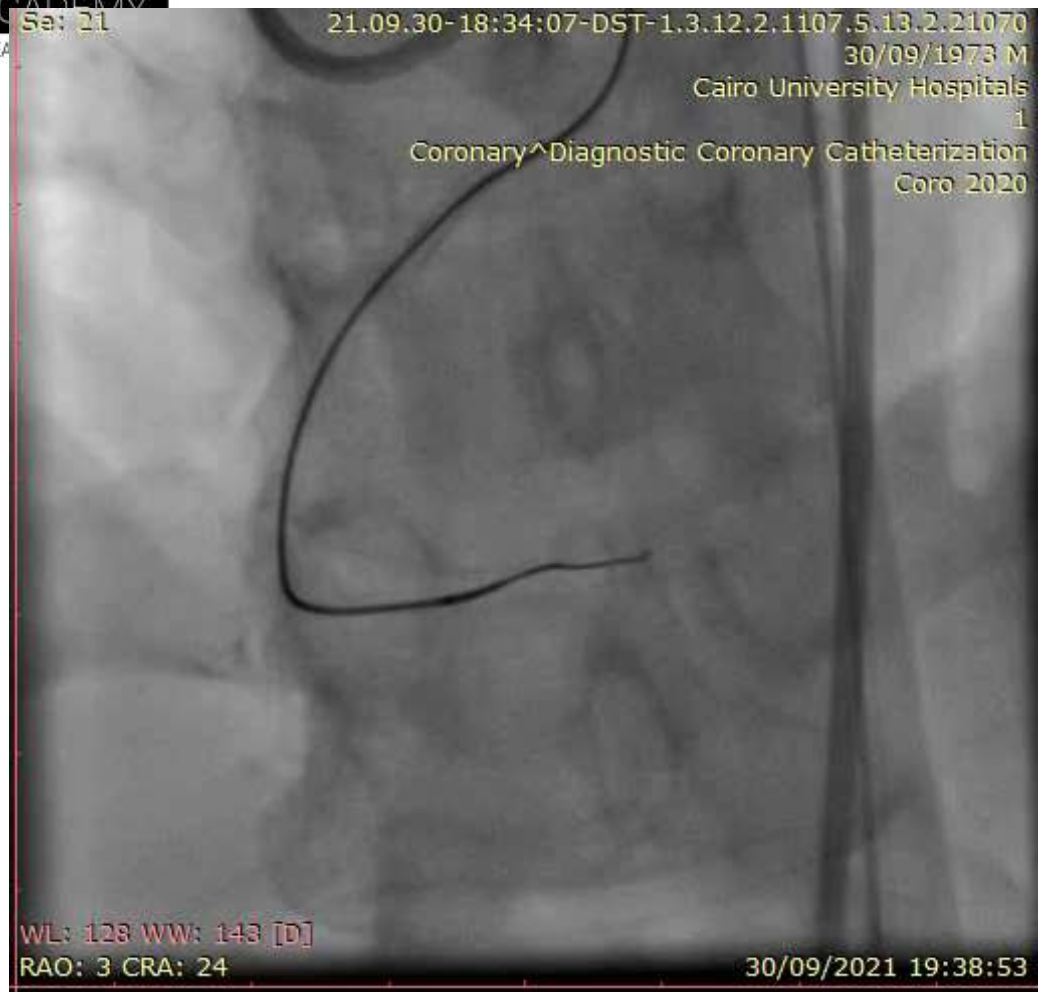
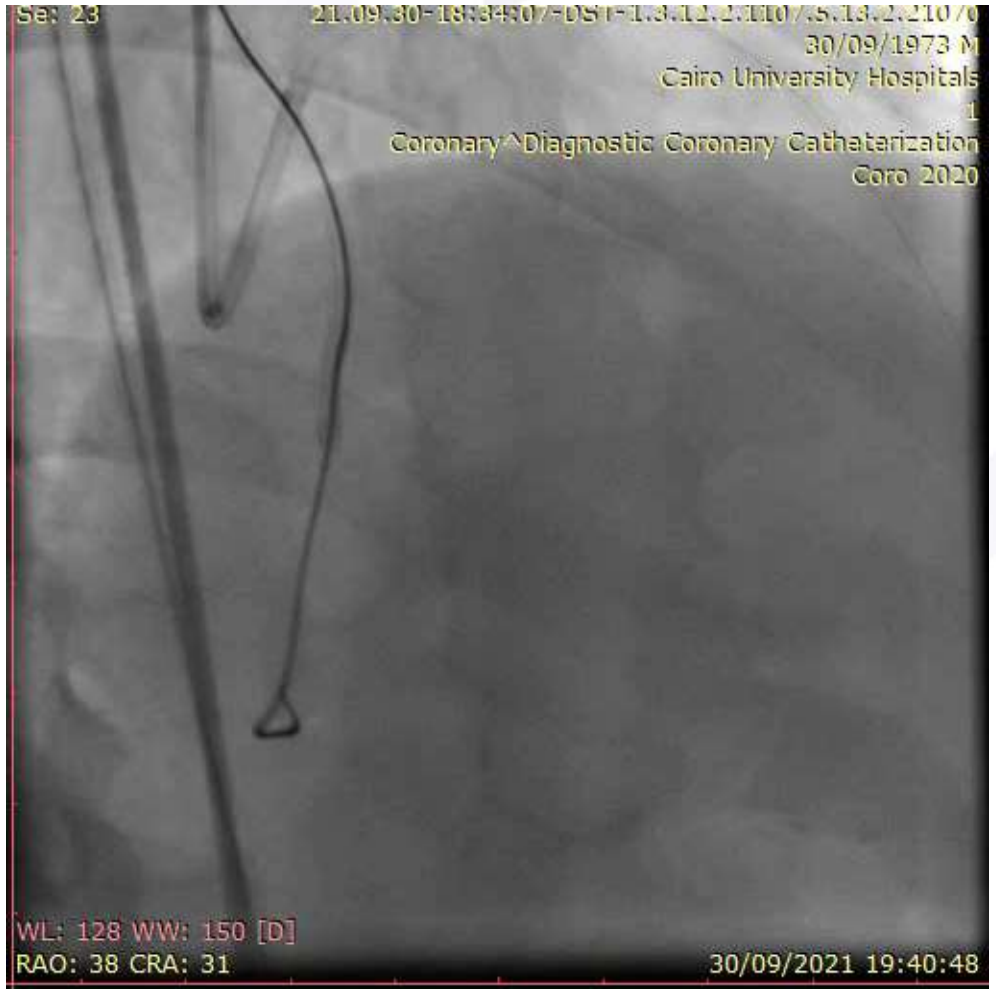
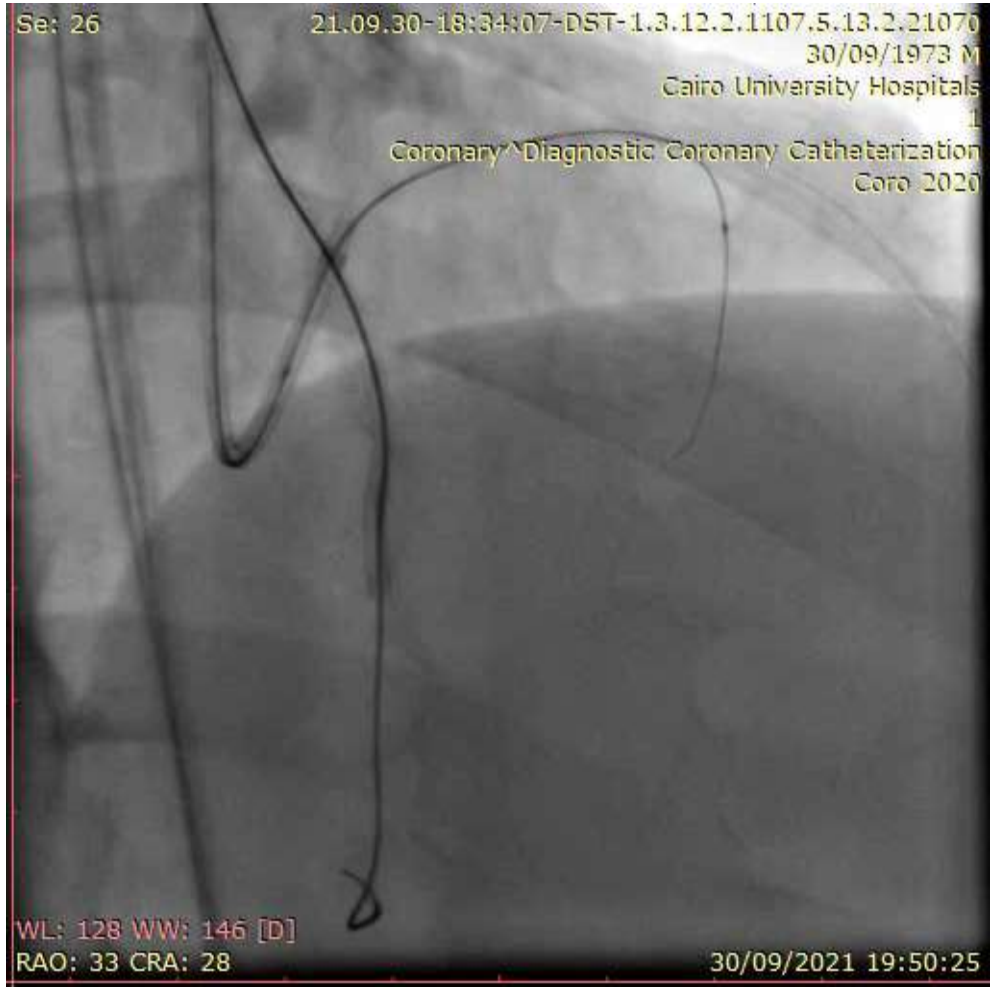


AWE attempted first with corsair microcatheter and fielder XT-r then Gaia 3rd

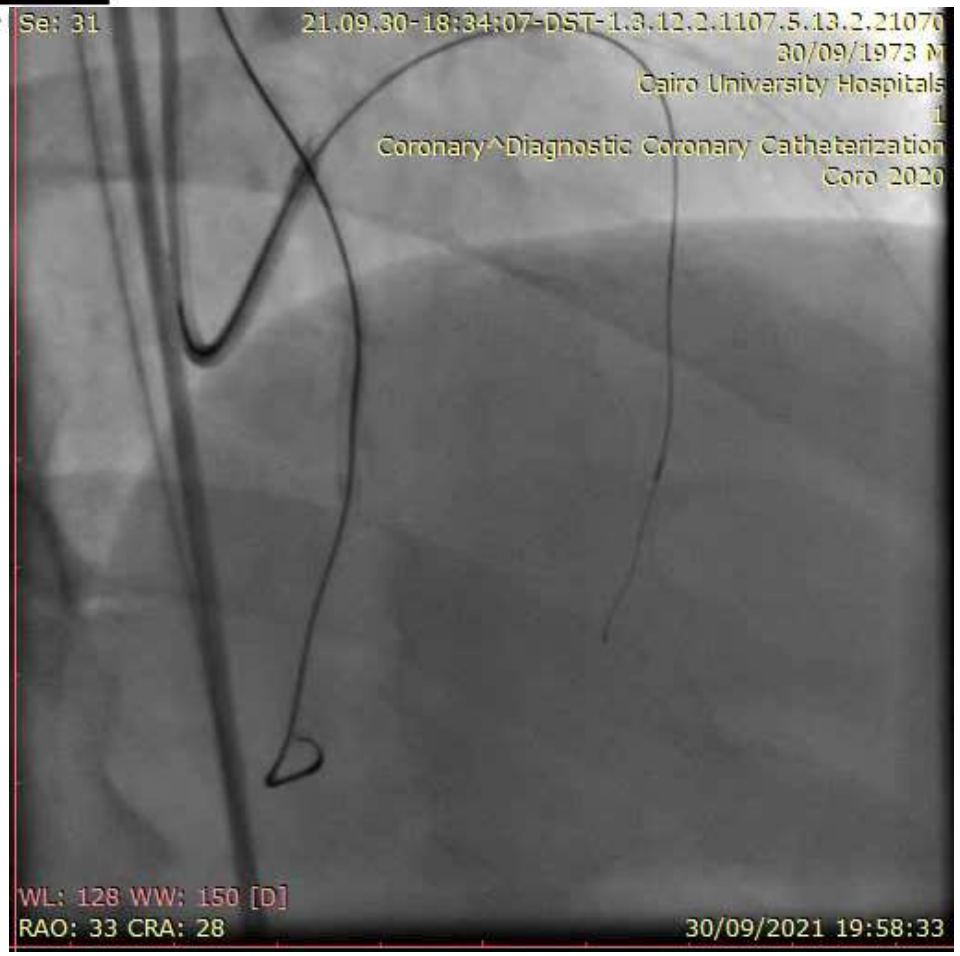




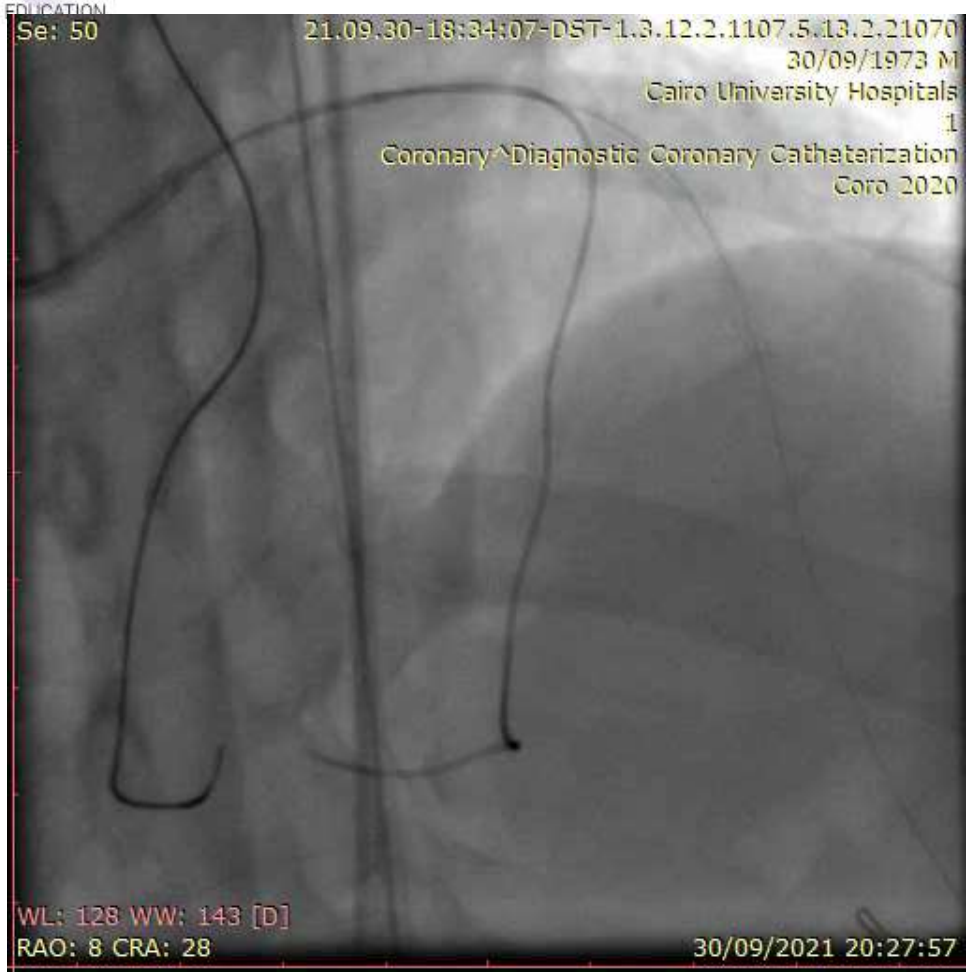
Gaia 3rd going extra-plaque distally and distal cap at PDA-PL bifurcation so switch to retrograde route



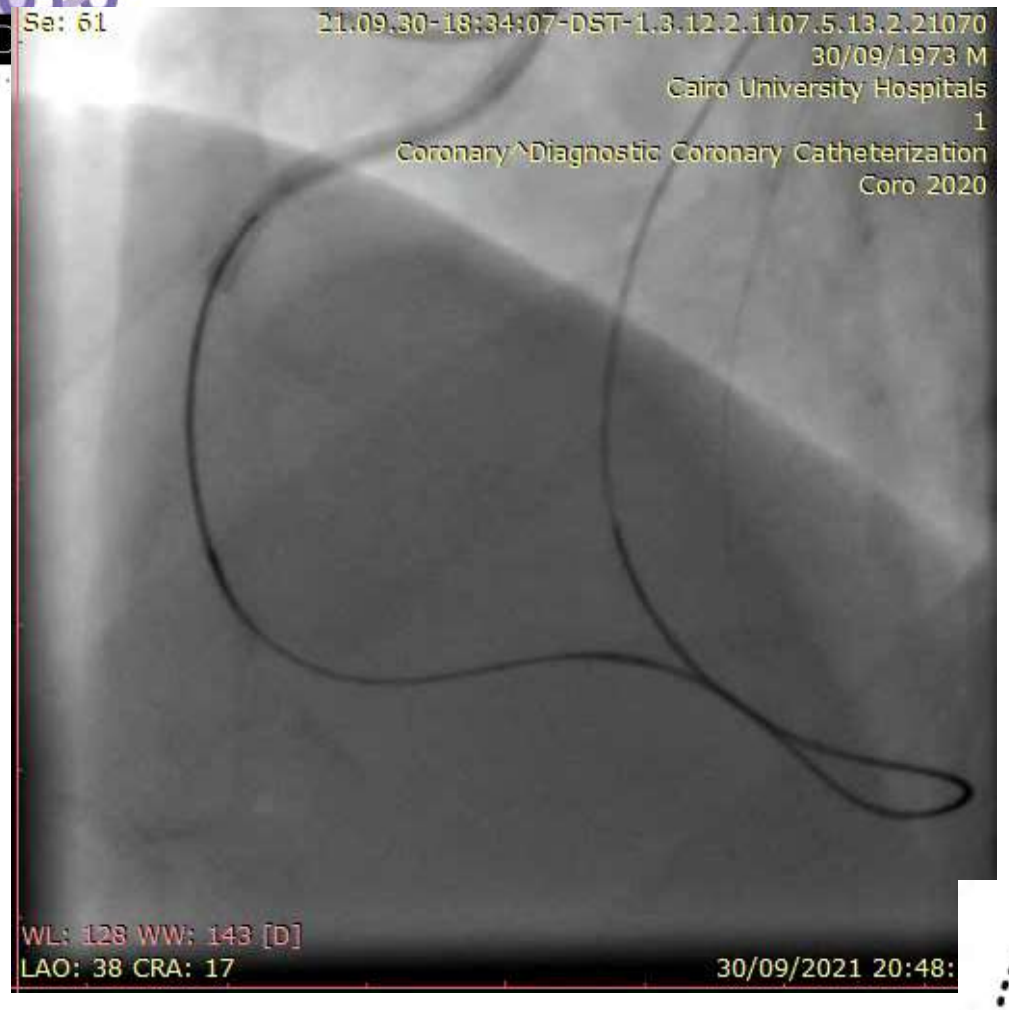
Going retrograde through septal perforator after dilating the previously deployed LAD stent struts with 1.5 mm balloon allowing for crossing of Finecross 150 microcatheter used for tip in injection showing a faint connection with the PDA of the RCA.



Successful crossing of Sion Black wire retrogradely over the Finecross microcatheter.

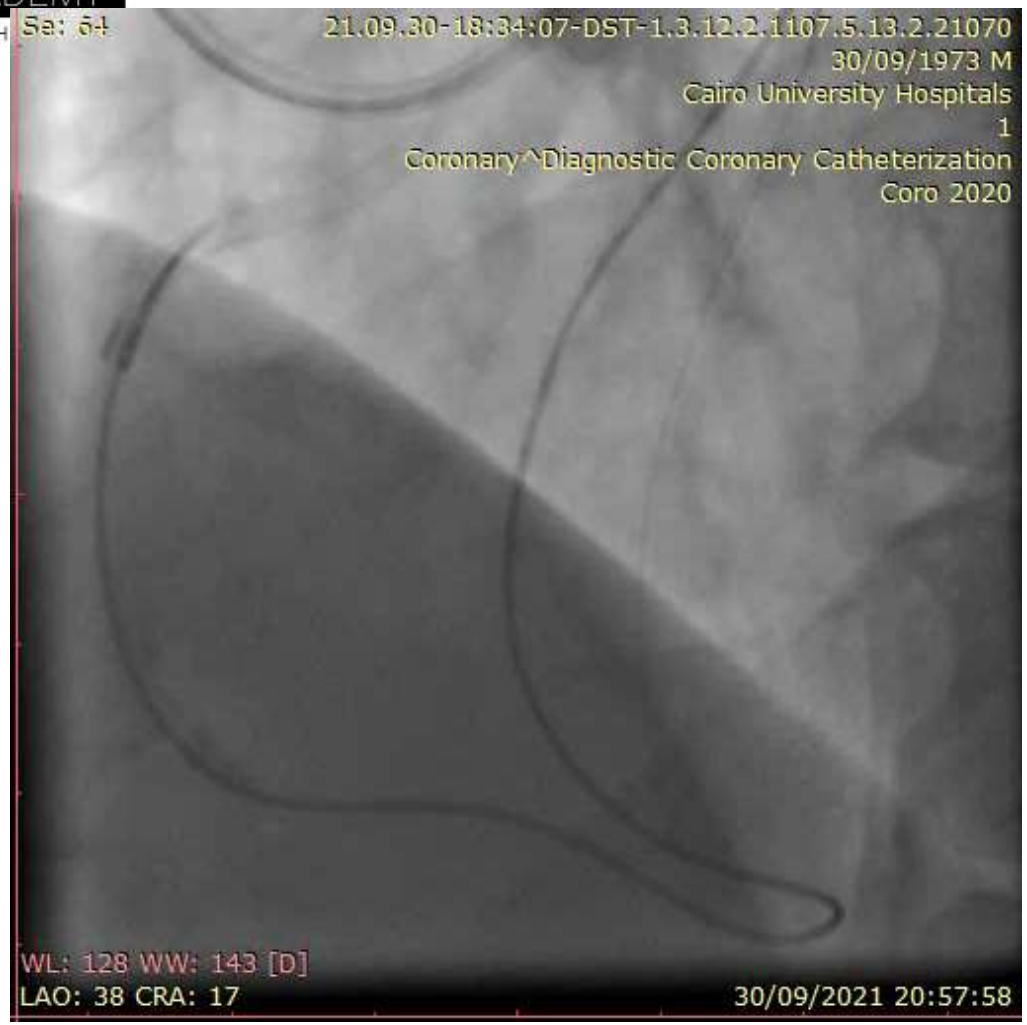


Finecross couldn´t follow so exchanged with a corsair 150 microcatheter which crossed successfully retrogradely into the PDA with tip in injection confirming true lumen position then using a Gaia 3rd to navigate retrogradely through the RCA CTO segment.

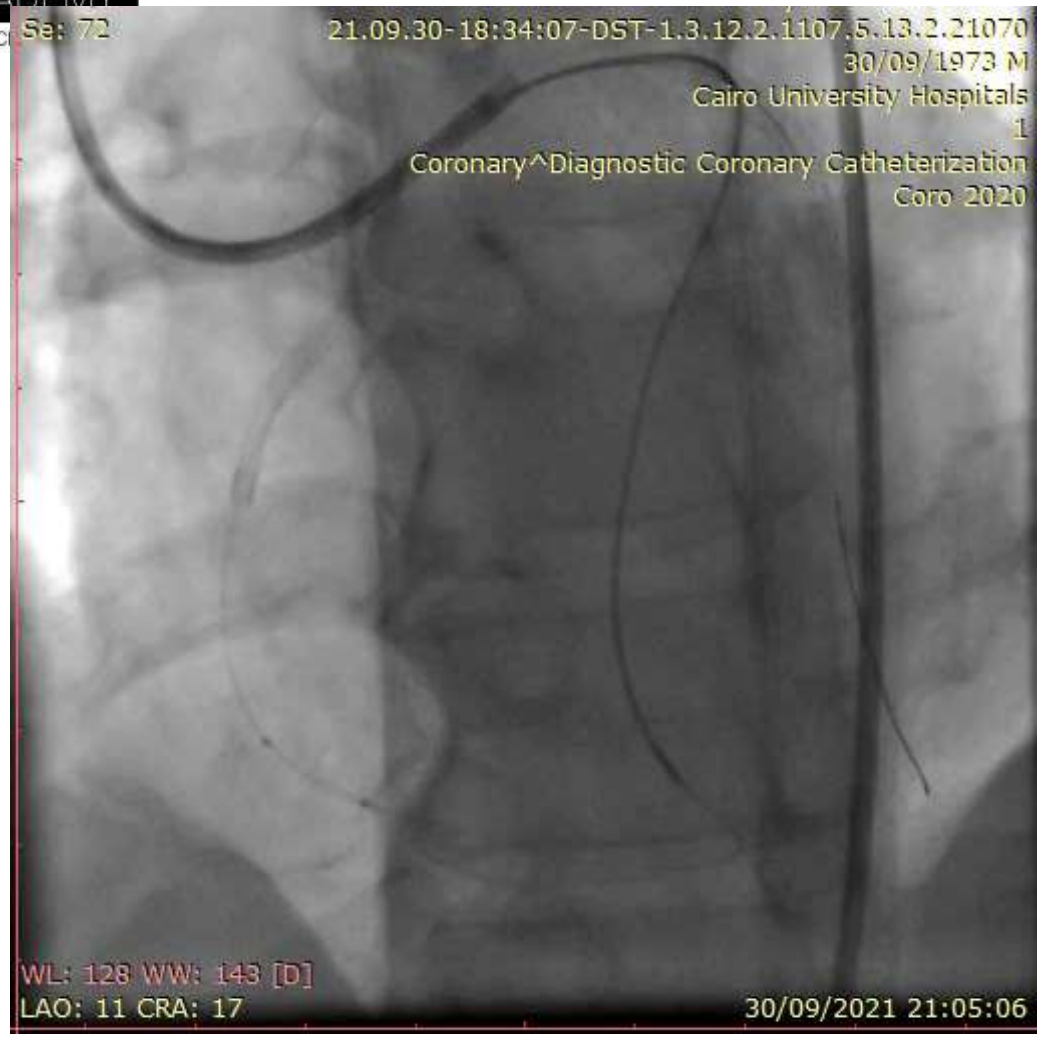


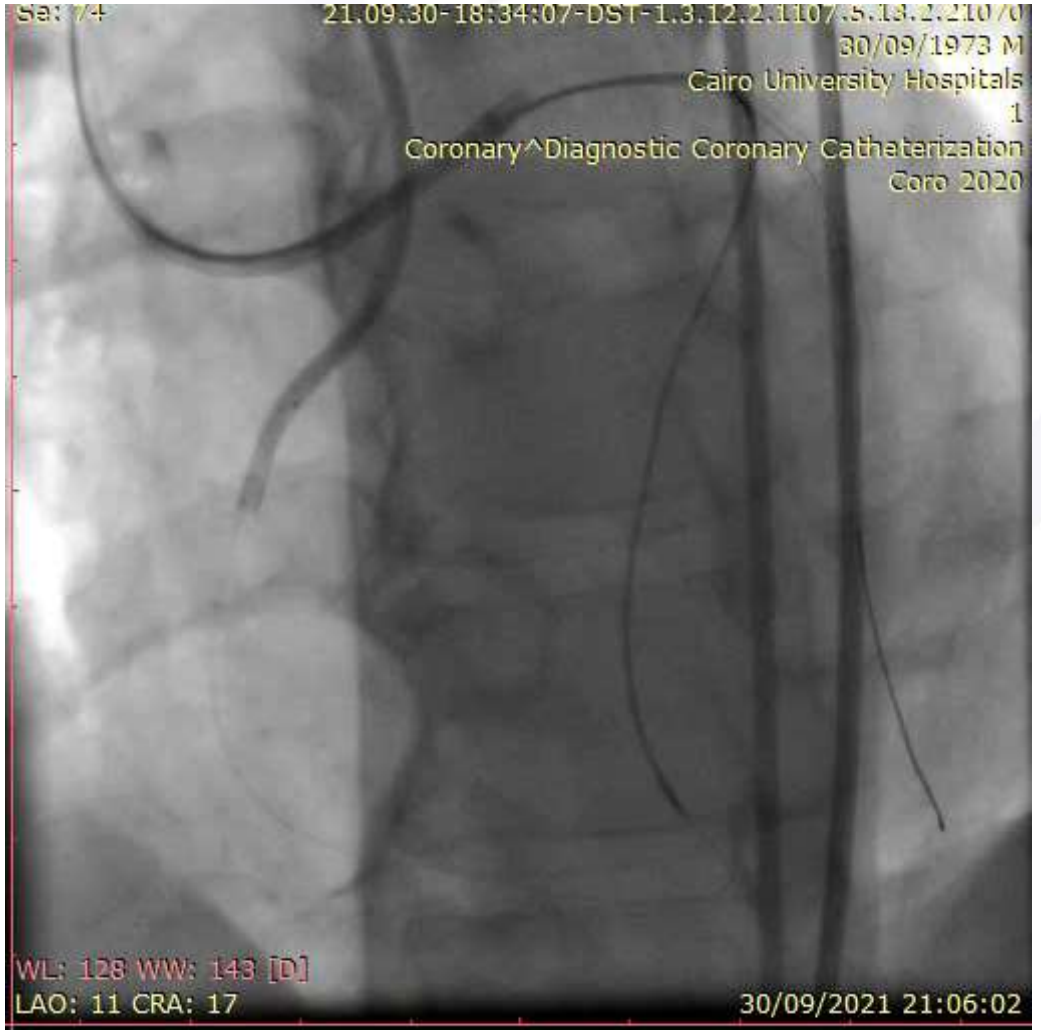
Rendez-vous

the Gaia 3rd wire entered into the emptied antegrade corsair microcatheter and into the antgrade guiding catheter.

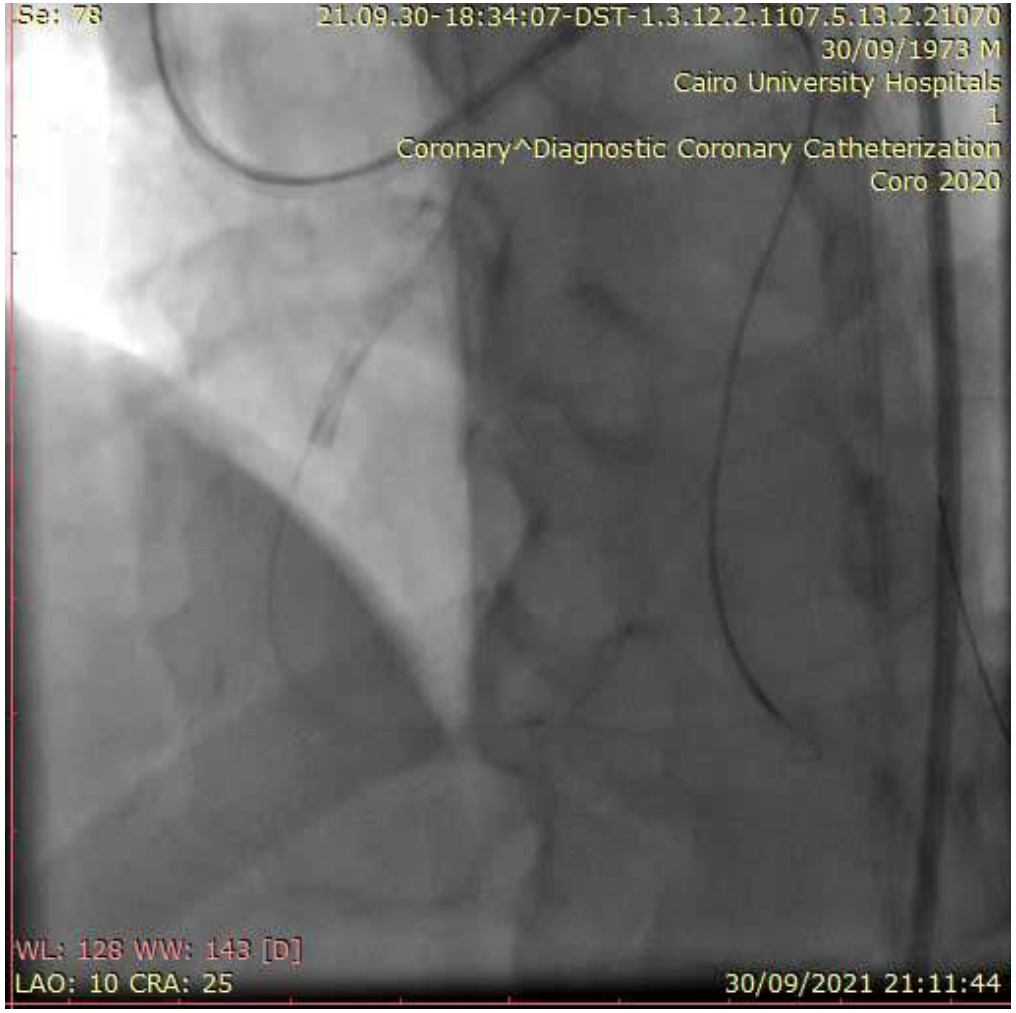


Externalization of RG3





Pre-dilatation showed ostial PL branch significant lesion



Antegrade wiring with Runthrough floppy wire of the PL branch followed by pre-dilatation of its ostium

Another Runthrough floppy wire placed into the PDA antegradely followed by removal of the retrograde gear then stenting of the RCA with 2 DESs into the PL branch provisionally (across the PDA bifurcation)

Final Result

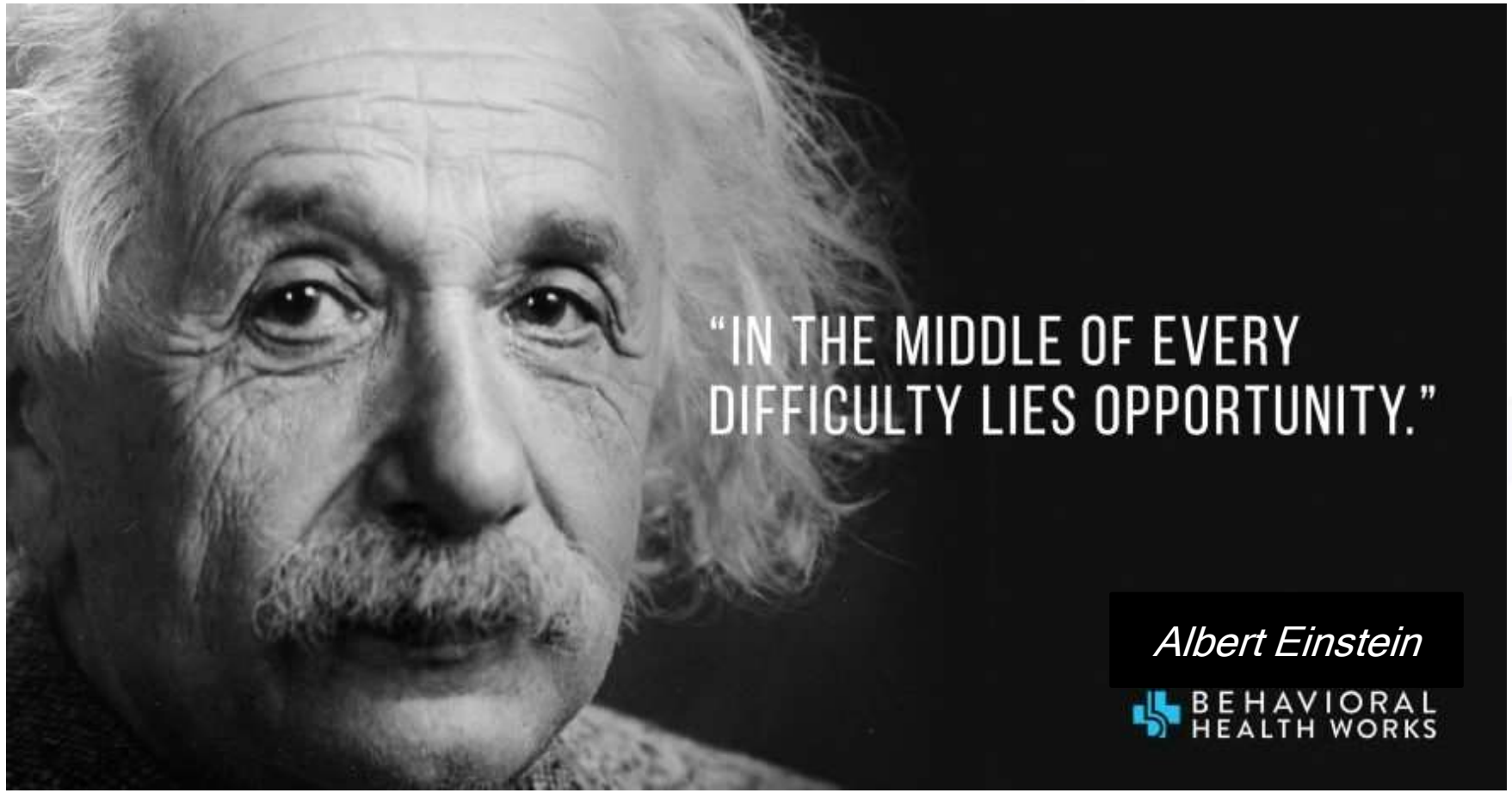
Take home messages

- **Advances in equipment and technique have undoubtedly led to improvements in the field of CTO PCI, and operators must familiarise themselves with these to achieve good outcomes for patients.**

- **It is equally important to understand when to use each of these within a case, as developments in procedural strategy have had the biggest impact in improving outcomes from CTO PCI.**

- **AWE remains the predominant strategy for crossing short CTOs of lower complexity.**

- **However, many CTOs can only be opened retrogradely or using a dissection-based strategy, which offer a safe and efficient means to achieve this when used in appropriately selected cases.**


"IN THE MIDDLE OF EVERY
DIFFICULTY LIES OPPORTUNITY."
Albert Einstein
BEHAVIORAL
HEALTH WORKS

MI CTO

قسم القلب و الأوعية الدموية بالقصر العيني
Kasr AlAiny Cardiovascular Medicine Department

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CAIRO UNIVERSITY - FACULTY OF MEDICINE

THANK YOU