COMPLEX PCI 2018

30 Nov 2018
Grande Walkerhill Hotel, Seoul, Korea

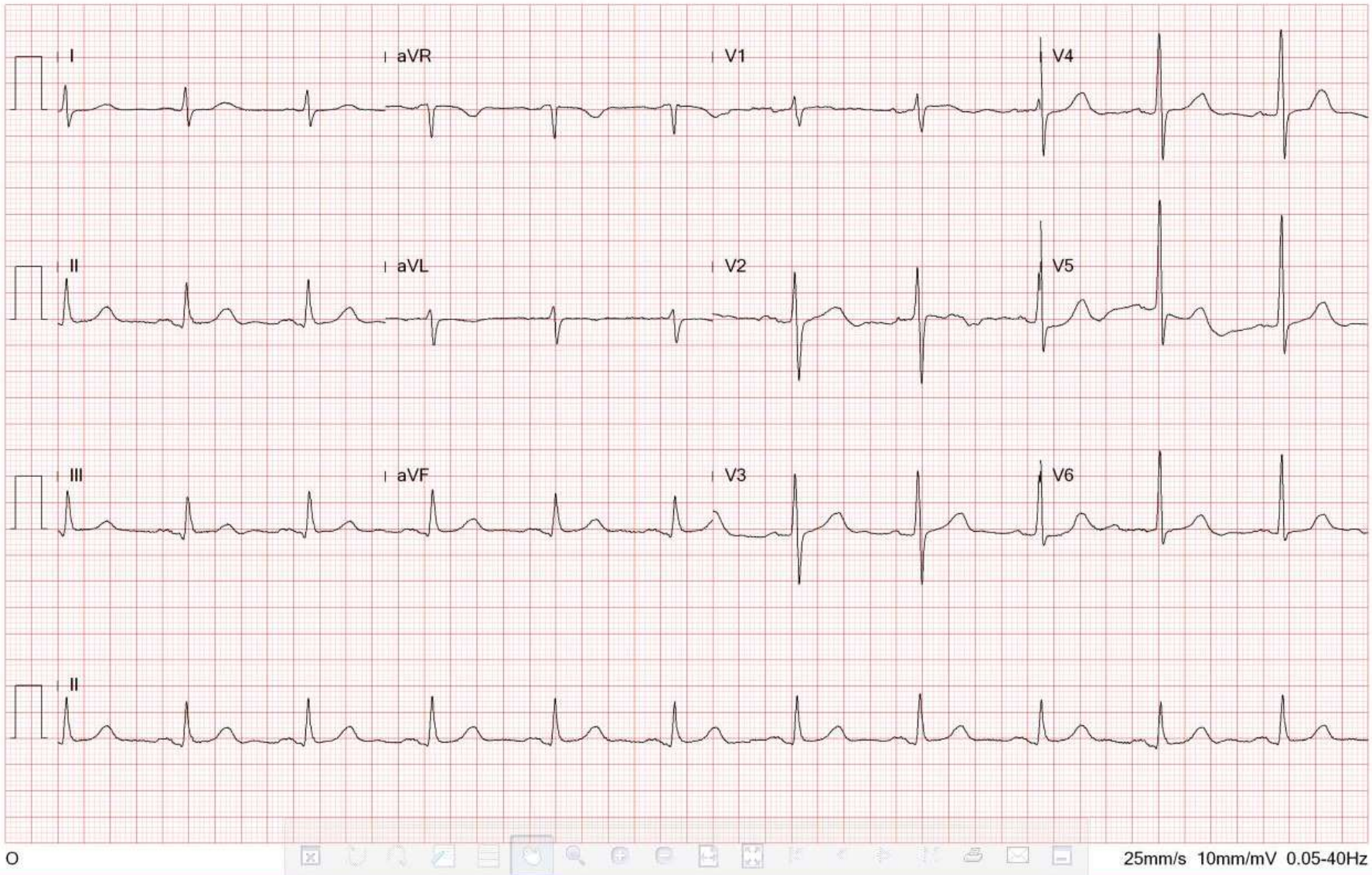
A Case of Stent Dislodgement during PCI for CTO lesion

Hsueh Chao-Wen
Cheng Hsin General Hospital
Taiwan

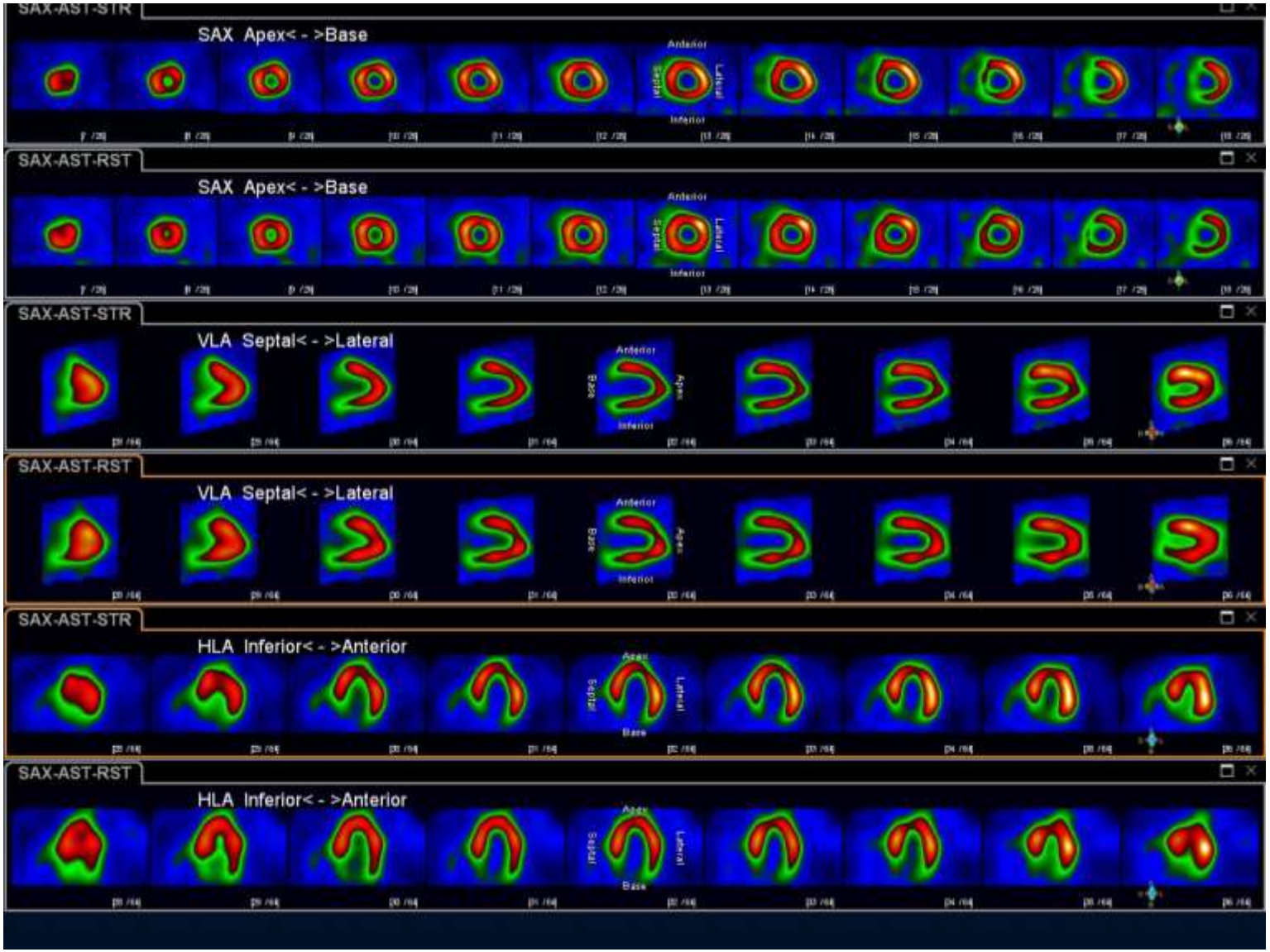
Patient Details

- The 59 y/o female is a case with past history of
  - Hypertension, Type 2 DM
  - Dyslipidemia
  - Atrial flutter s/p intracardiac ablation in 2015.
- She suffered from chest tightness and dyspnea on exertion for about 2 months.

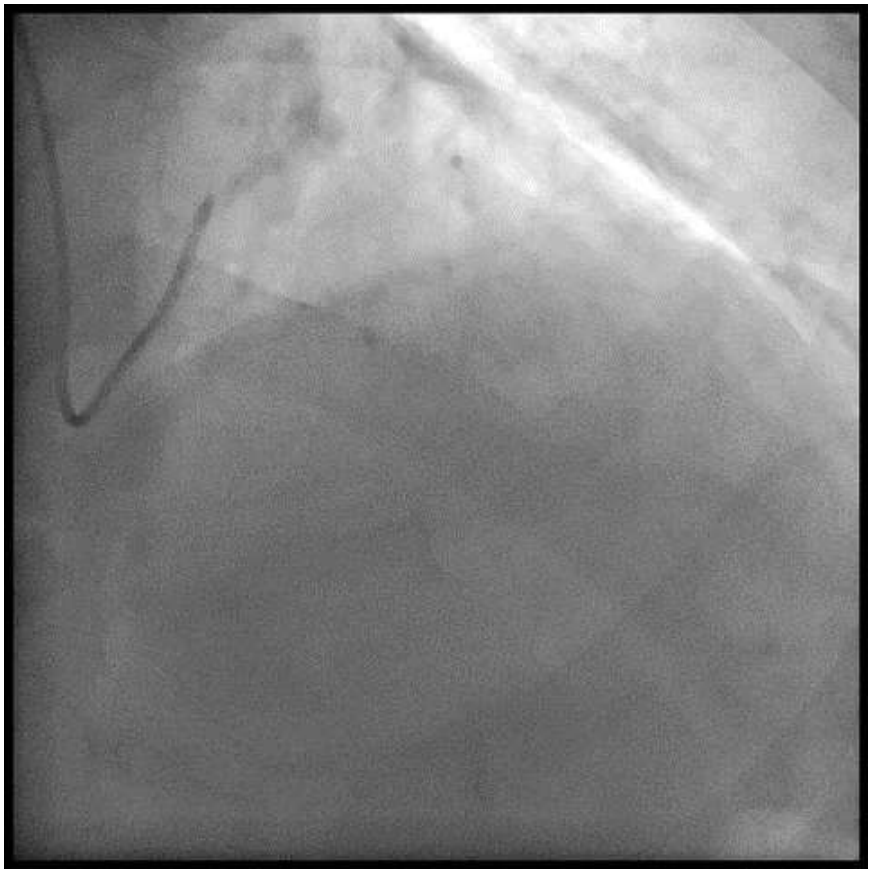
ECG

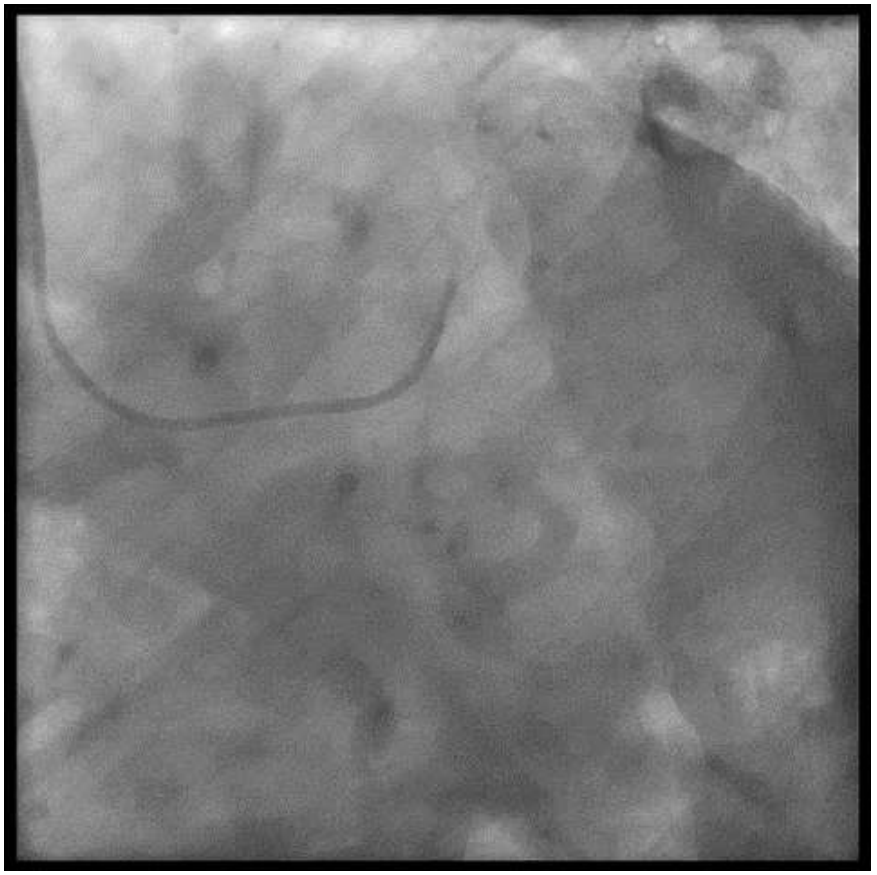


Tl-201 myocardial perfusion scan

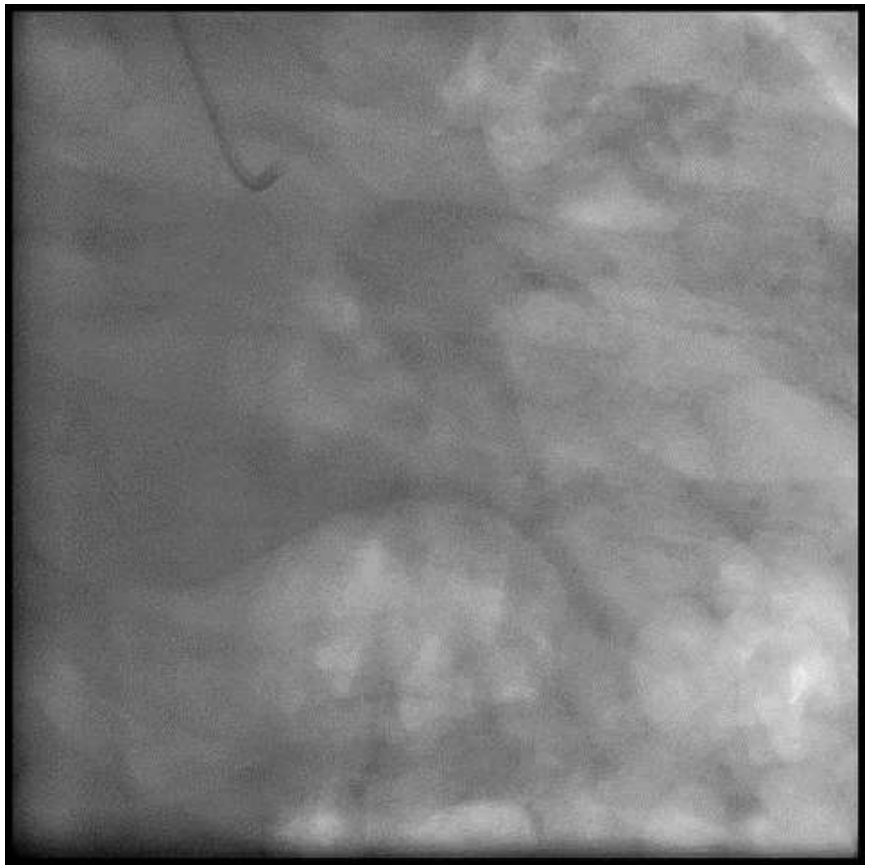


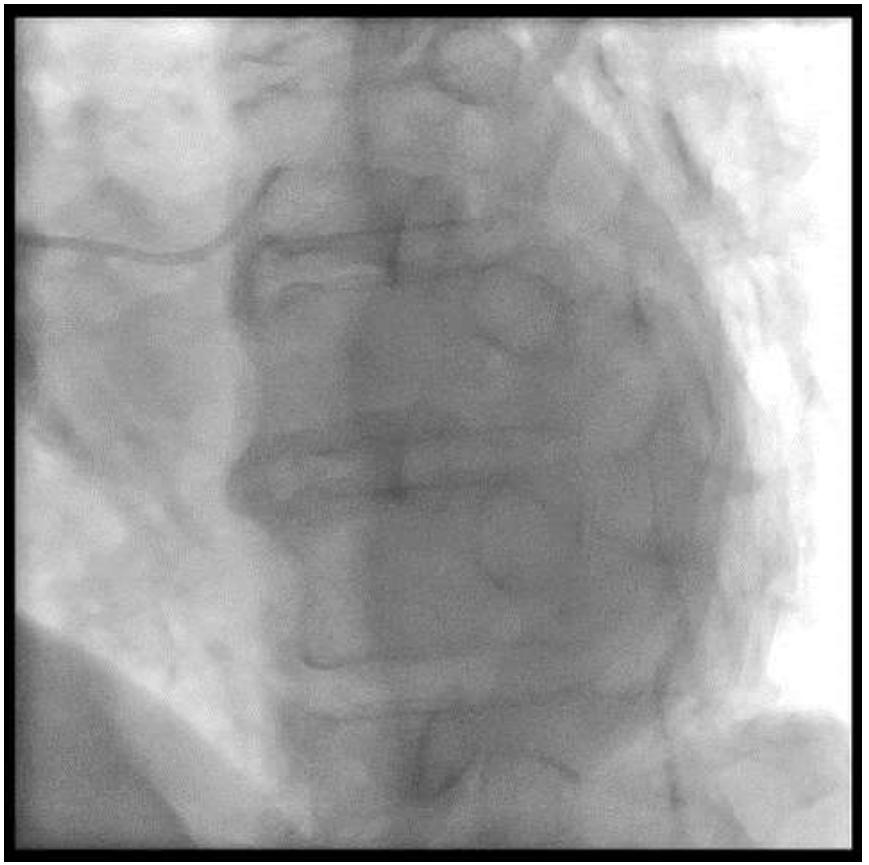
Diagnostic Angiography



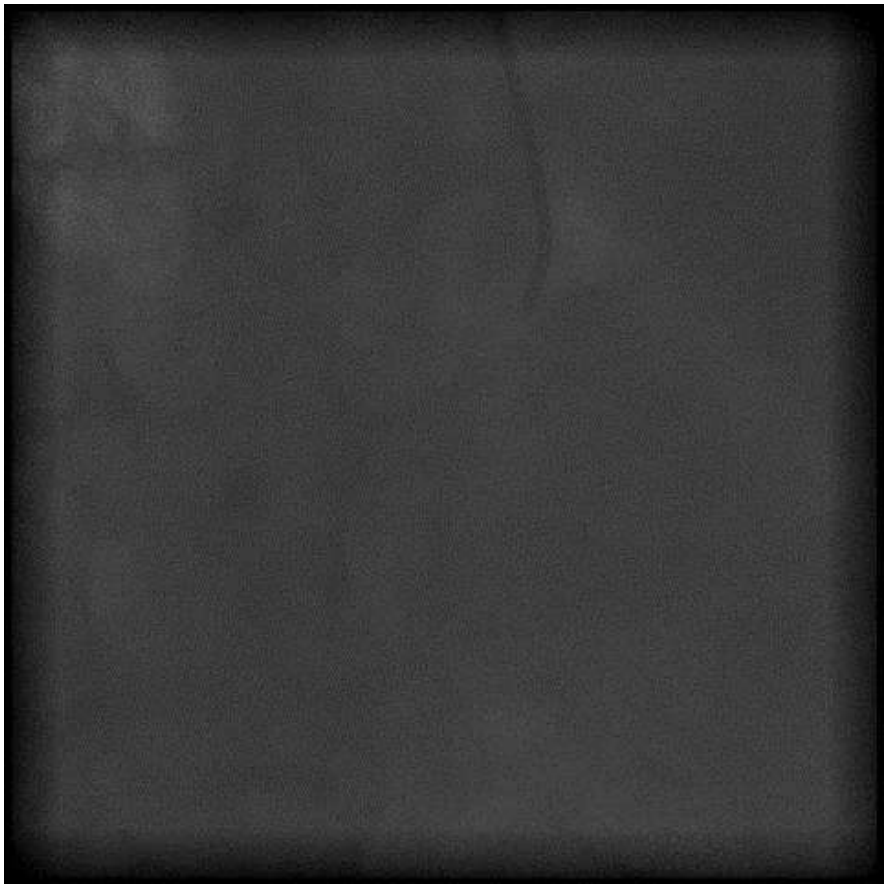


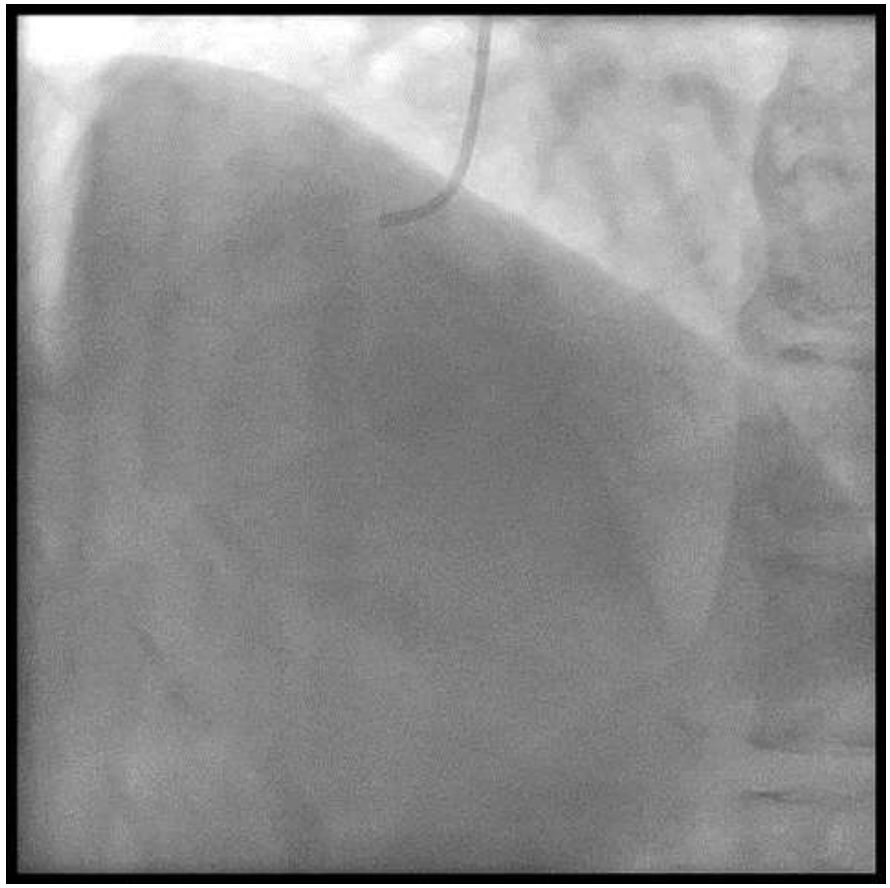
Diagnostic Angiography



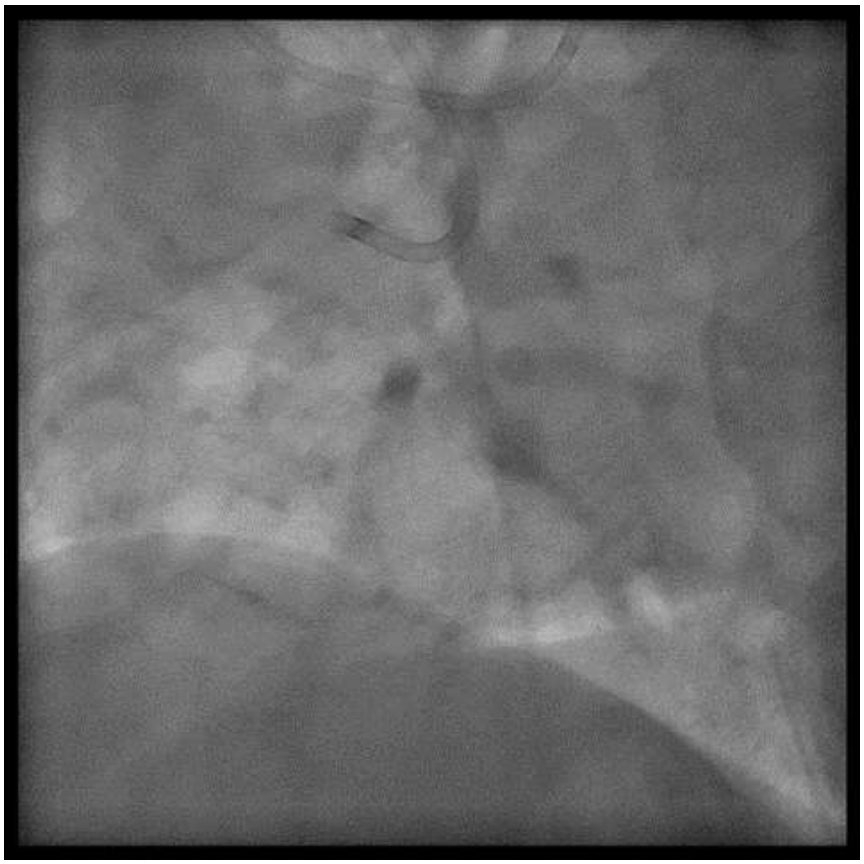


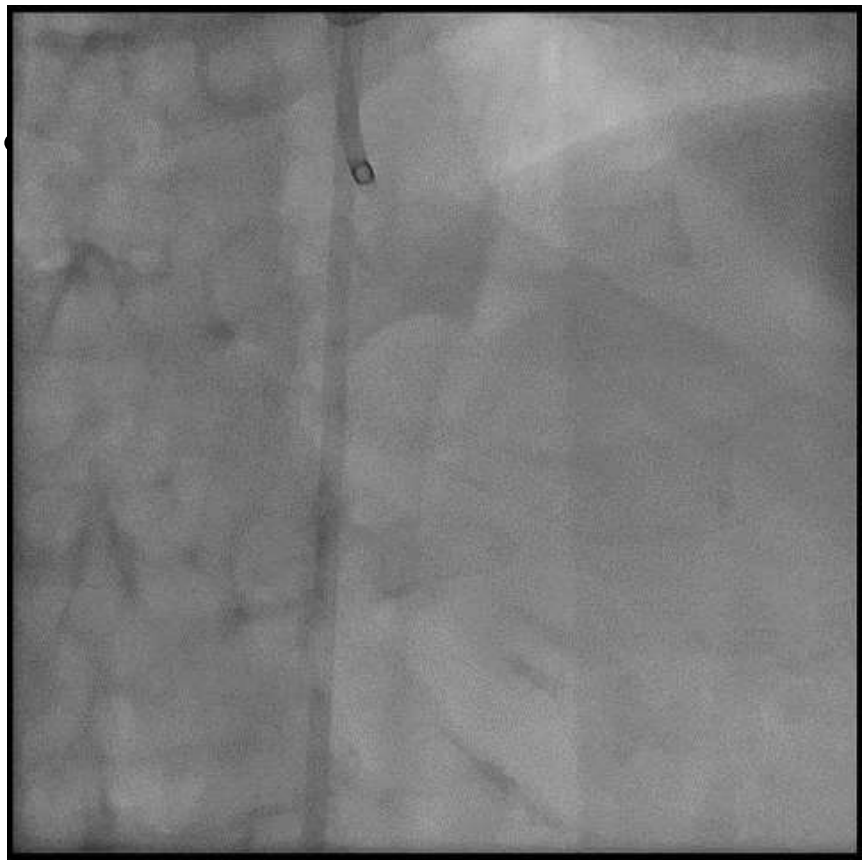
Diagnostic Angiography





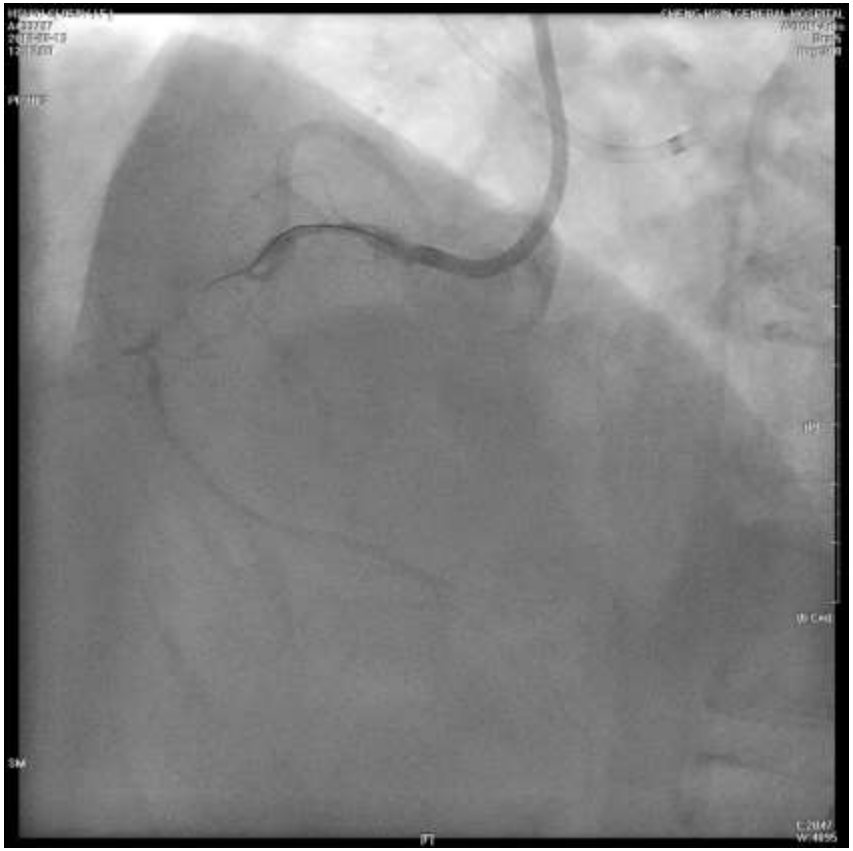
Prepare for PCI

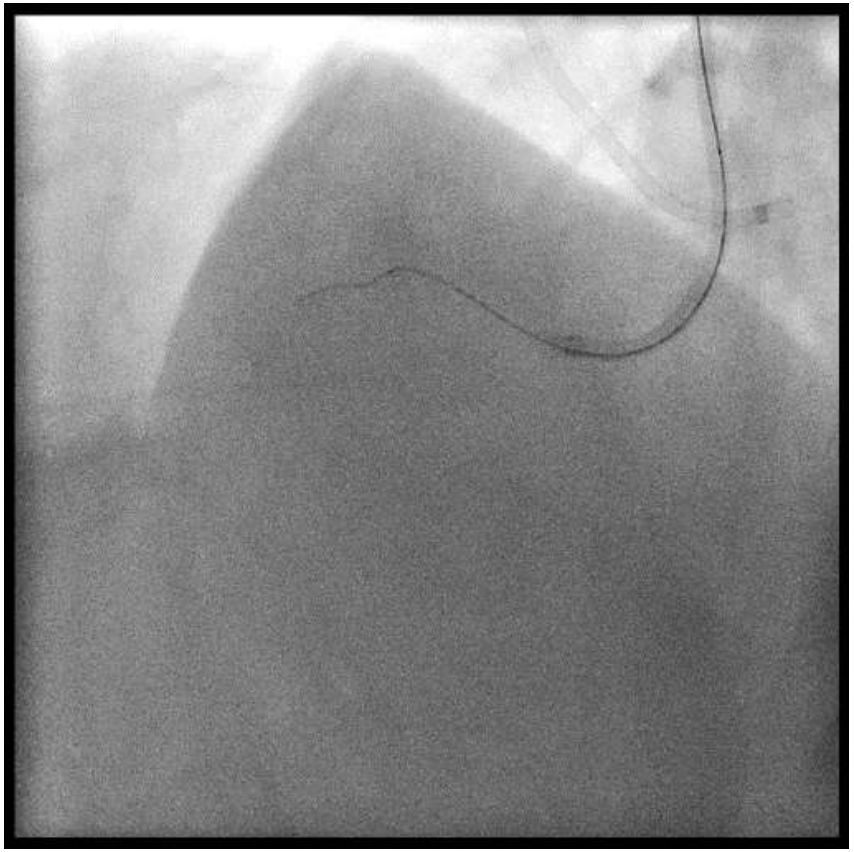




- Right radial artery retrograde angiography
- Right femoral artery for PCI
- Guiding catheters: JL3.5/6F for LCA, SAL0.75/7F for RCA

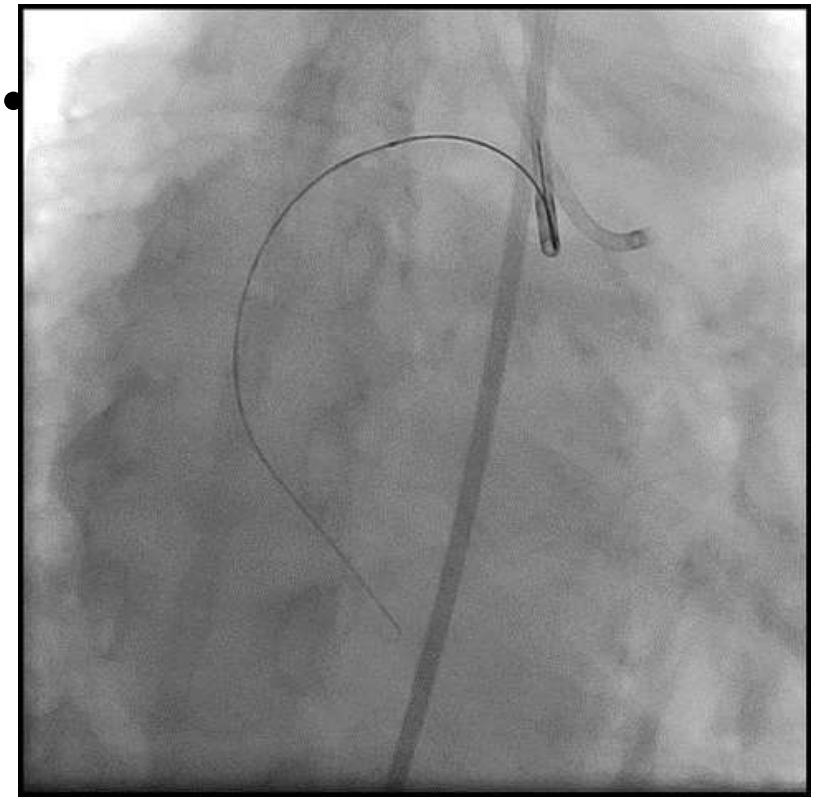
Wiring

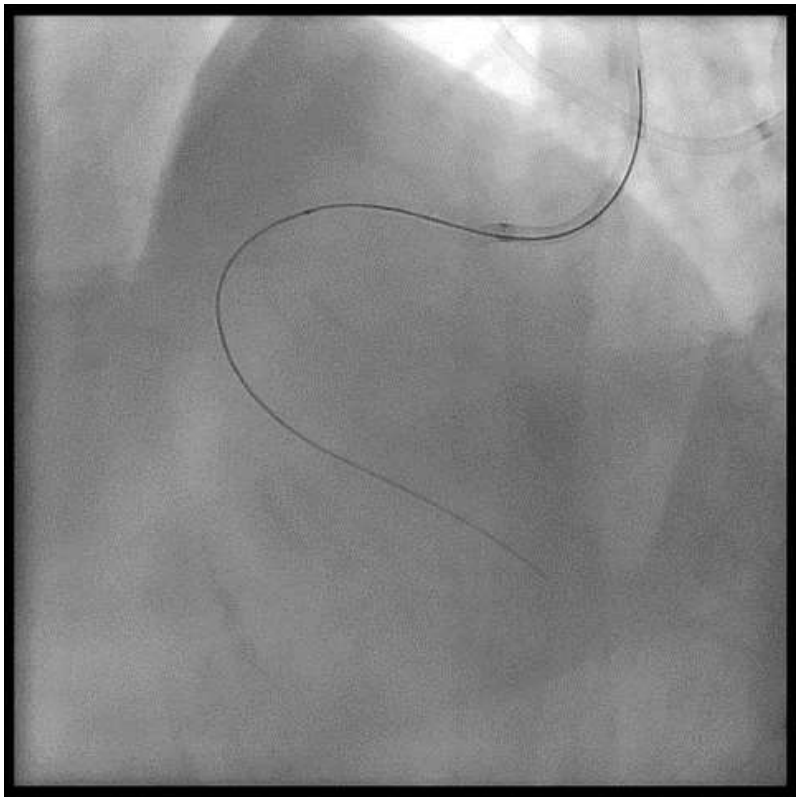




- Fielder FC within a Sprinter OTW (1.25x6 mm)--> failed
- successful wiring with Gaia 1st

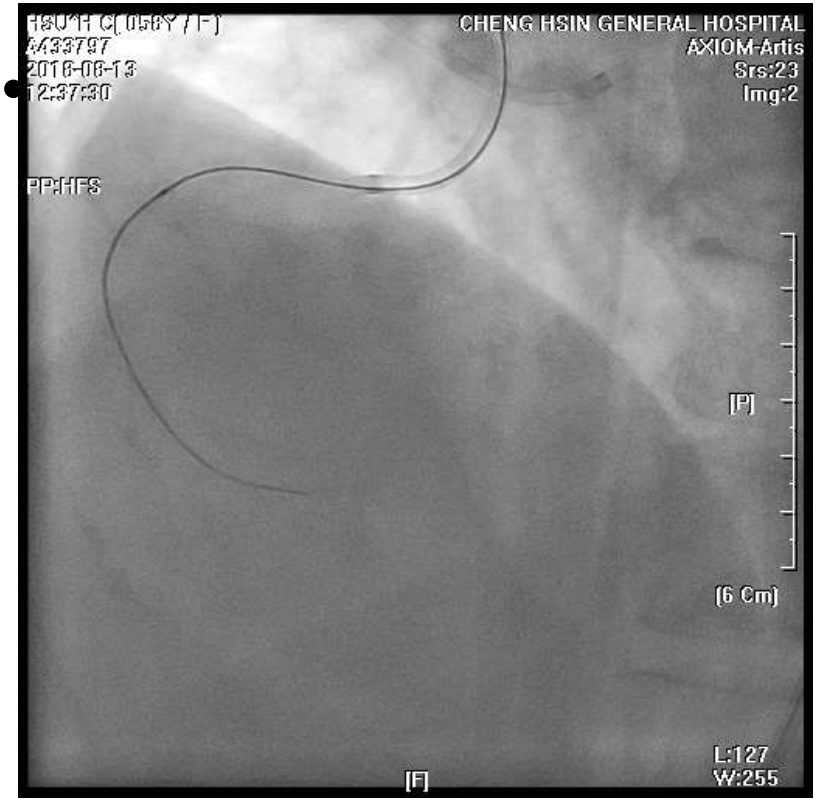
wiring

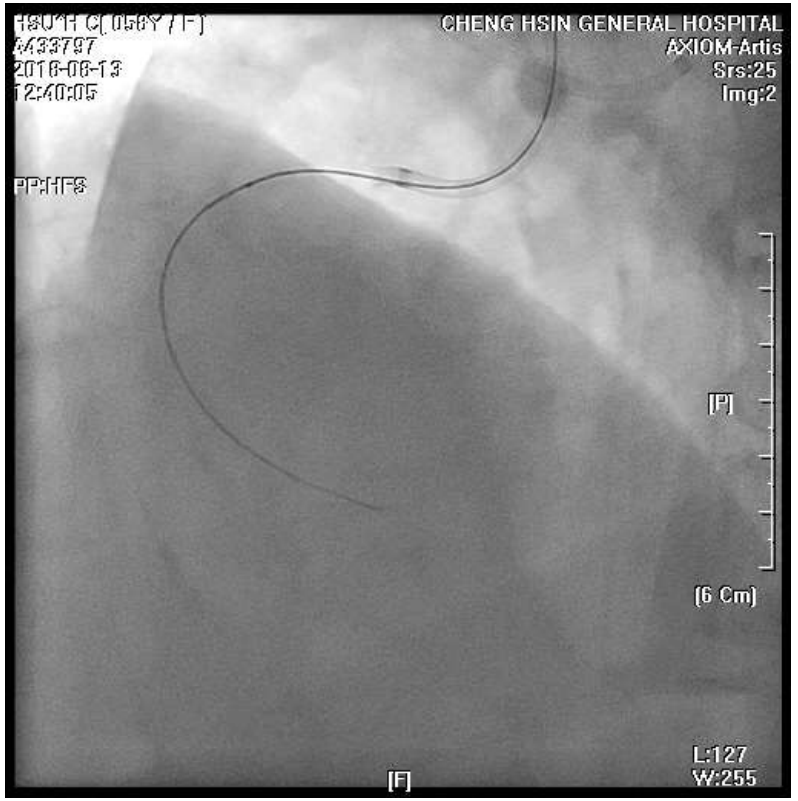




- Retrograde angiography confirmed the true lumen

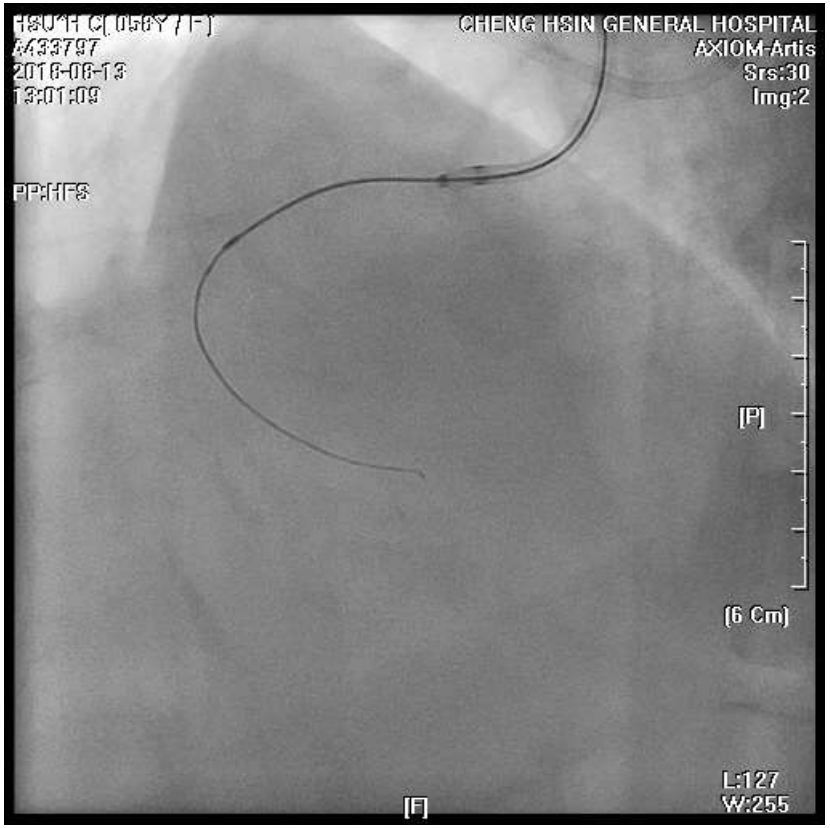
Balloon-uncrossable CTO

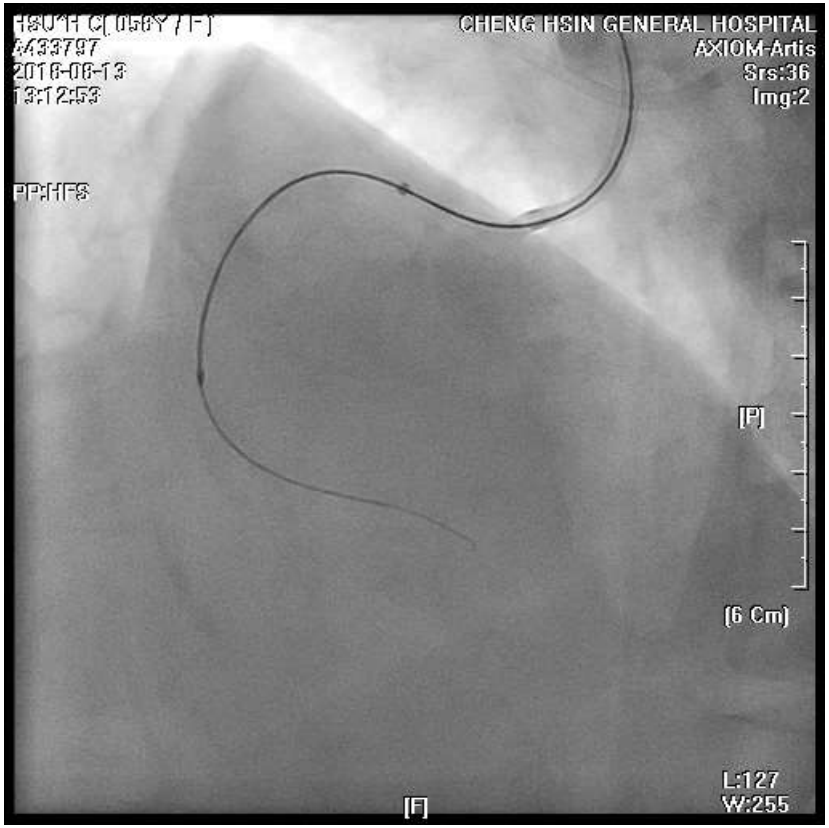




- Several balloon failed to cross the lesion, even 1.0 mm balloon

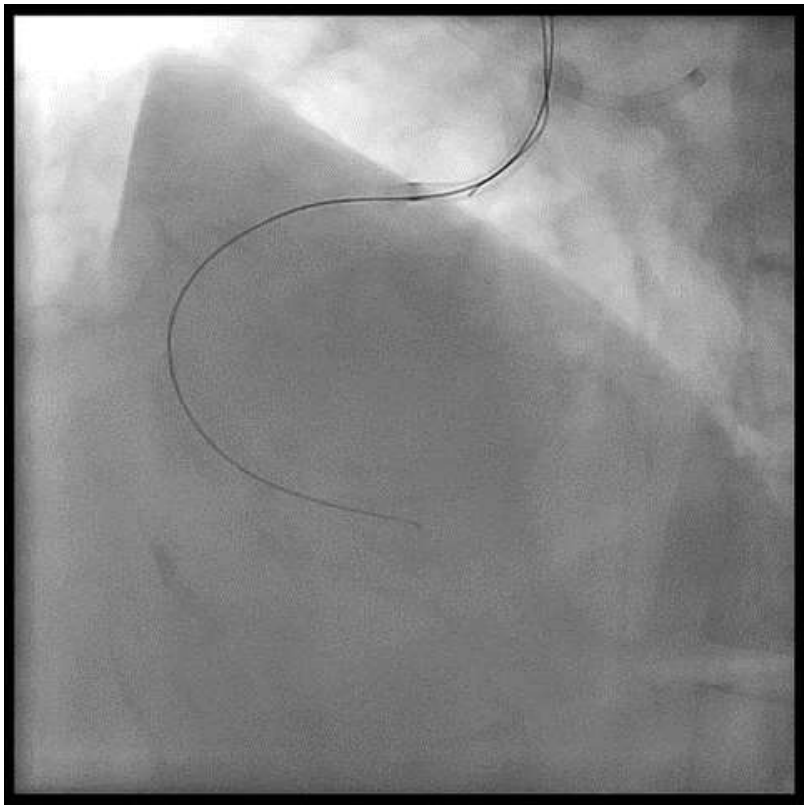
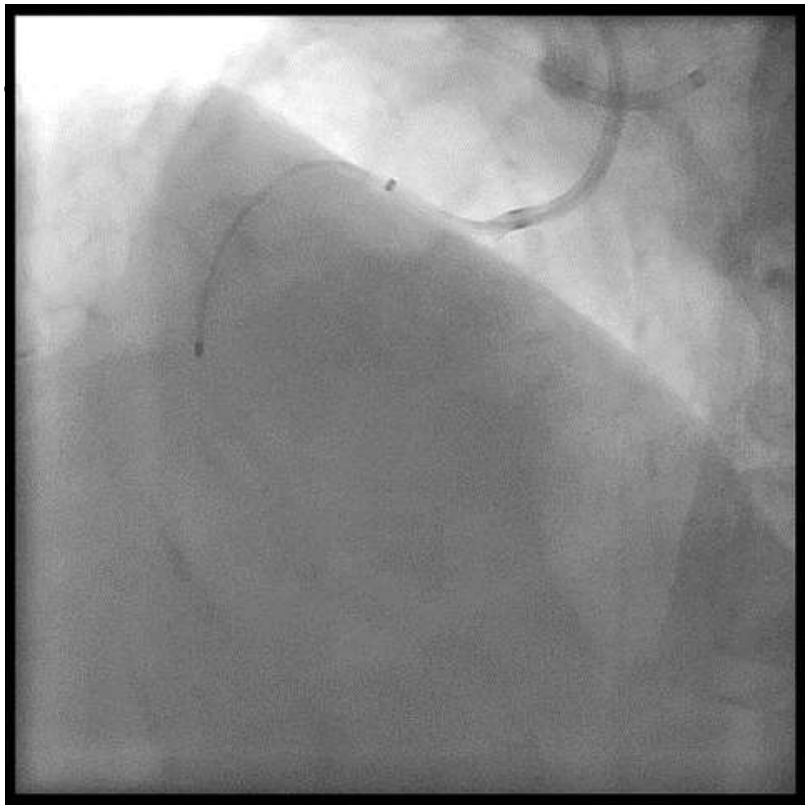
Microcatheter





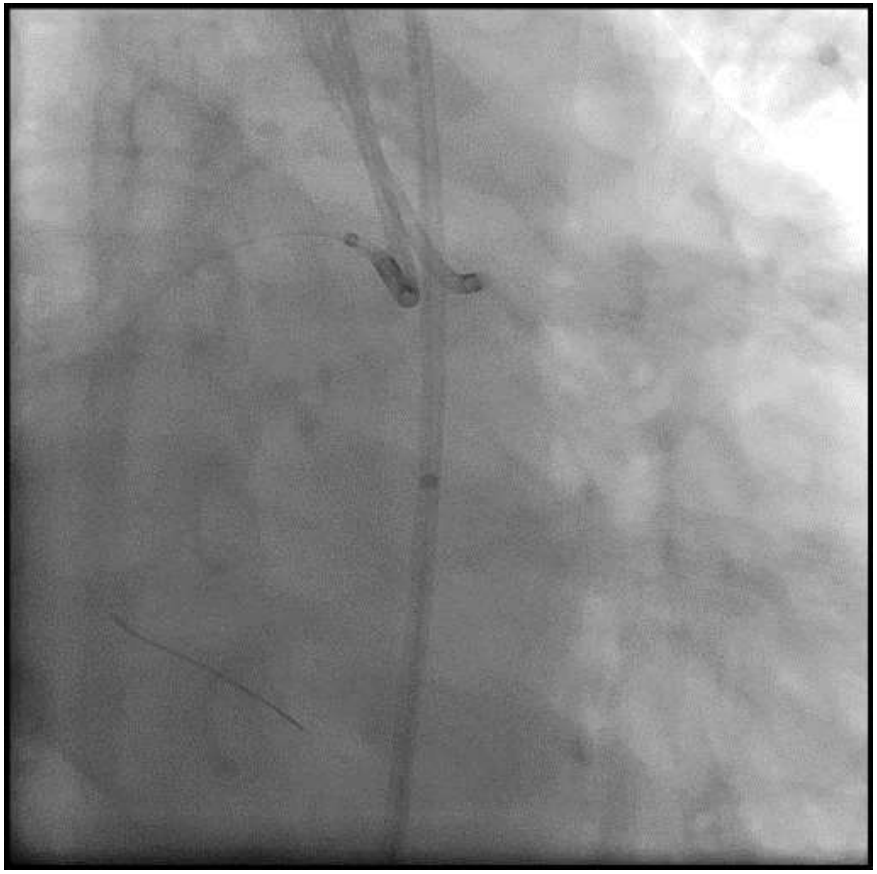
- Turnpike Gold under the Guideliner/6F support

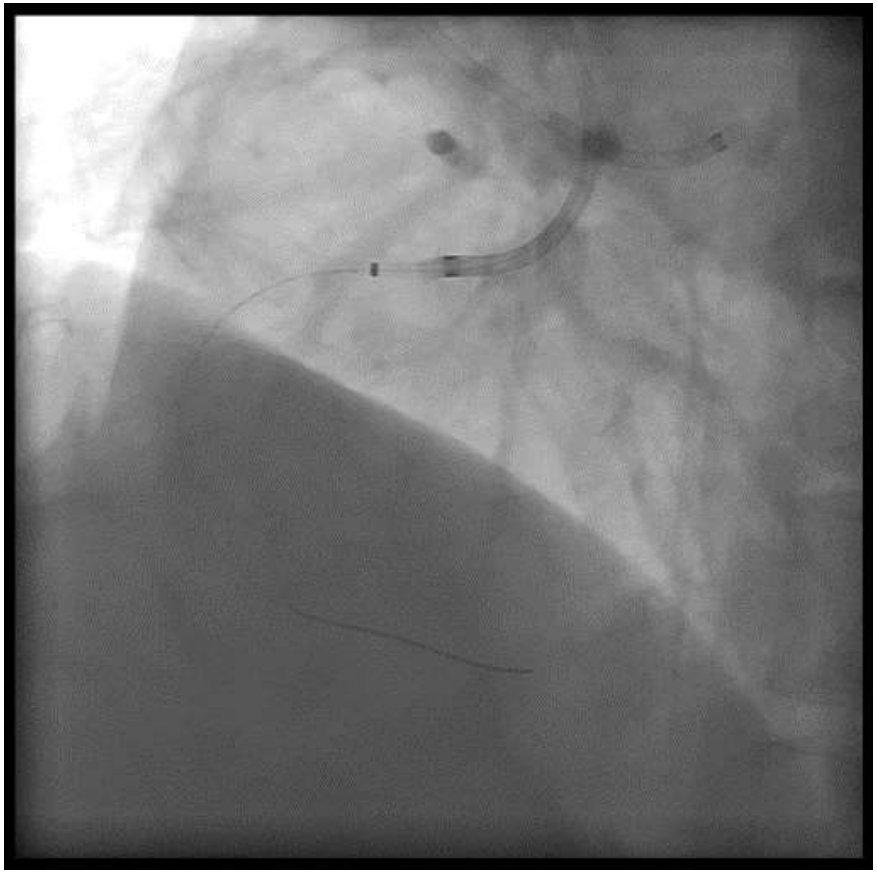
Microcatheter

- 


- Changed Gaia 1st to Runthrough, removed Turnpike Gold

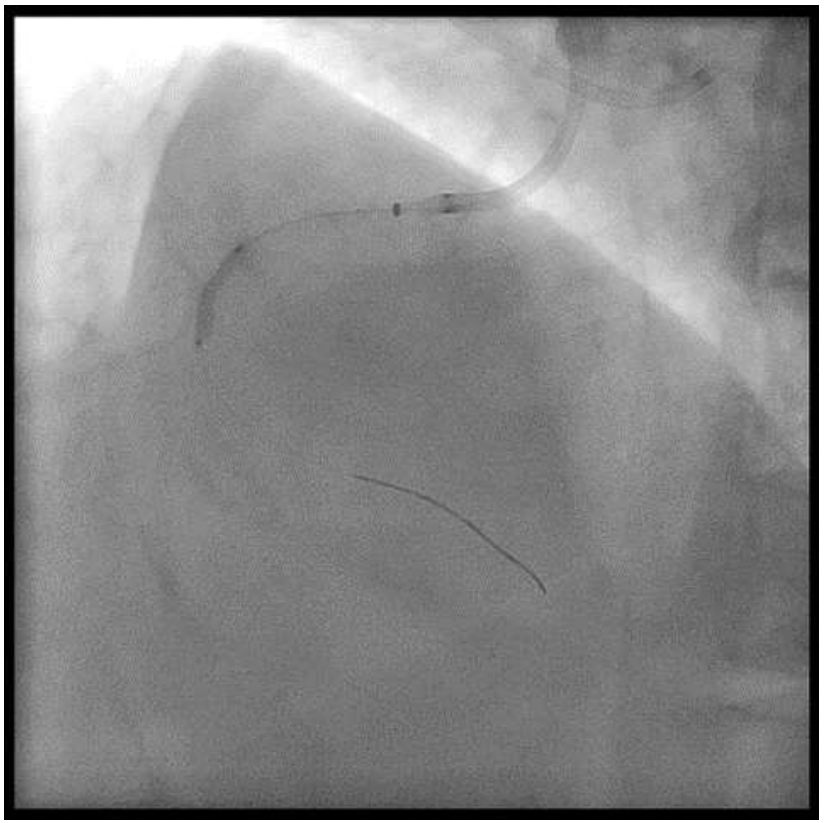
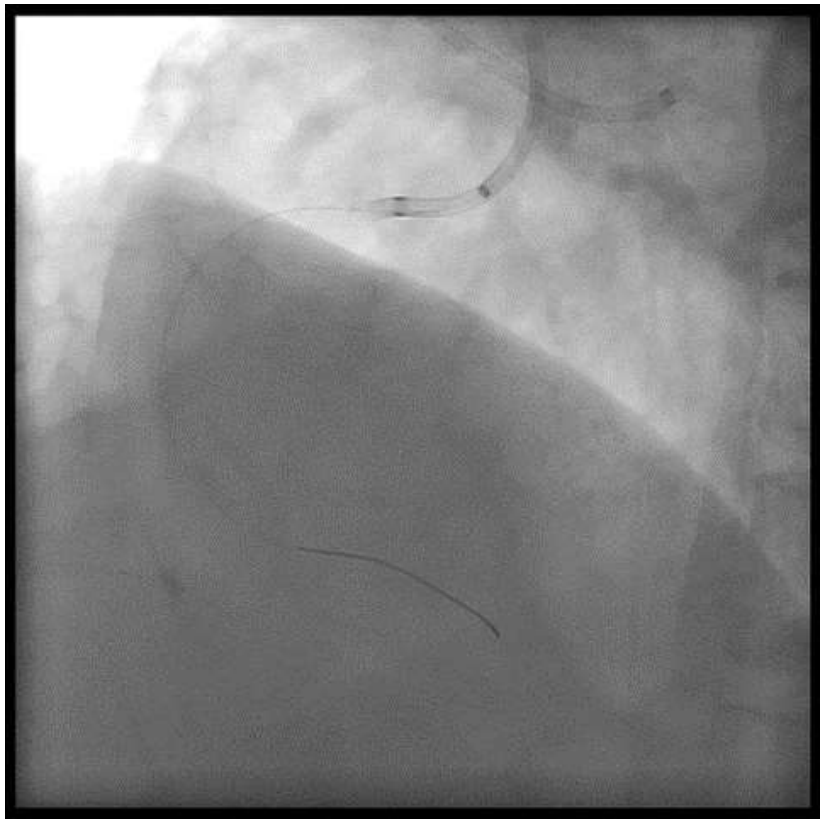
POBA





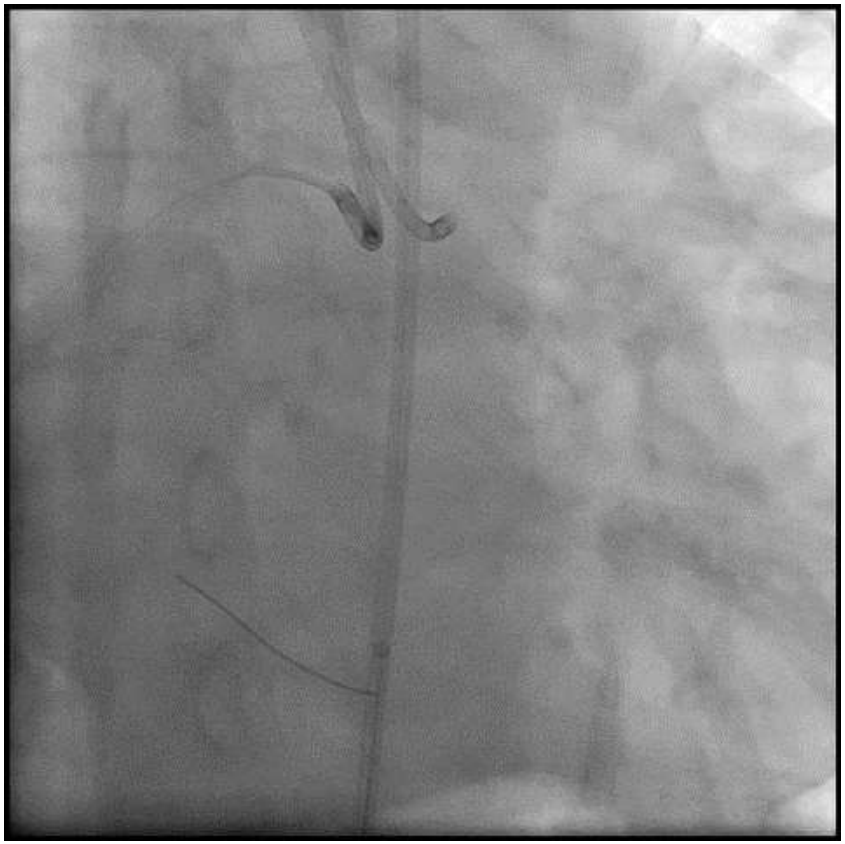
- POBA with Emerge Push(1.2x8mm), MiniTrek (2.0x20mm),

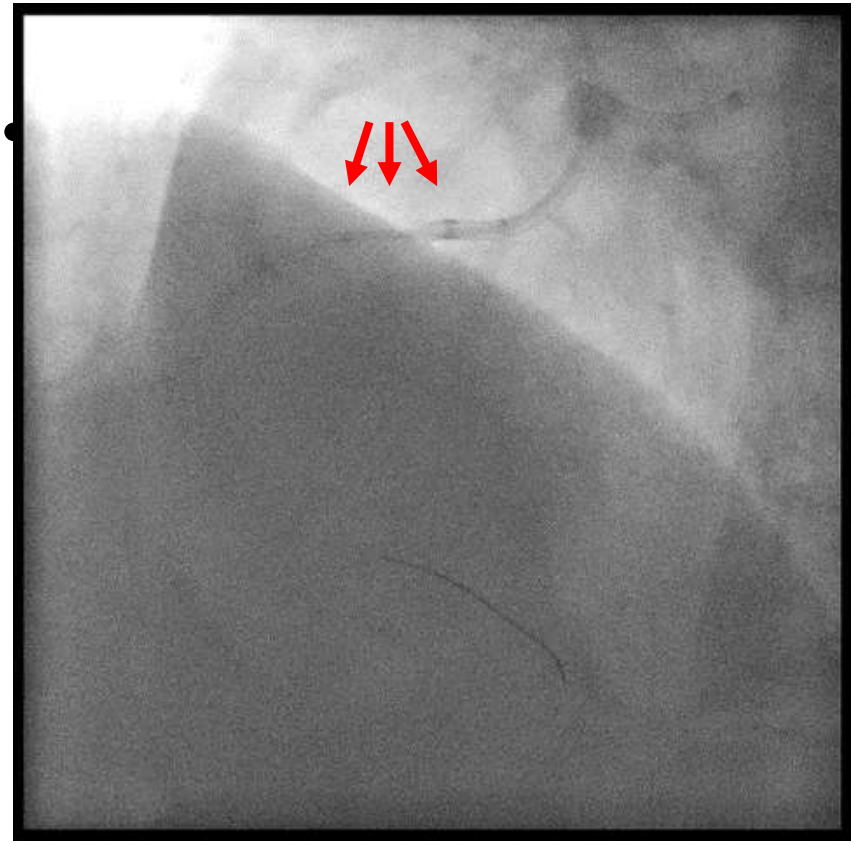
IVUS

- 
- 

- IVUS: 2.75mm to 3.0mm in diameter from distal RCA to proximal RCA
- POBA with Trek 3.0x20 mm

Total stent loss





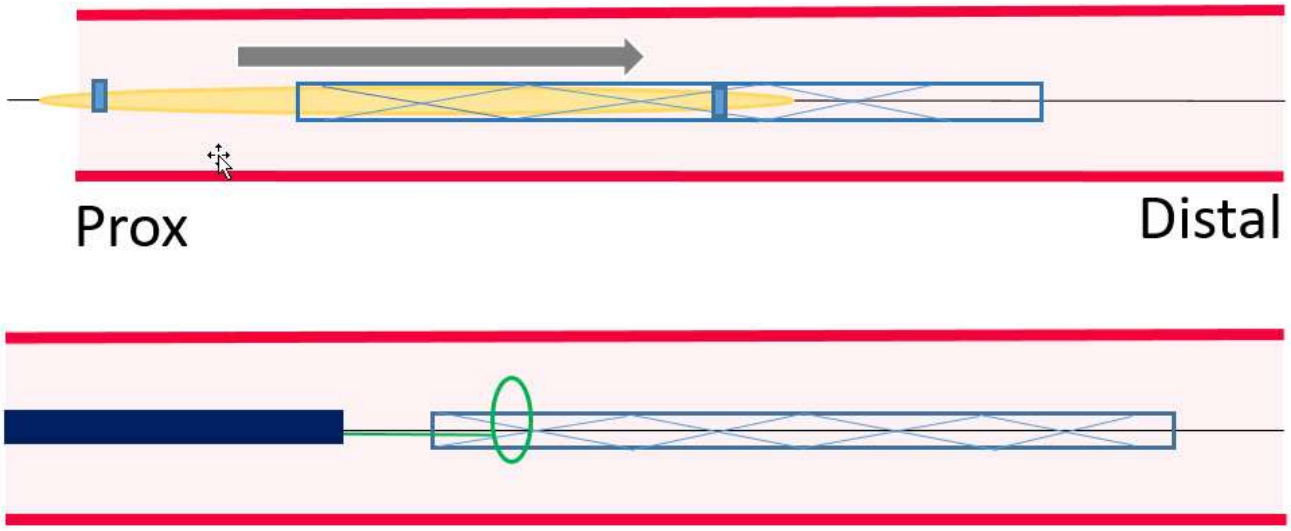
- DESyne 3.0x38mm DES failed to reach distal RCA
- During withdraw, the stent dislodged in the guiding catheter & RCA-Orifice.

stent retrieval for total stent loss

- small-balloon technique
- double-wire technique
- loop snare technique
- trapping technique
- forceps
- basket retrieval devices
- Cook retained fragment retriever
- embolic protection devices
- hairpin-wire technique

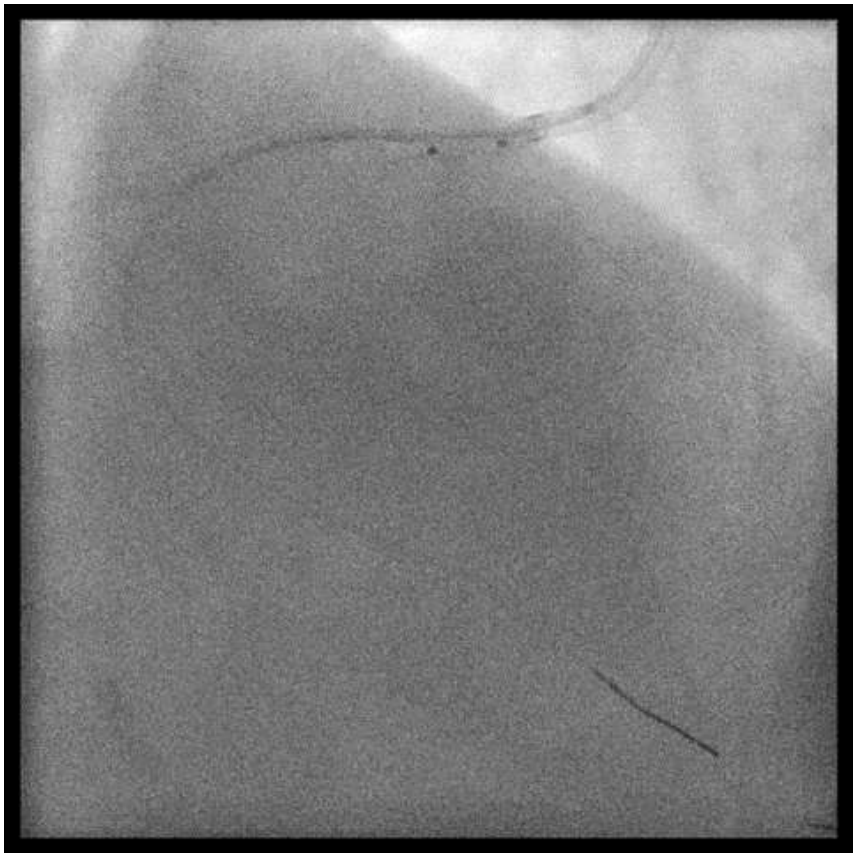
TOTAL STENT LOSS
(guidewire in situ)

Stent retrieval



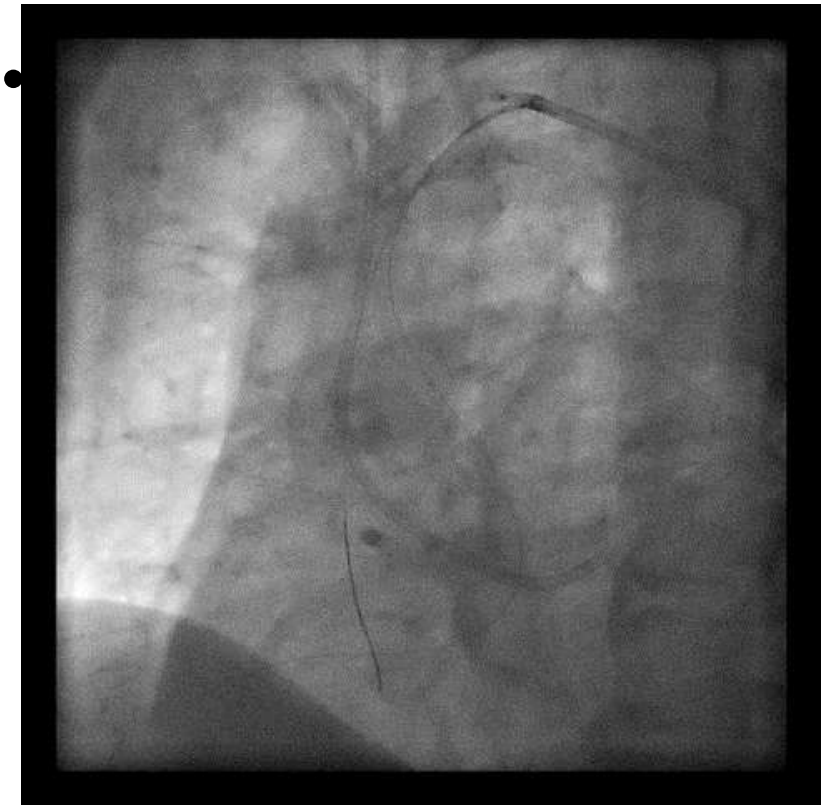
- Small balloon technique with Emerge 1.2x8 mm --> failed
- Snare wire could not go through 7F guiding catheter

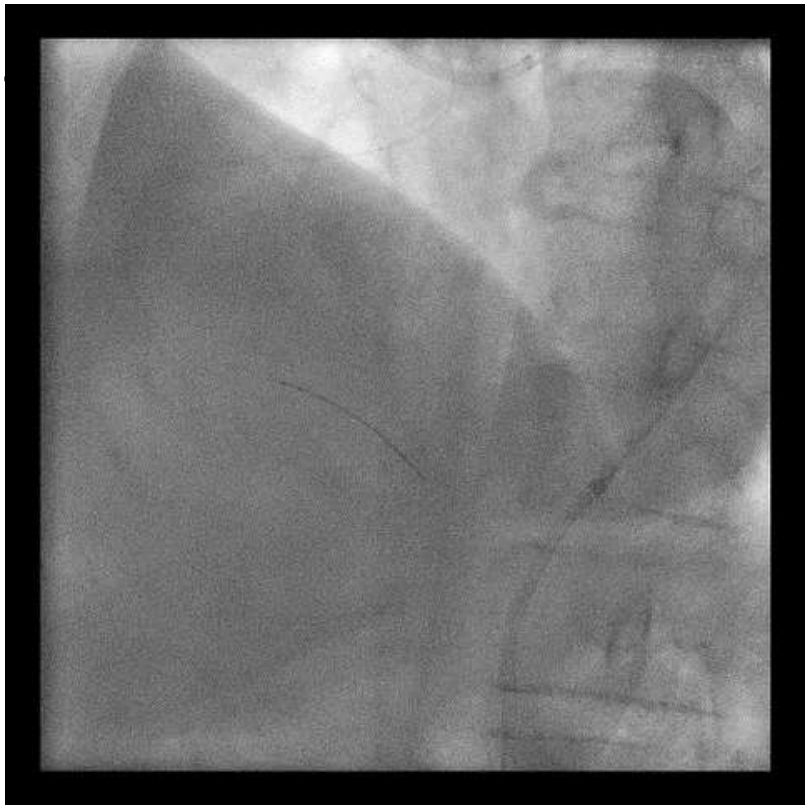
Balloon Trapping



- Introduced another Runthrough
- Inflated Emerge 2.0x8 mm to trap the stent (between the balloon and guiding catheter)

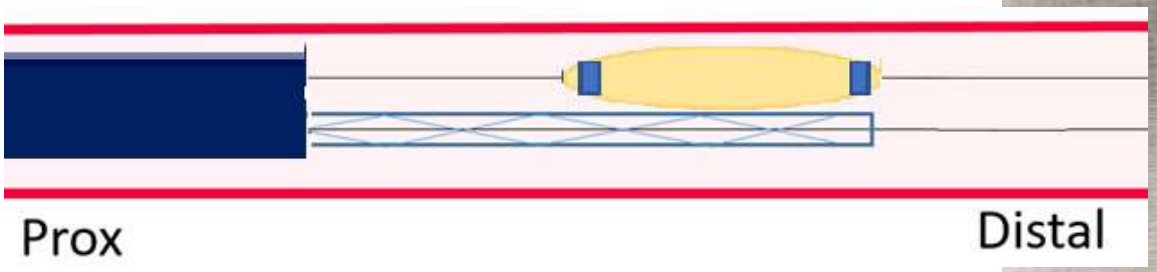
Stent retrieval

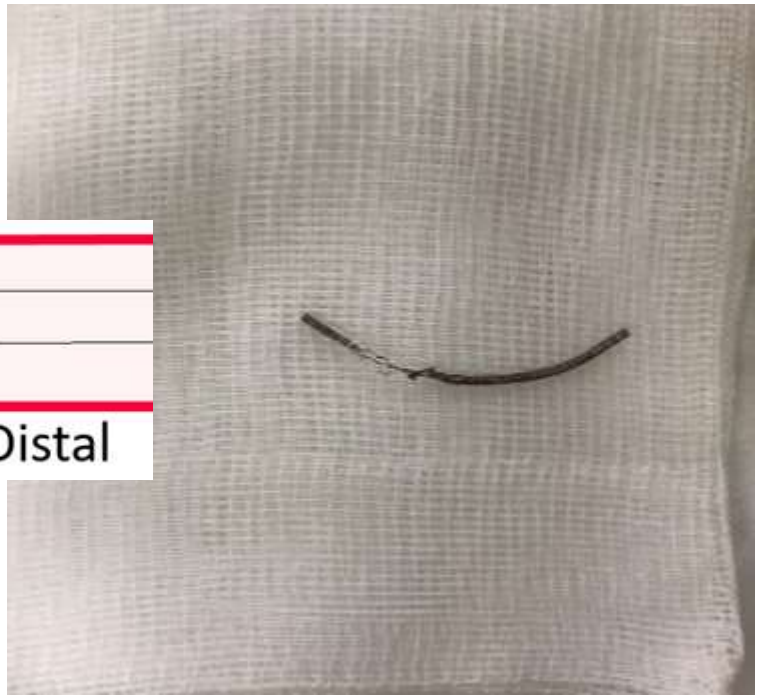




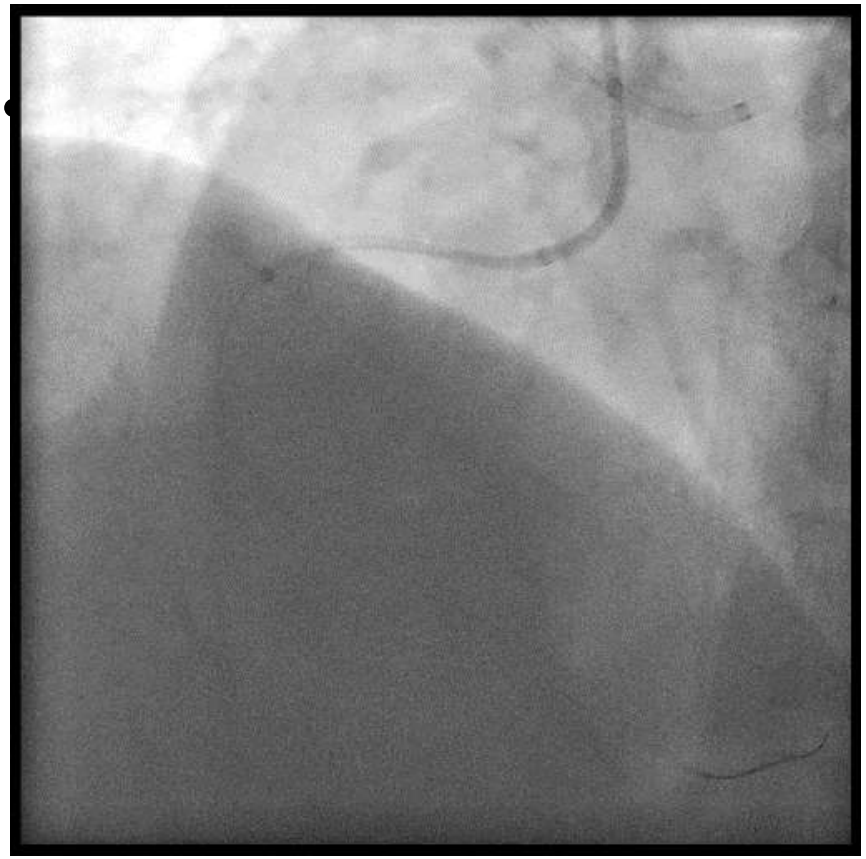
- Withdraw the guiding catheter, balloon and stent as a single unit
- Kept the Runthrough wire in the RCA.

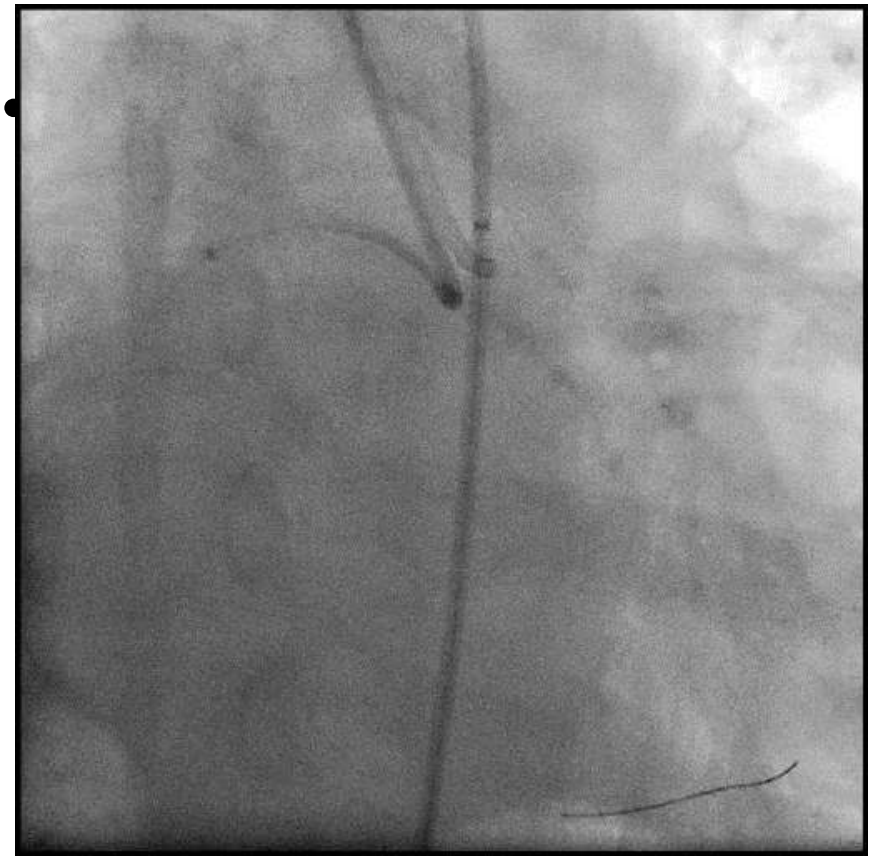
Stent retrieval





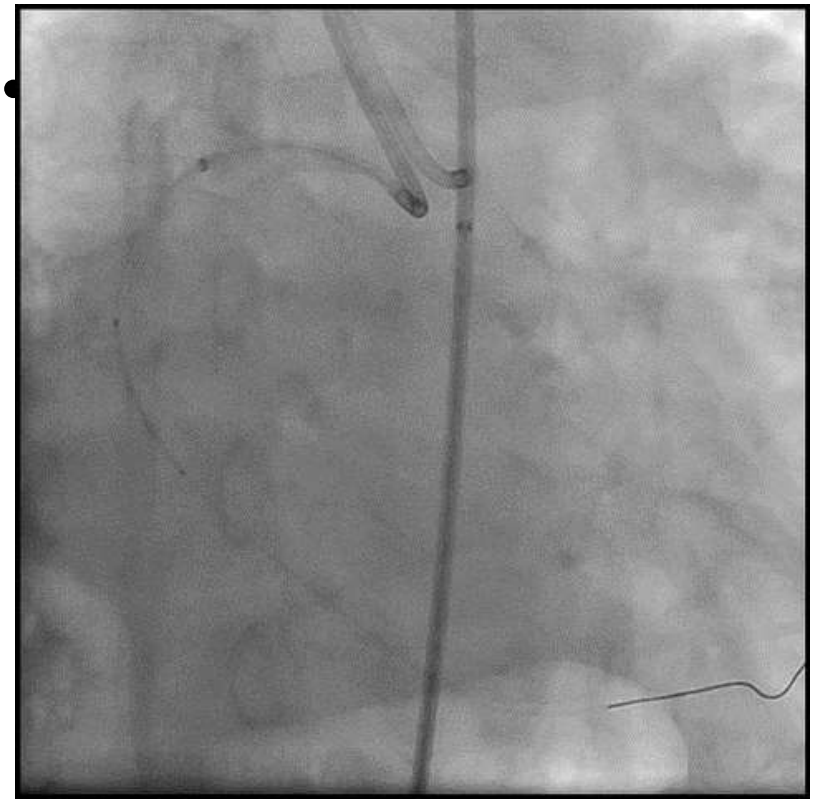
Re-engagement

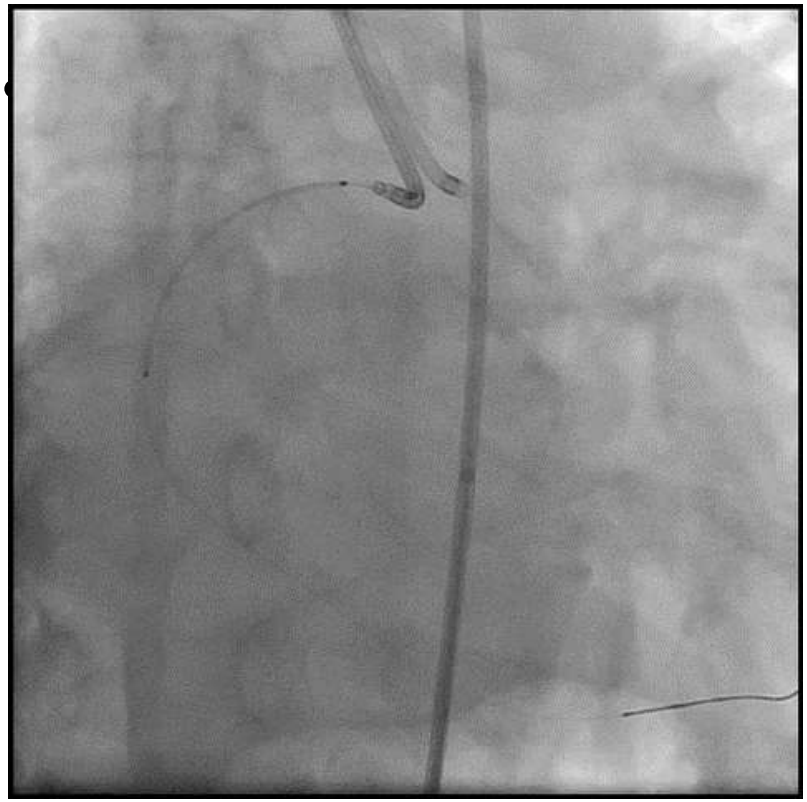




- Re-engaged JR4.0/6F and introduced Guideliner/6F

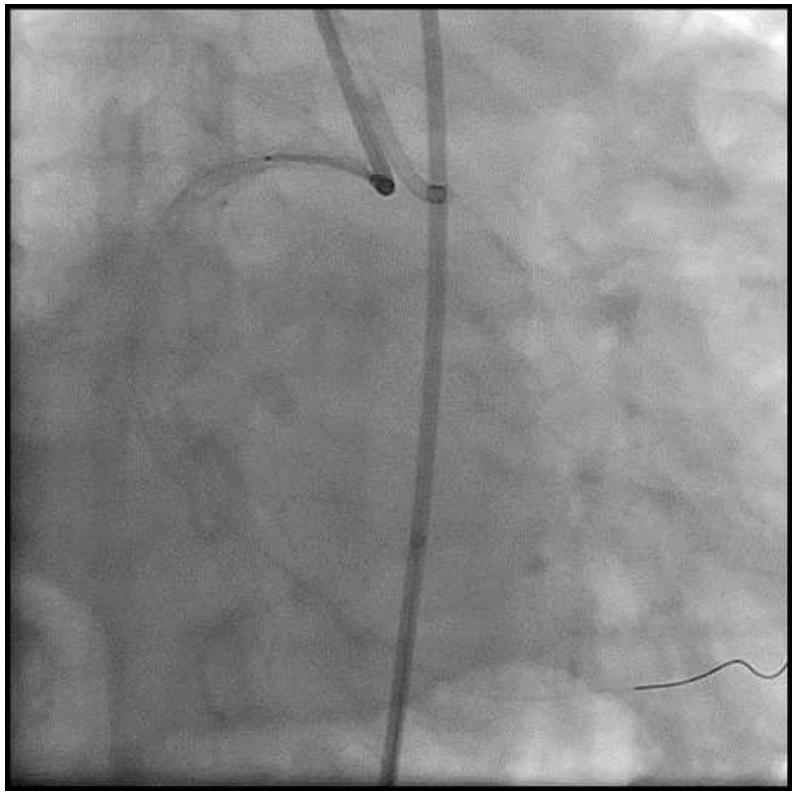
Stenting





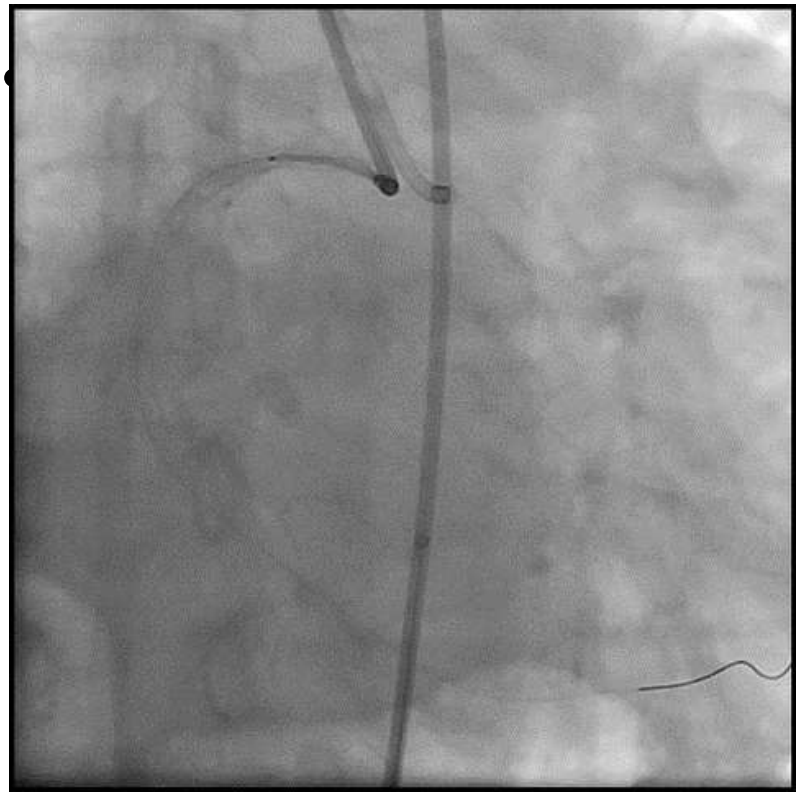
- Orsiro 2.75x22mm DES at distal RCA
- Orsiro 3.0x40mm DES at middle to proximal RCA

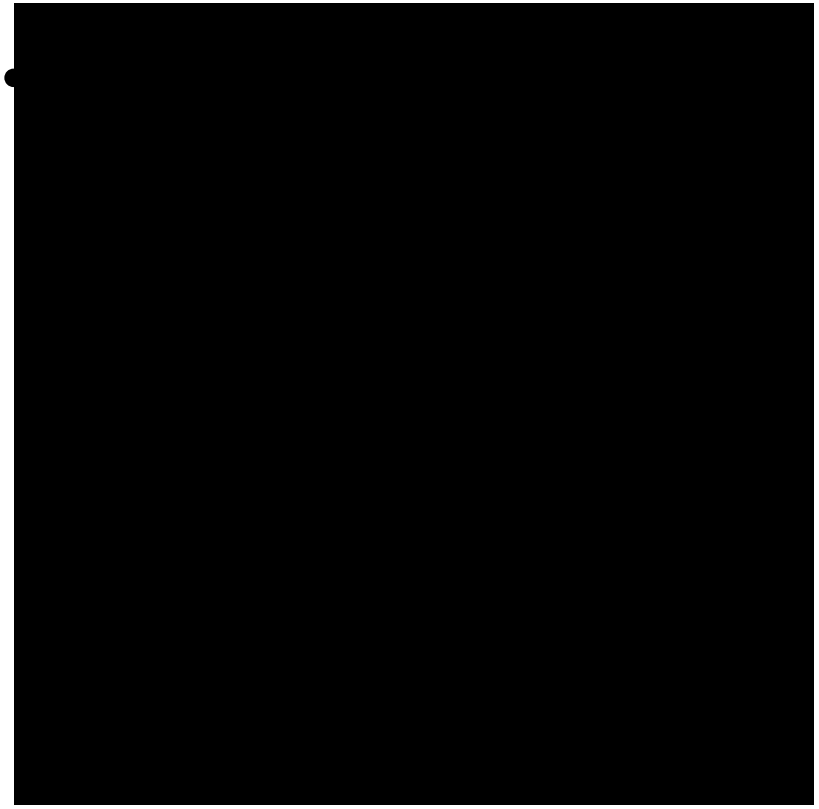
Stenting & post-dilate

- 
- 

- Orsiro 3.0x18mm at proximal RCA to the ostium
- Post-dilatation with NC Emerge 3.5x12 mm

Final angiography





- IVUS: Stents well apposition.

Conclusion

- Several technique could be tried for stent loss during PCI.
- In our case, the dislodged stent left a part in the guiding catheter. So we can bite the stent with a inflated balloon and the guiding catheter.
- The advantage is that after we can withdraw the whole system, the 2nd guidewire is still left in the coronary artery.

Conclusion

- Stent dislodge is very rare complication during PCI.
- It usually happens in severely calcified, angulated or very tortuous lesions.
- We should be…
  - Calm down
  - Ensure adequate anticoagulation
  - Consider stent crush technique if retrieval failed.
  - Never forget surgical treatment

振興醫療財團法人
振興醫院

Thanks