Aorto-ostial CTO Revascularization by Through and Through Controlled Retrograde Technique*: A case report*

HCMC HEART INSTITUTE DEC 16TH, 2019

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Disclosure

- I have nothing to disclose

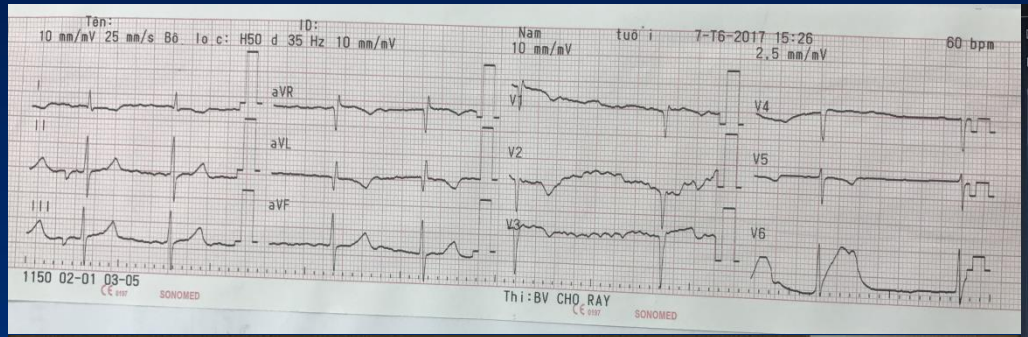
Past medical history and present illness

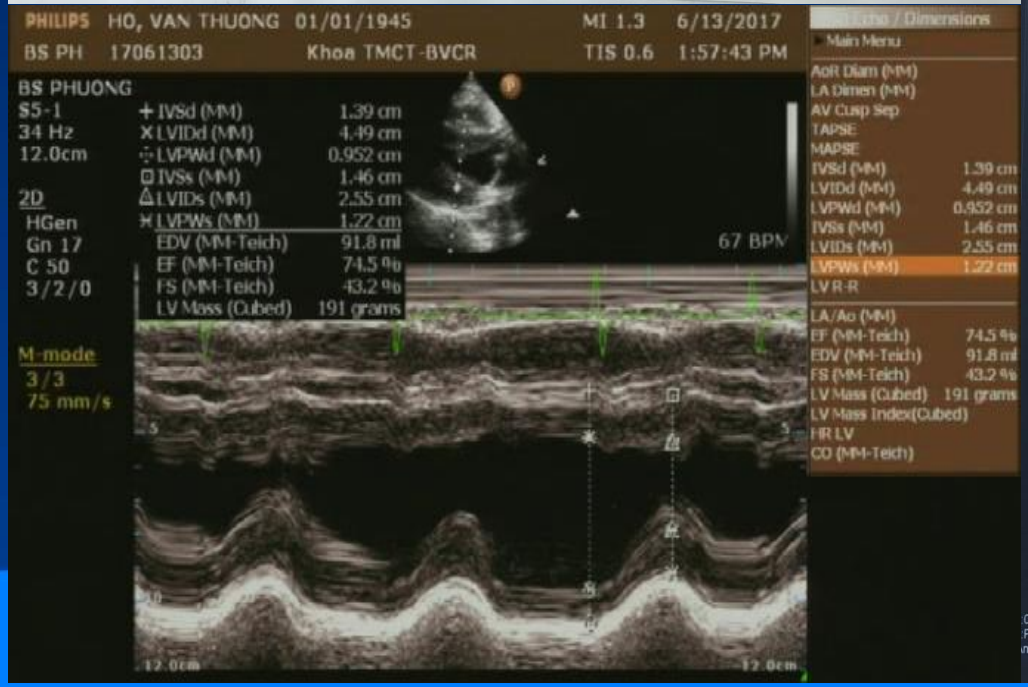
- A 72 year-old male developed chest pain for one year. The patient was on optimal medical treatment but he still had typically exertional chest pain CCS III.
- CVRF: ex_smoker, dyslipidemia

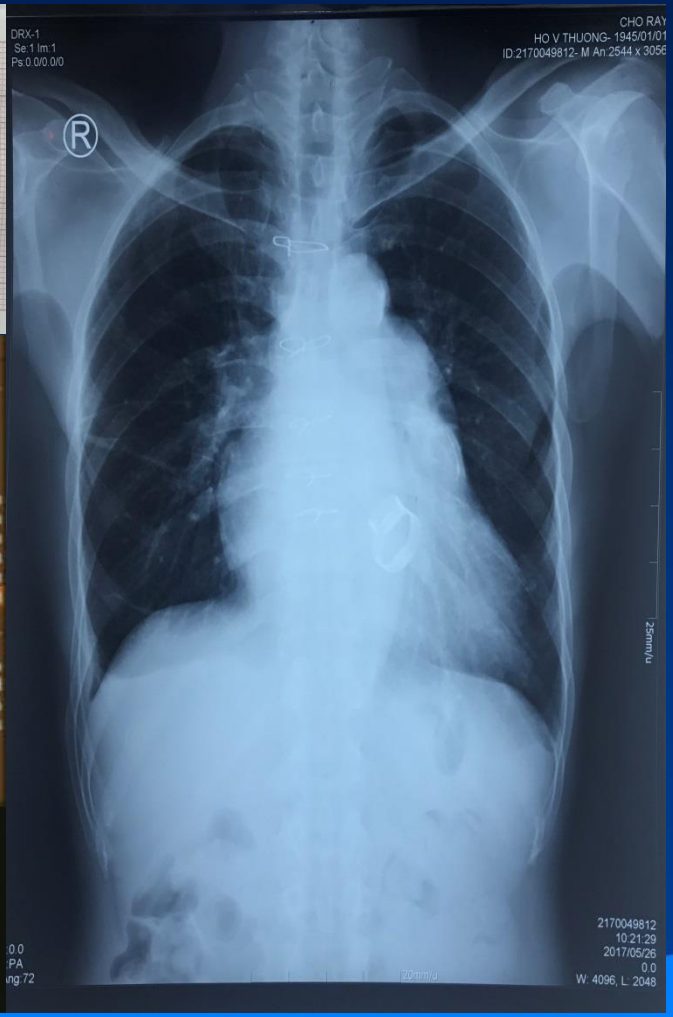
- Past medical and surgical history: mitral and aortic mechanical valve replacement in 2008

- ECG: Afib, q waves/V1,2,3 and V4. inverted T waves at I, aVL, V5,6
- TTE: EF: 74%; hypokinesia at septum

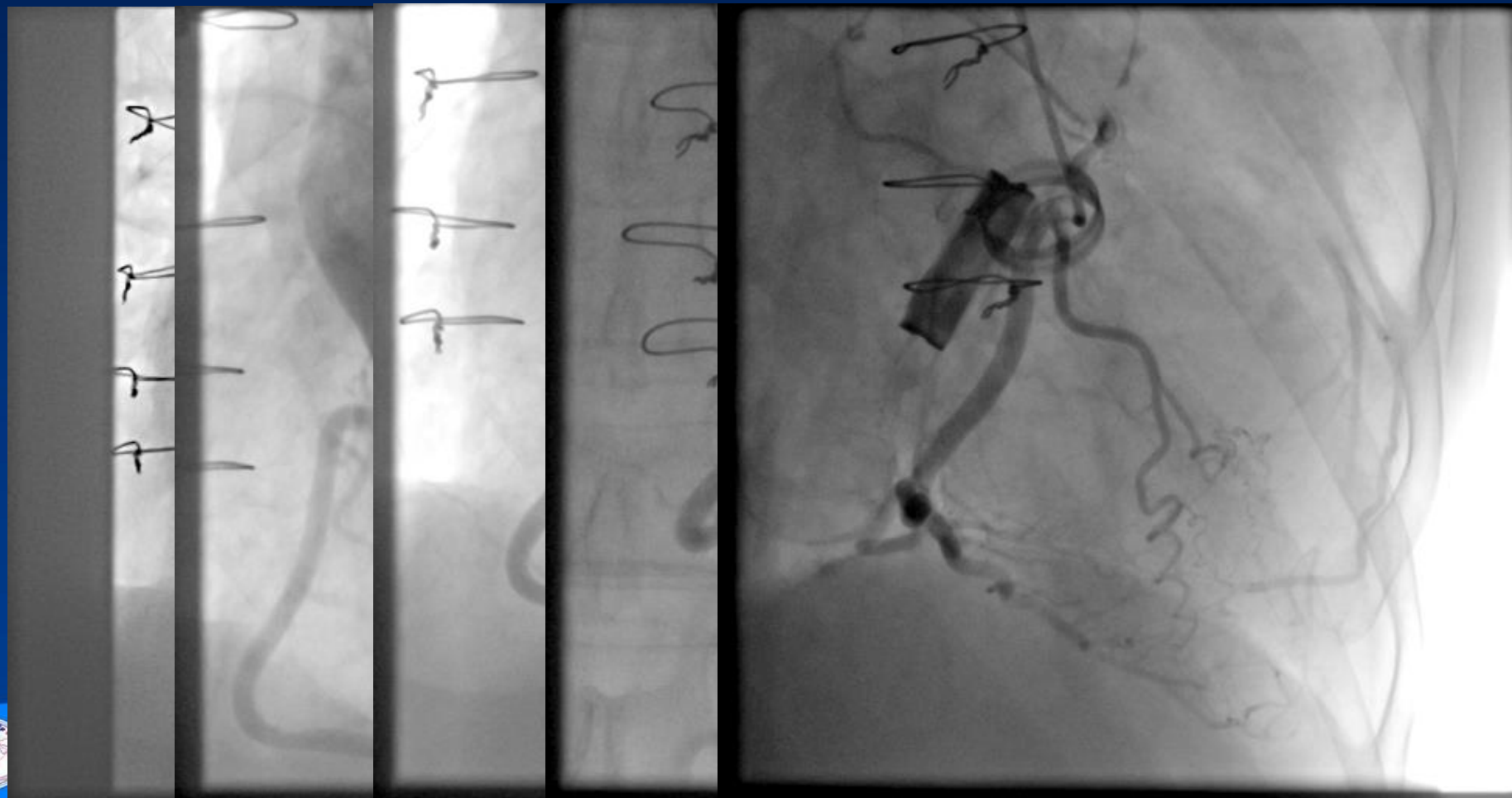
EKG & TTE


Ten:
ID:
10 mm/mV 25 mm/s Bo lo c: H50 d 35 Hz 10 mm/mV
Nam
tuo i
7-T6-2017 15:26
10 mm/mV
2.5 mm/mV
60 bpm
I
II
III
aVR
aVL
aVF
V1
V2
V3
V4
V5
V6
1150 02-01 03-05
SONOMED
Thi:BV CHO RAY
SONOMED


PHILIPS HO, VAN THUONG 01/01/1945
BS PH 17061303 Khoa TMCT-BVCR
MI 1.3 6/13/2017
TIS 0.6 1:57:43 PM
BS PHUONG
S5-1
34 Hz
12.0cm
2D
HGen
Gn 17
C 50
3/2/0
M-mode
3/3
75 mm/s
IVSd (MM) 1.39 cm
LVIDd (MM) 4.49 cm
LVPWd (MM) 0.952 cm
IVSs (MM) 1.46 cm
LVIDs (MM) 2.55 cm
LVPWs (MM) 1.22 cm
EDV (MM-Teich) 91.8 ml
EF (MM-Teich) 74.5 %
FS (MM-Teich) 43.2 %
LV Mass (Cubed) 191 grams
67 BPM
Main Menu
AoR Diam (MM)
LA Dimen (MM)
AV Cusp Sep
TAPSE
MAPSE
IVSd (MM) 1.39 cm
LVIDd (MM) 4.49 cm
LVPWd (MM) 0.952 cm
IVSs (MM) 1.46 cm
LVIDs (MM) 2.55 cm
LVPWs (MM) 1.22 cm
LV R-R
LA/Ao (MM)
EF (MM-Teich) 74.5 %
EDV (MM-Teich) 91.8 ml
FS (MM-Teich) 43.2 %
LV Mass (Cubed) 191 grams
LV Mass Index(Cubed)
HR LV
CO (MM-Teich)
12.0cm
12.0cm

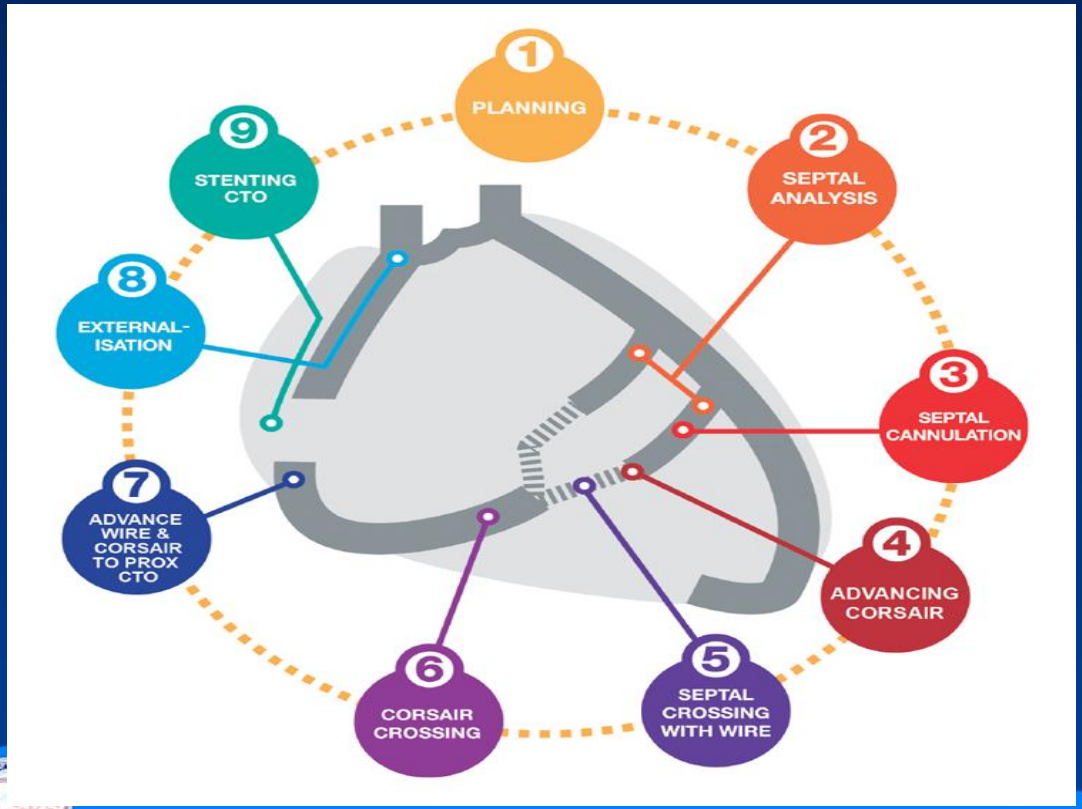

DRX-1
Se:1 Im:1
Ps:0.0/0.0/0
CHO RAY
HO V THUONG- 1945/01/01
ID:2170049812- M An:2544 x 3056
R
2170049812
10:21:29
2017/05/26
0.0
W: 4096, L: 2048

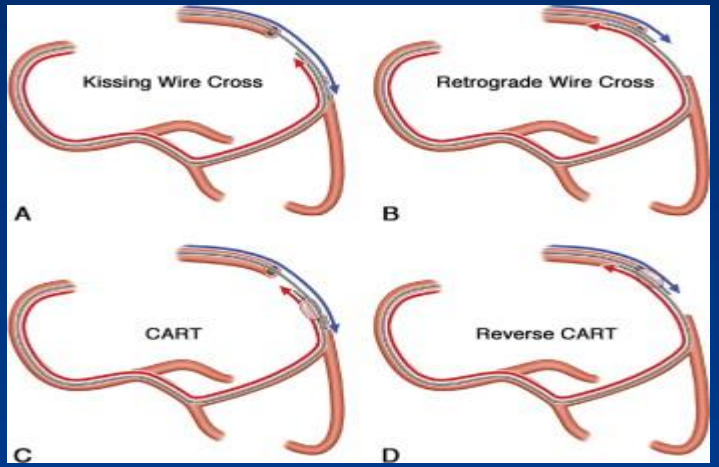
Angiography



Obliteration of LMCA

CART or Reverse CART can help?

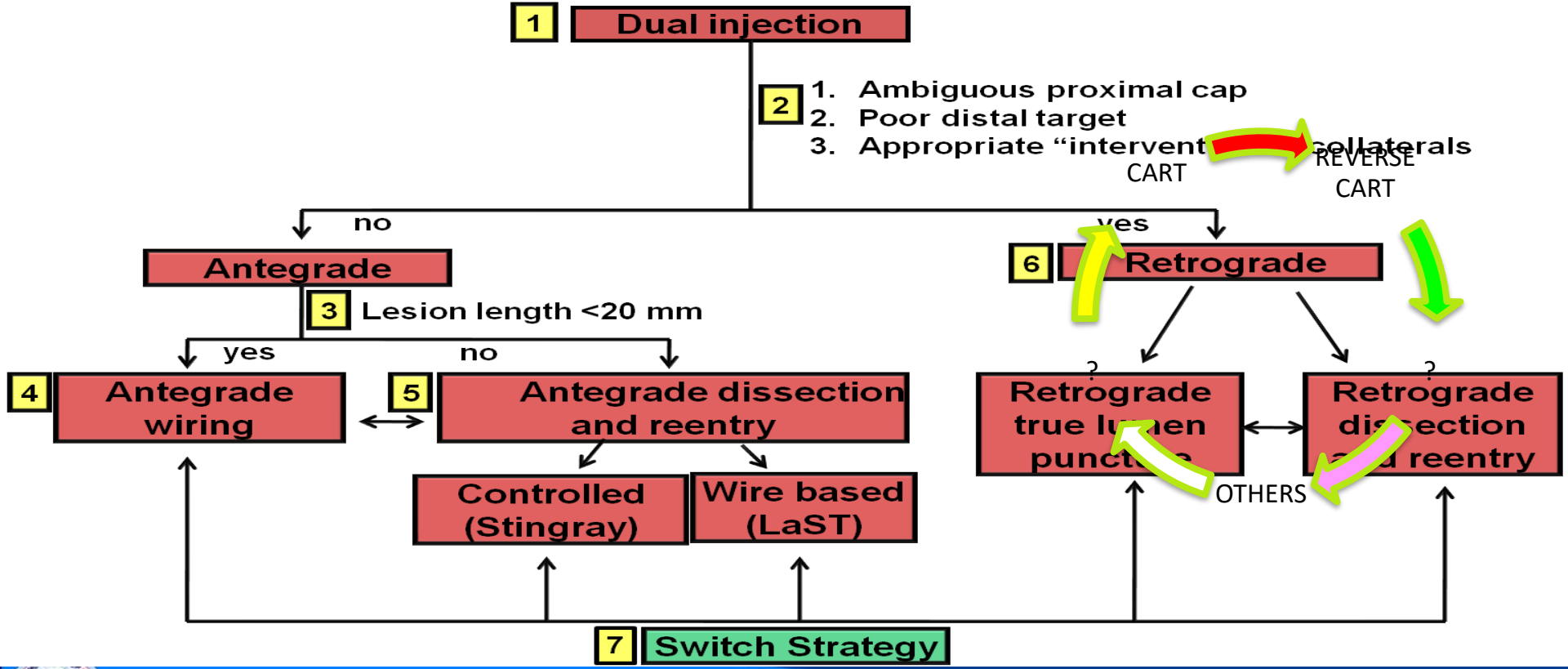




Angiography

- 6 Fr radial sheath and 7 Fr femoral sheath were easily inserted into right radial artery and common femoral artery respectively.
- An JL 3.5 6Fr guiding catheter was placed at aortic root via right radial artery and anonther AL SH 0.75 7F 85cm guiding catheter was then used to engage into the ostium of RCA via femoral artery.
- Dual coronary injection through two guide catheters was performed and confirmed a obliteration of whole LMCA with good collateral from RCA.

Hybrid CTO Crossing Algorithm



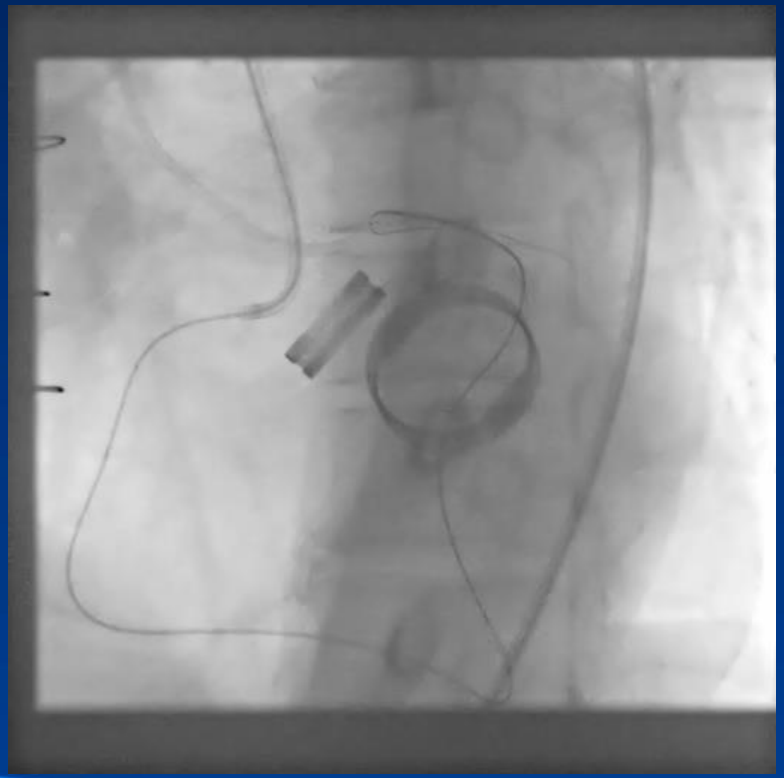
Angioplasty

- CART and REVERSE CART were not applicable due to obliteration of LMCA.
- Retrograde Technique was then applied: A Runthrough GW 0.014” (Terumo, Japan) loaded on a Cosair 150cm (Asahi Tecc) was introduced into posterior septal branches. This Runthrough wire was then exchanged out with an XT-R (Asahi Tecc). The XT-R successfully crossed the septal collateral into proximal LAD.

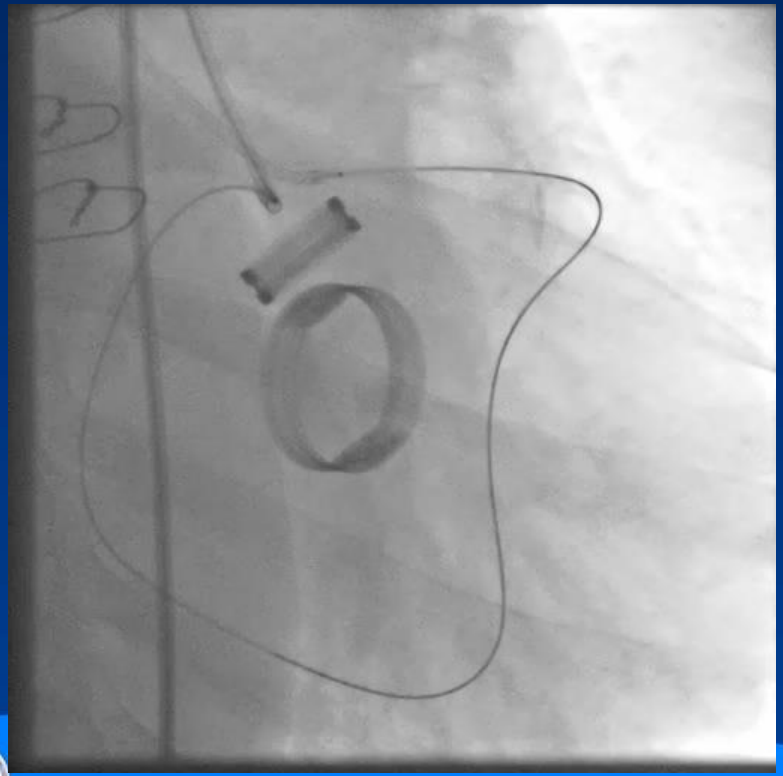
The AL replaced by JR 7F SH

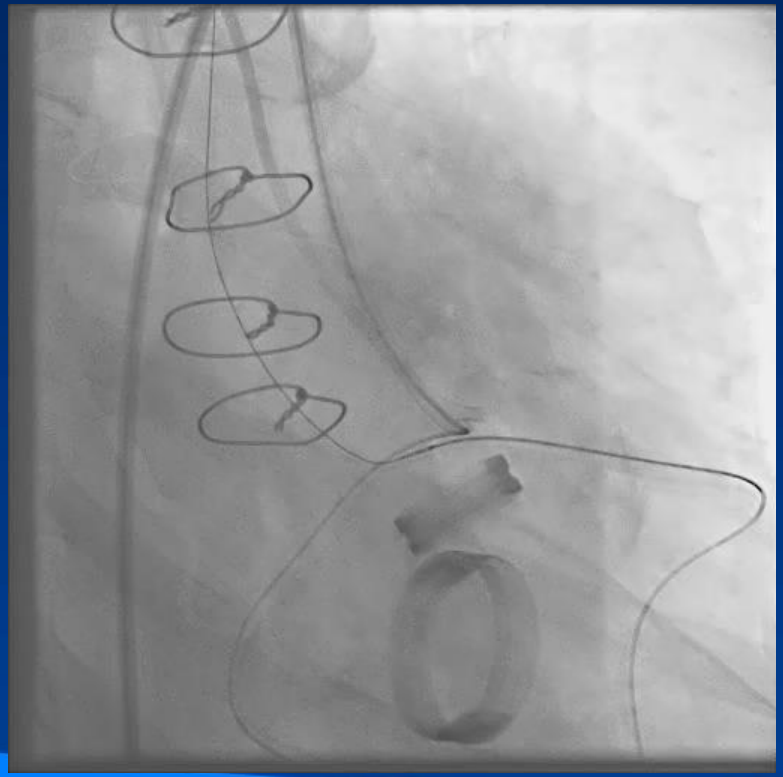
- The Cosair was then followed the XT-R into proximal LAD
- The XT-R could not cross the LMCA lesion, hence, it was exchanged out with Gaia II.
- The Gaia II successfully crossed the LMCA into Aortic root. The Cosair was then followed the Gaia II into Aortic root.

Retrograde



Poking the distal cap with Gaia II

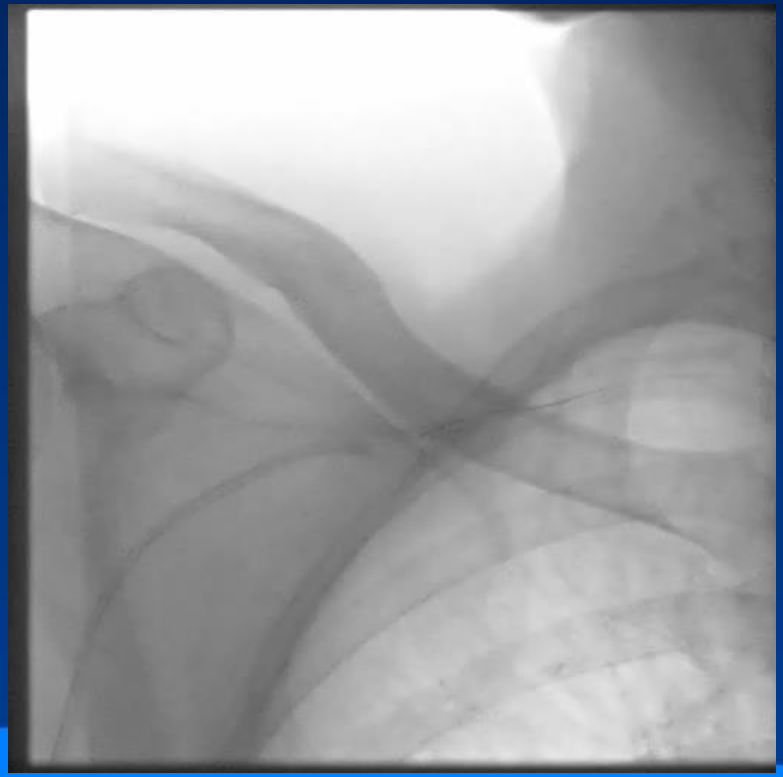


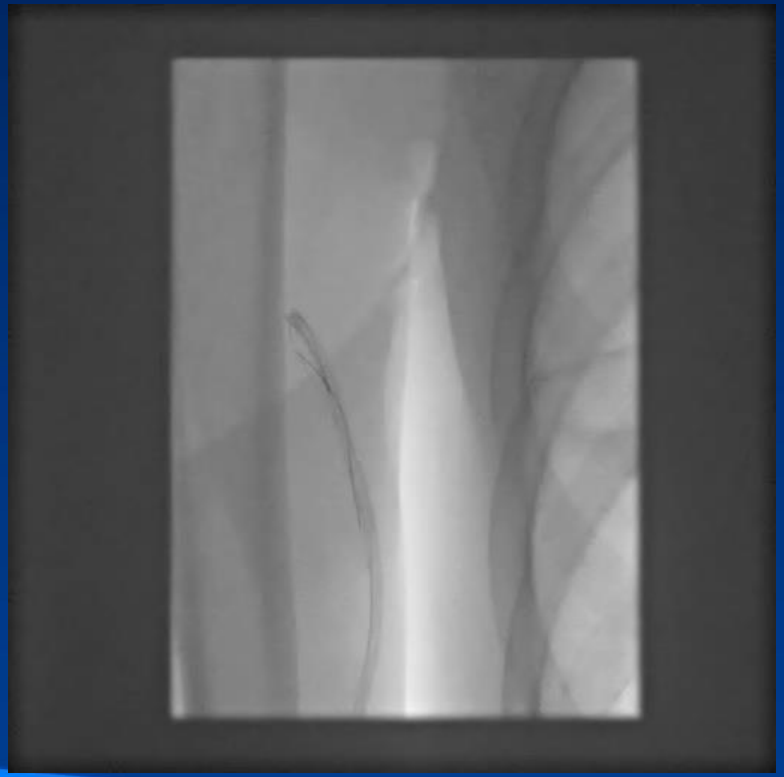


Externalization with RG330

- The Gaia II was then exchanged out with RG 330. The RG330 was pushed into subclavian artery and then brachial artery and trapped by EN Snare into JL 3.5 6F GC. The RG 330 was externalized through the 6Fr Radial sheath.

Externalization

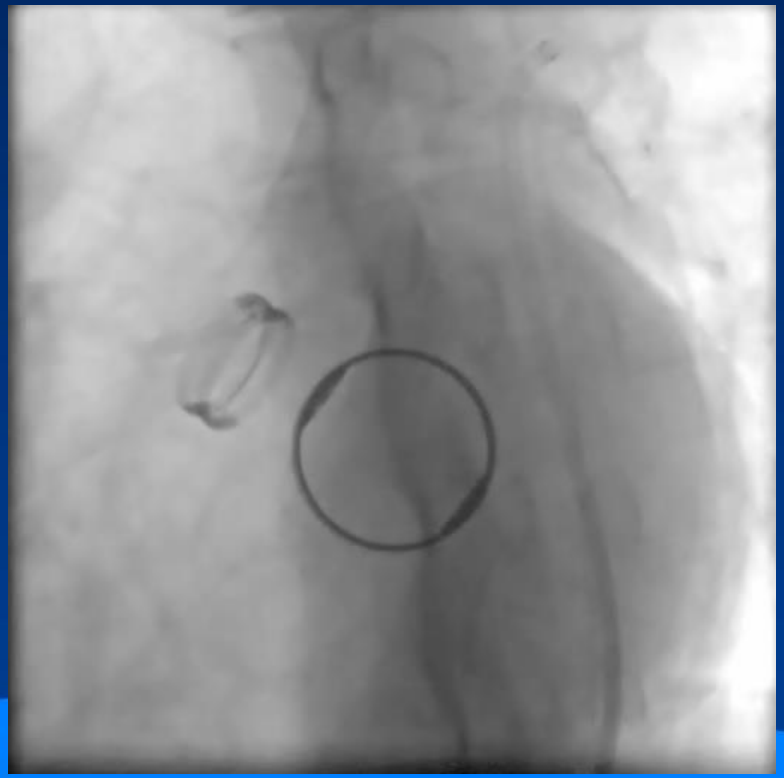


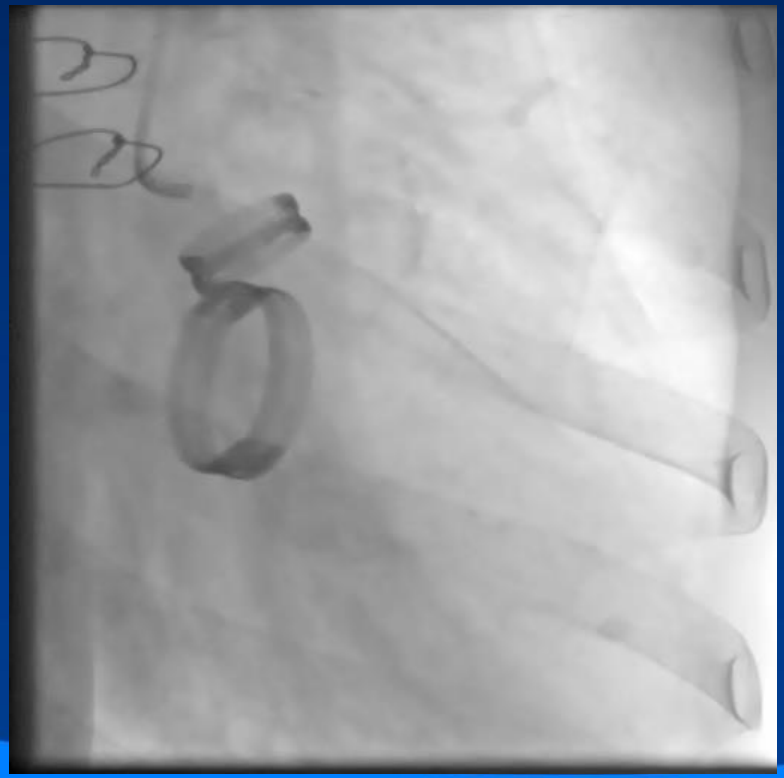


Next steps as usual manner

- The 6Fr JL 3.5 GC was followed the RG 330 into ostium of LMCA CTO.
- A 2.0 x 15mm balloon was used to predilate the LMCA CTO up to 16atms
- Checked shot was then performed and confirmed TIMI 3 flow on LCA.
- A 3.5x18mm SES stent was then deployed from ostium of LMCA at 13 and then 18atms

Final shots





Final shots

Conclusions

- *Chest re-opening after mechanical valve replacement for CABG is so complicated operation. Percutaneous coronary intervention is an alternative method.*
- *Through and Through Controlled retrograde technique is the only one for obliteration of leftmain coronary artery.*

Thank you for your attention!