INSTITUT JANTUNG NEGARA
National Heart Institute

FROM RESCUE TO CRUSHING

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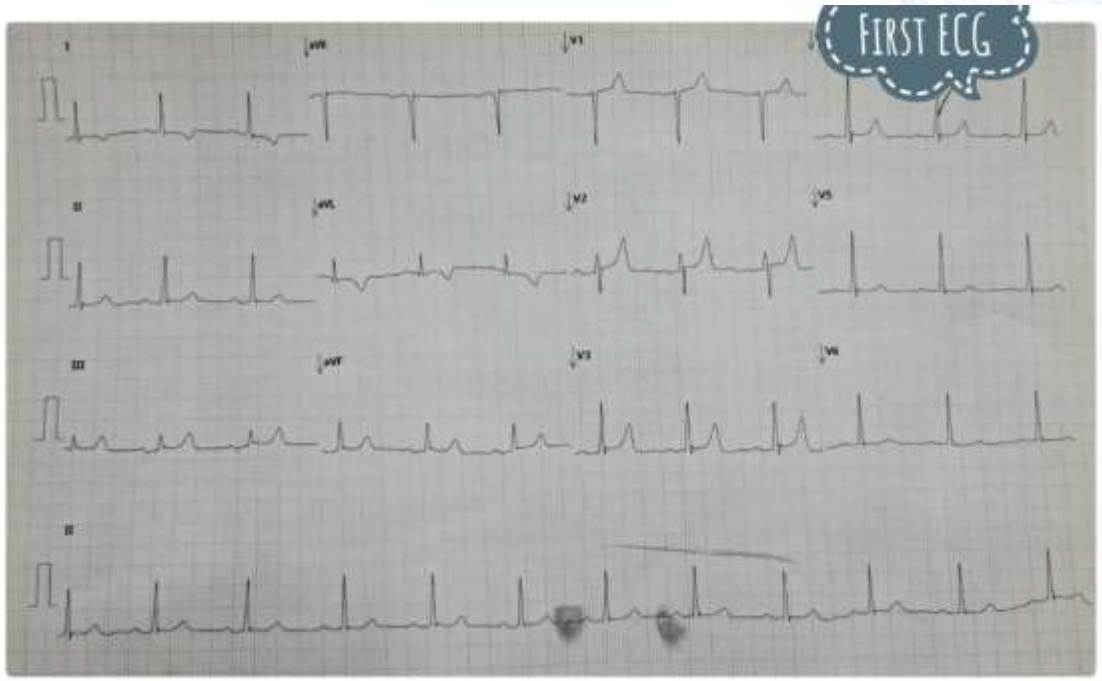
Disclosure

- I, Iskandar Mirza Amran from National Heart Institute (IJN) don’t have any conflict of interest for this presentation.

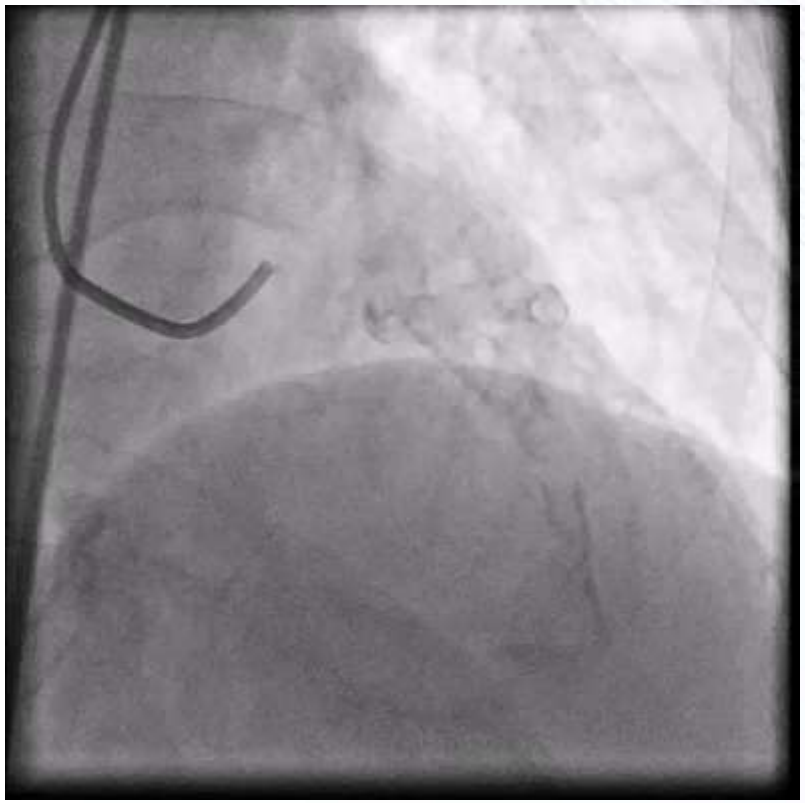
Patient's information

- 45 year old gentleman
- Known cases of:
  - Mild coronary artery disease
  - Hypertension
  - End-stage renal failure
  - Hepatitis C

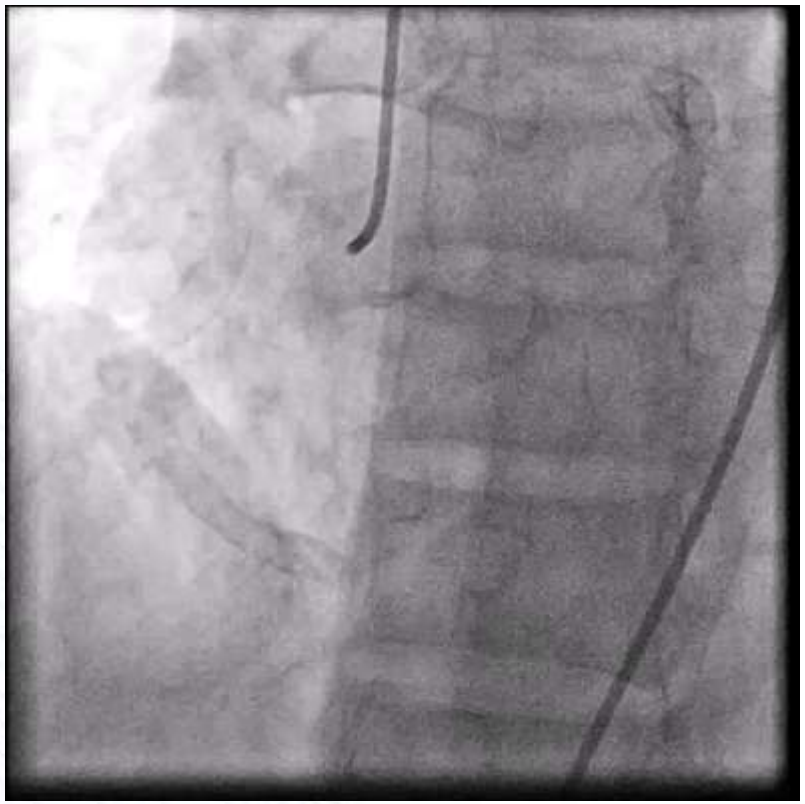


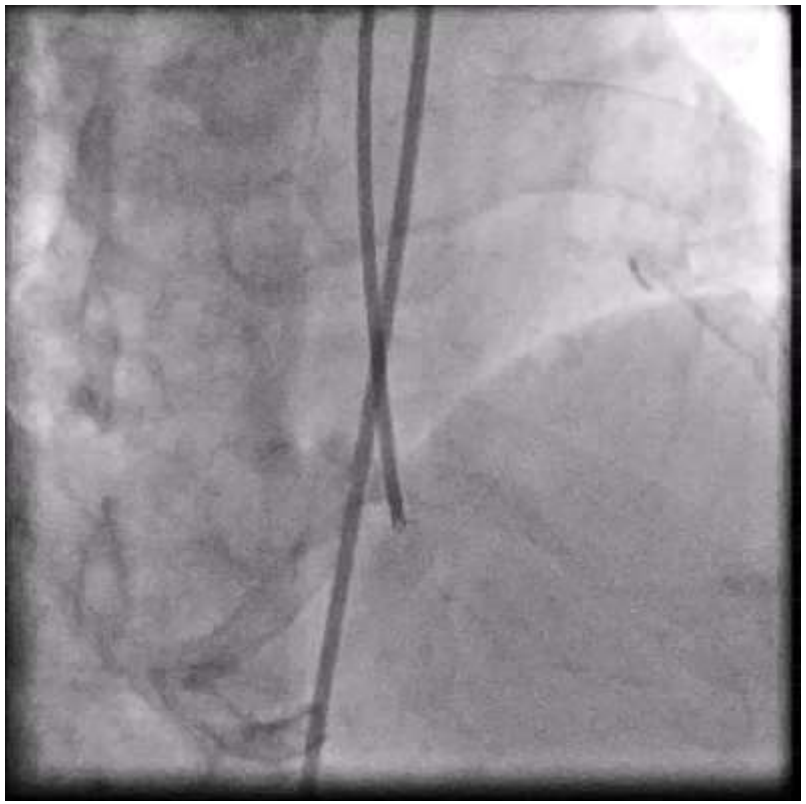
- Presenting complaint
  - Chest pain during dialysis
  - ECG: 1 mm ST elevation lead III and aVF
  - Referred to a private cardiology center
  - Proceed with coronary angiogram and angioplasty

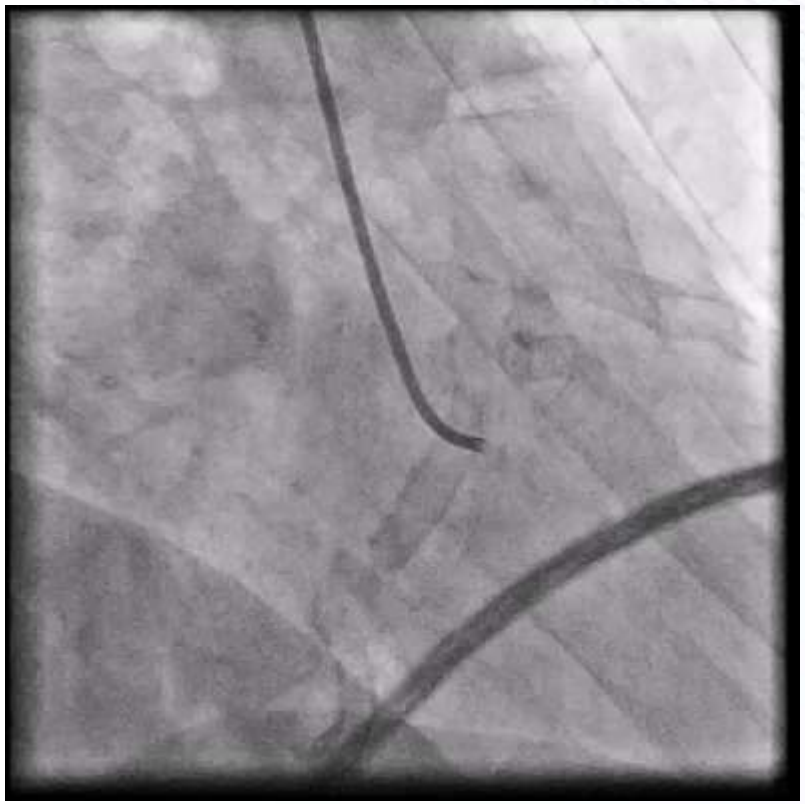
Diagnostic shot from private center



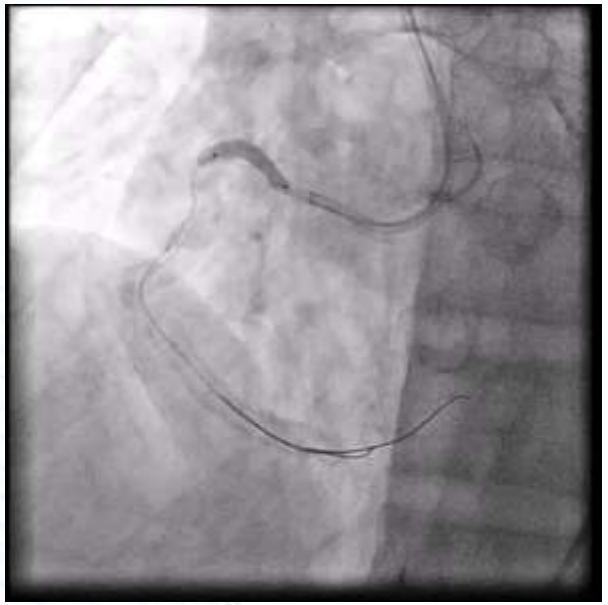
Diagnostic shot from private center



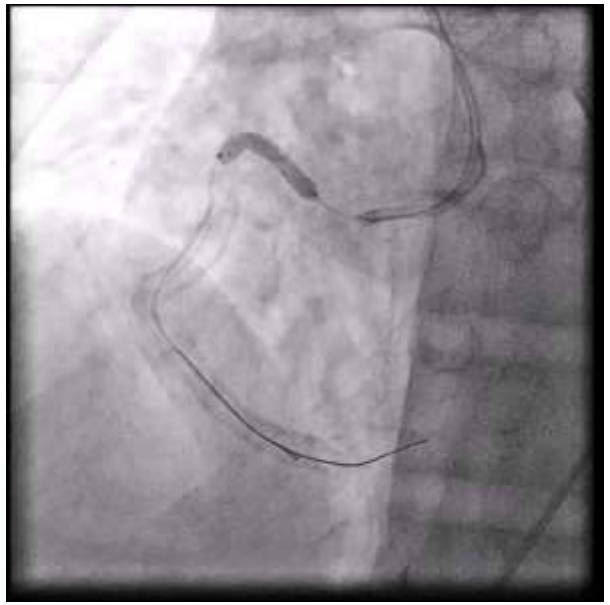




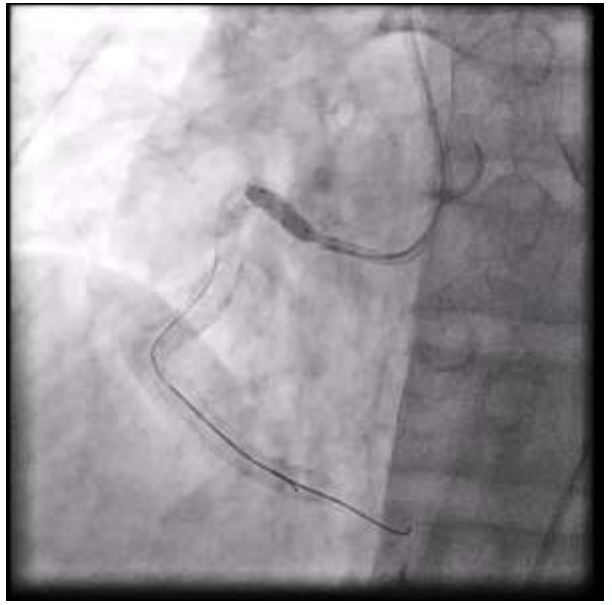
Proceed with PCI to Proximal RCA



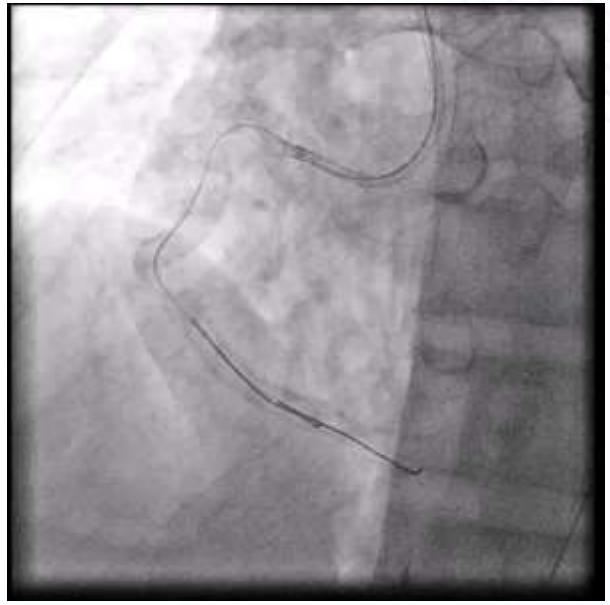
Pre-dilatation
2.0/15 mm
3.0/15 mm



DES 3.5/20 mm

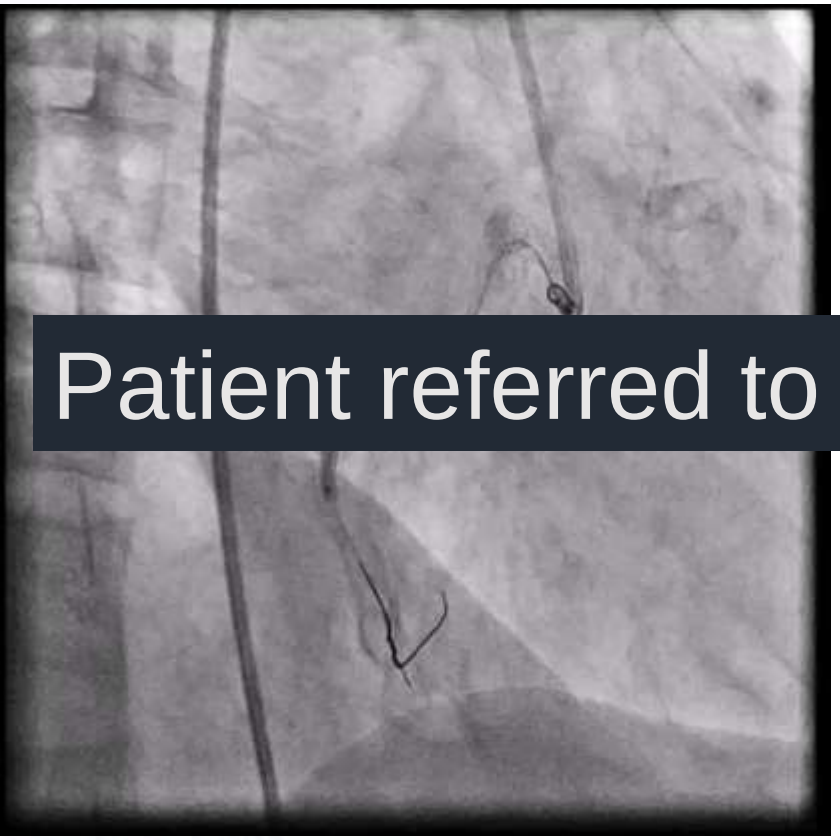


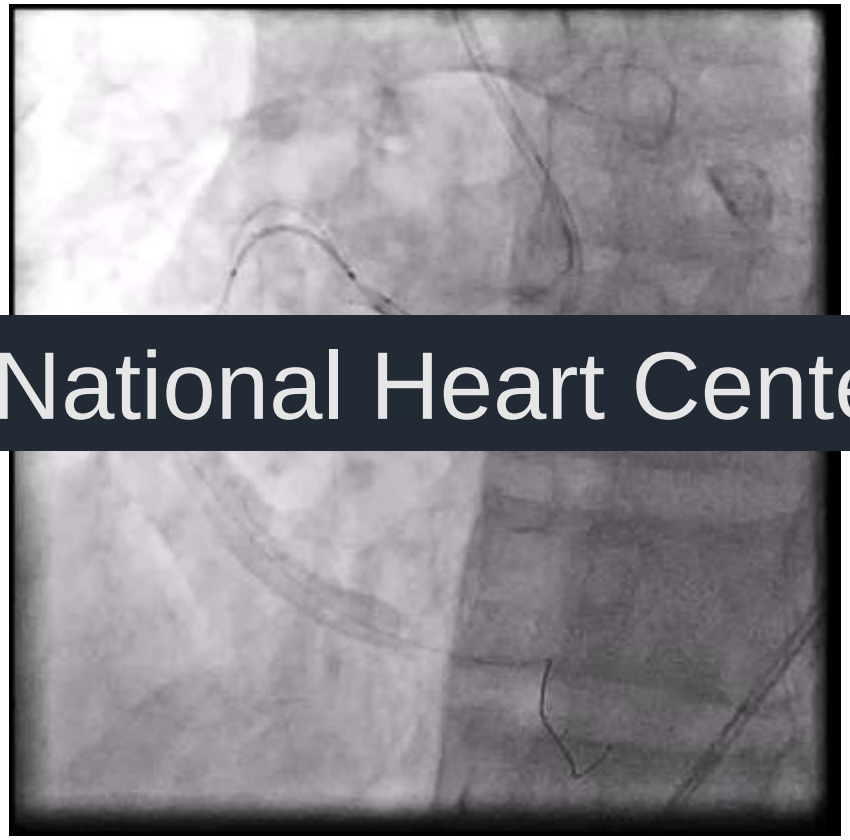
Post-dilate 4.5/12 mm

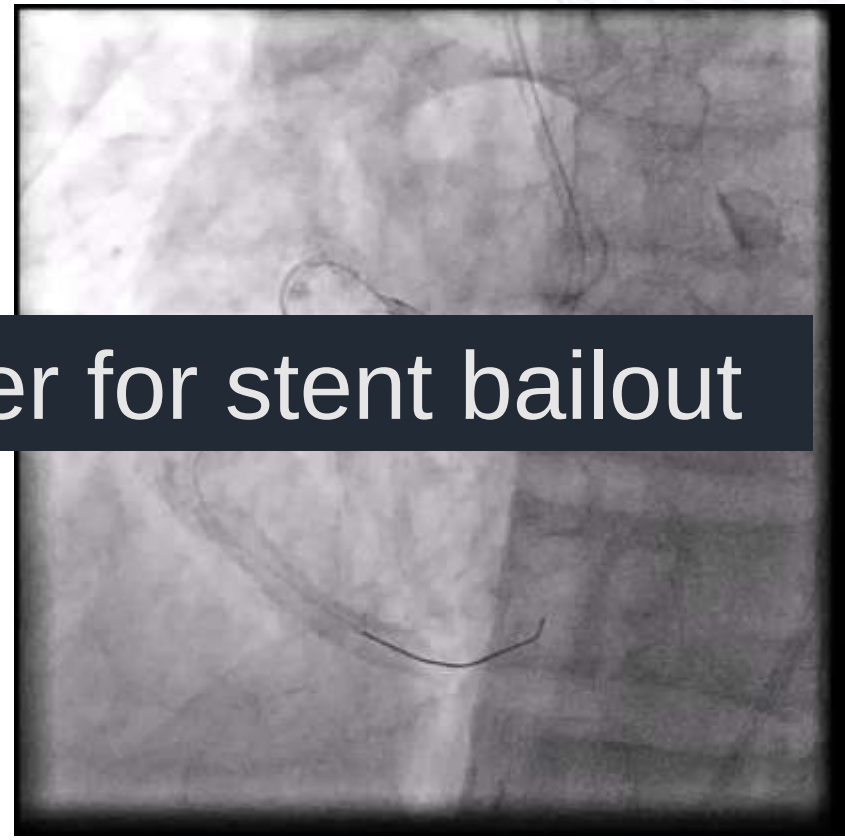


Final shot

Decided to PCI mid RCA







Patient referred to National Heart Center for stent bailout

Pre-dilatation
2.5/15 mm

Unable to advance the stent
with Guideliner.

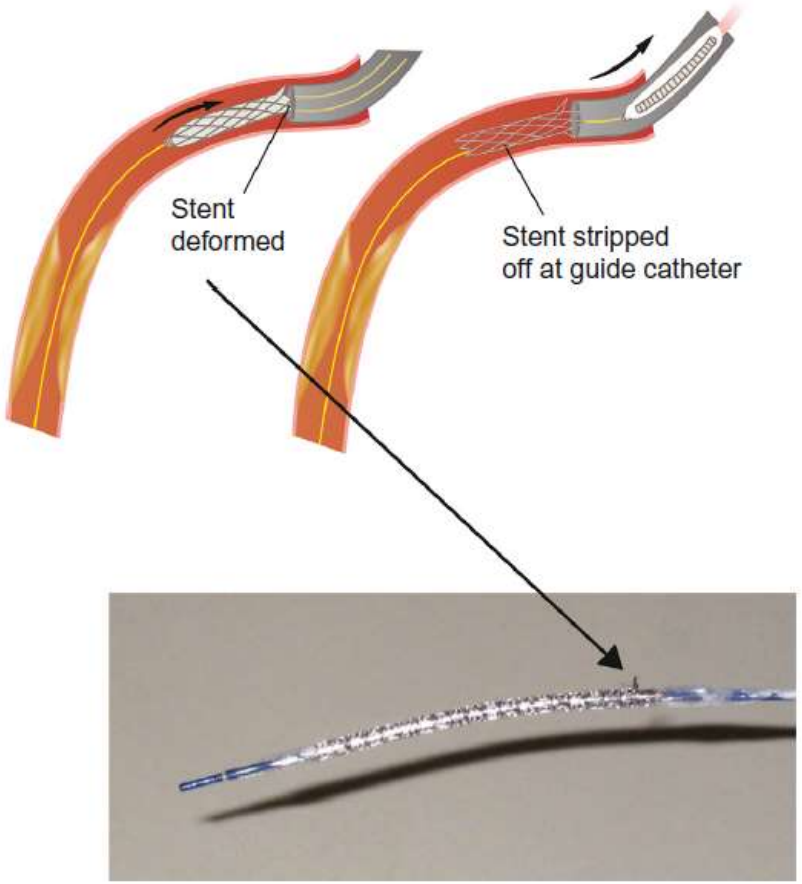
*Stent dislodge upon retrieval

- Trial to retrieve dislodge stent but failed
- Trial to crush the stent but failed

Final shot

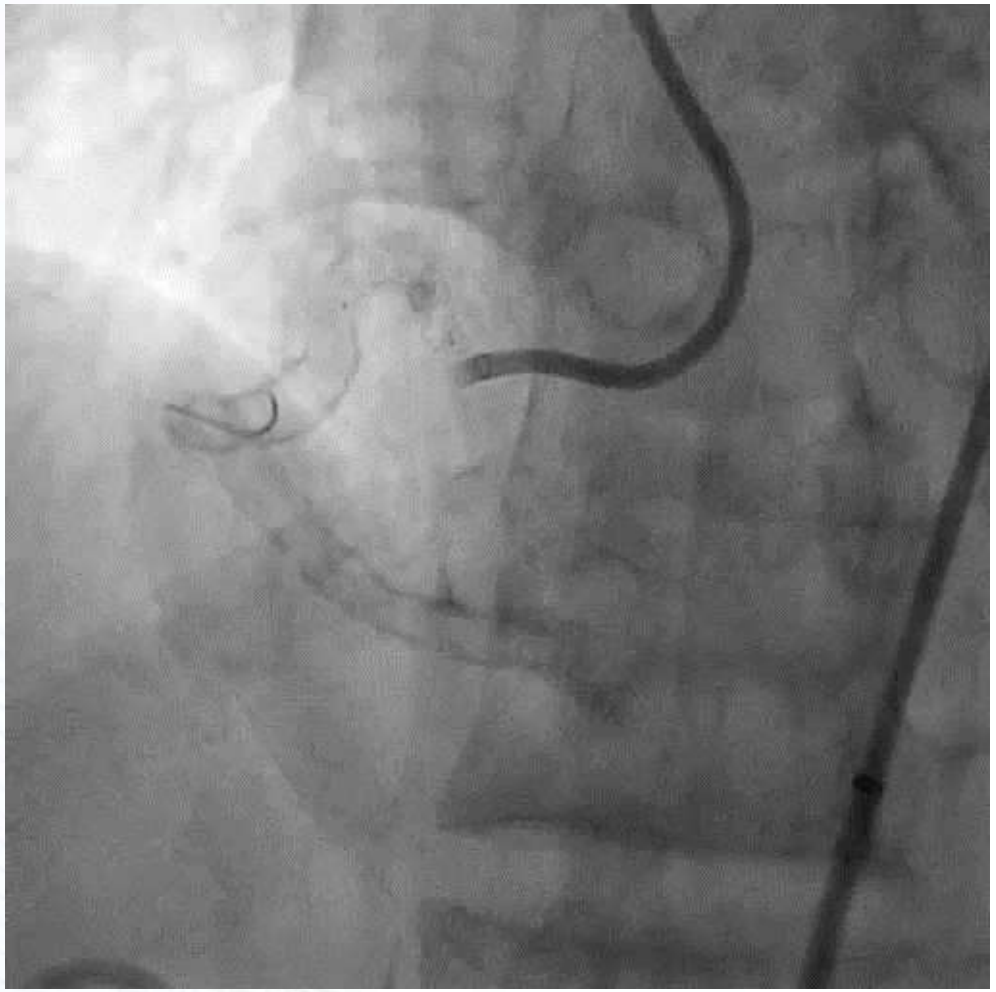
Possible cause of dislodge stent

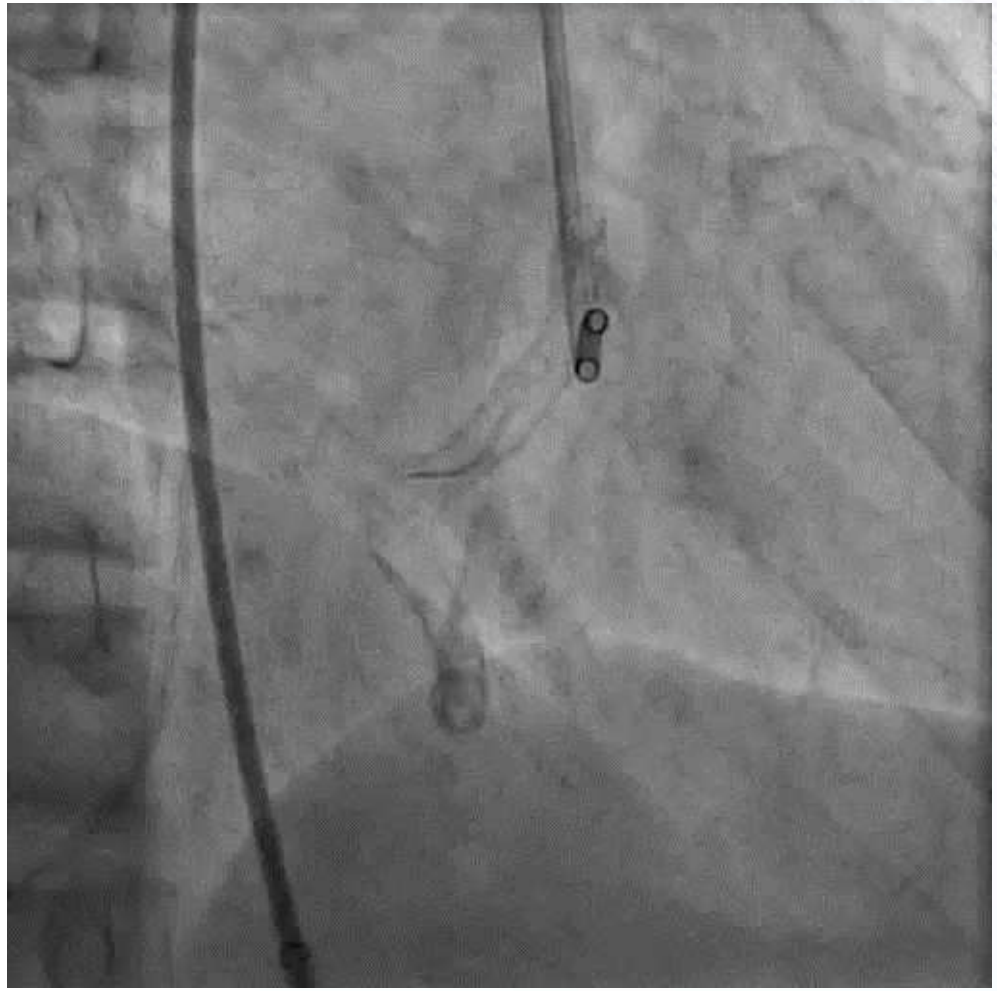
- Stent is deformed during delivery attempts followed by catching on the guide catheter upon withdrawal -> stripped off the stent delivery balloon.
- Stent advancement through previously deployed stent
- Coronary tortuosity and calcifications
- Sub-optimal guiding catheter back-up



Manual of Percutaneous Coronary Interventions.

Diagnostic shot RCA in National Heart Institute





*The stent has migrated from proximal segment to mid RCA segment

What is the strategy for bailout stent?

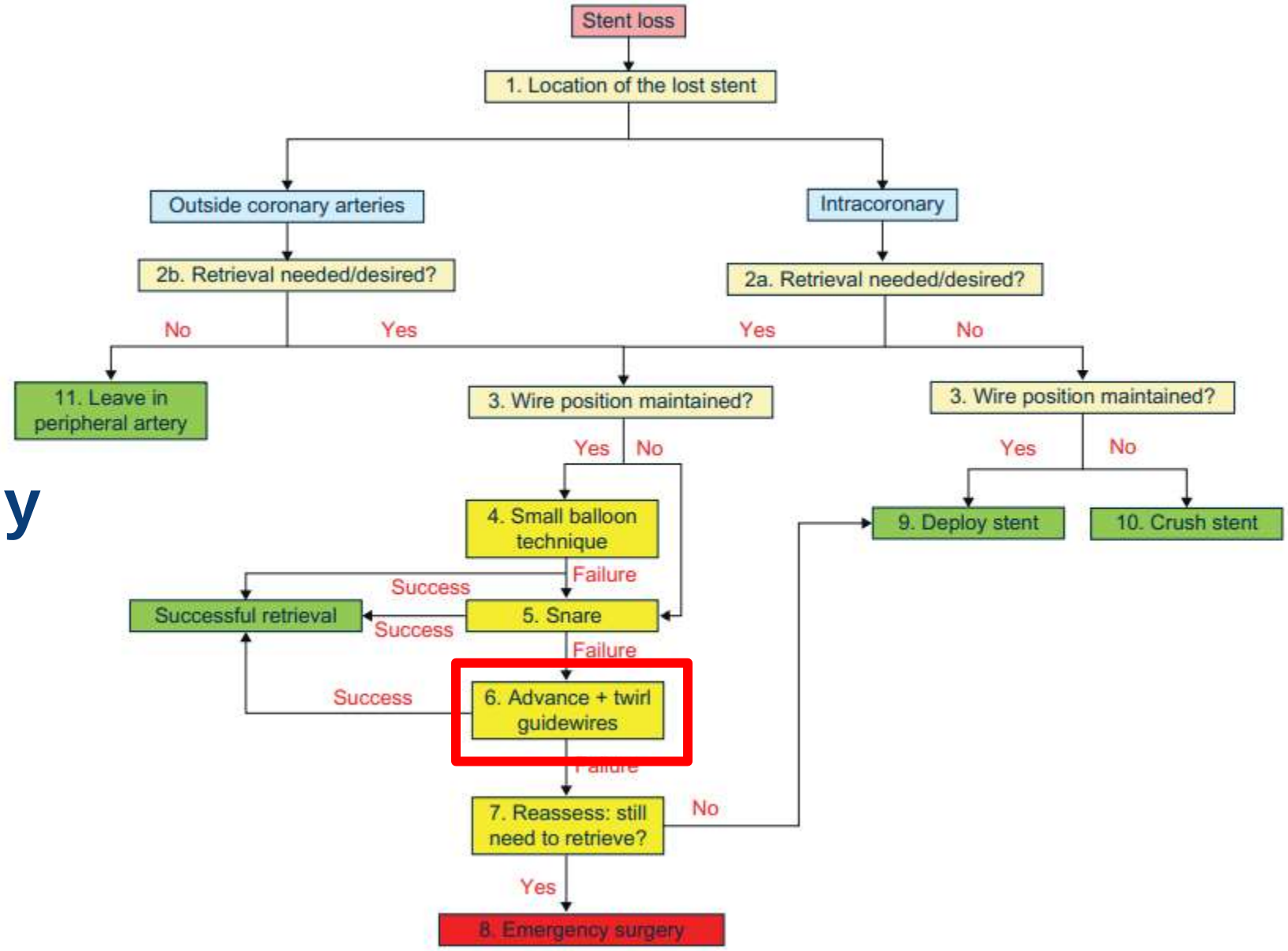
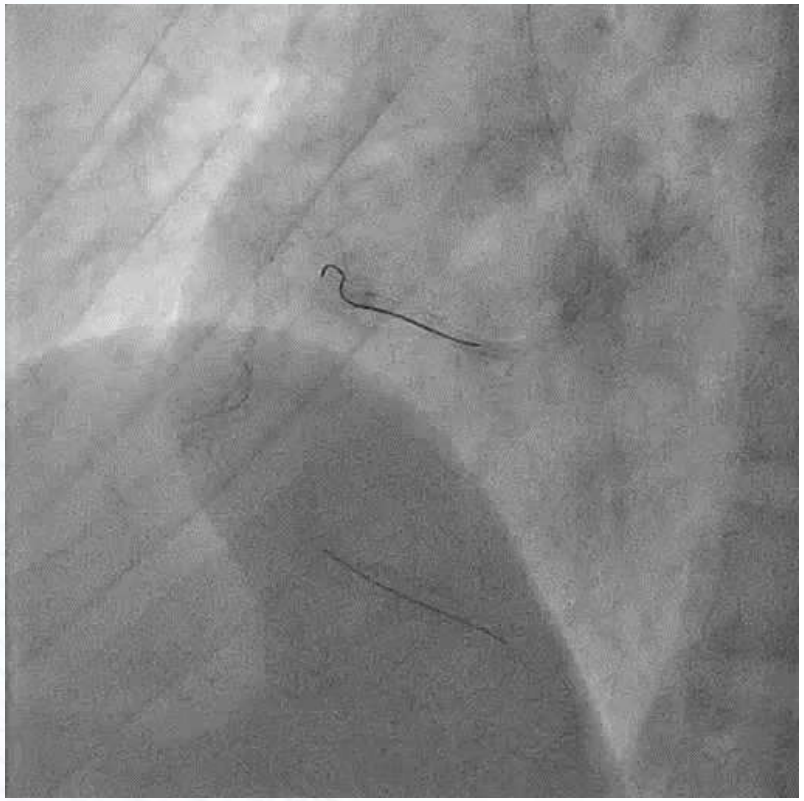
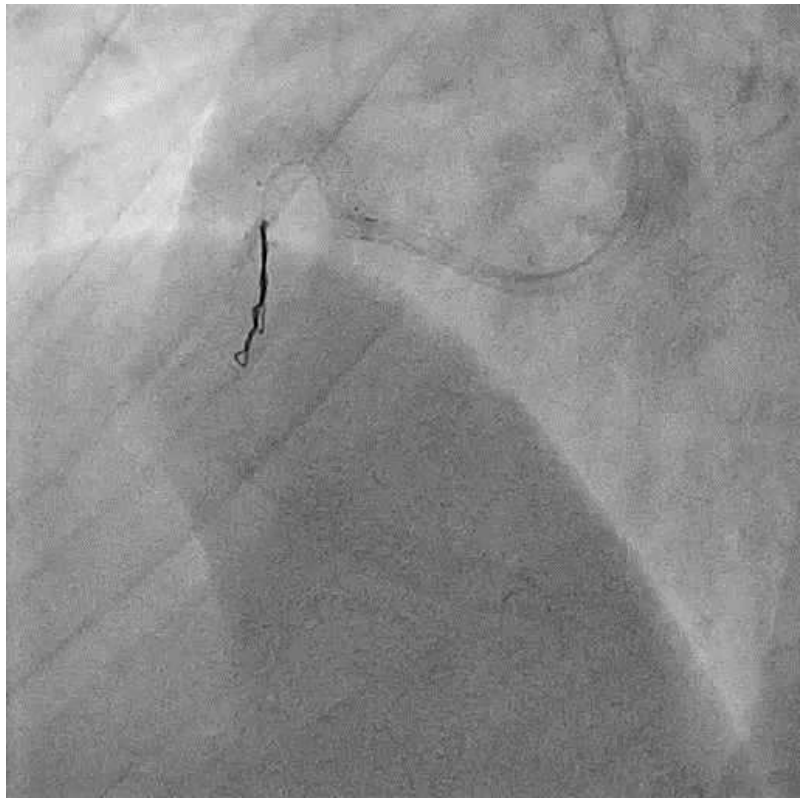


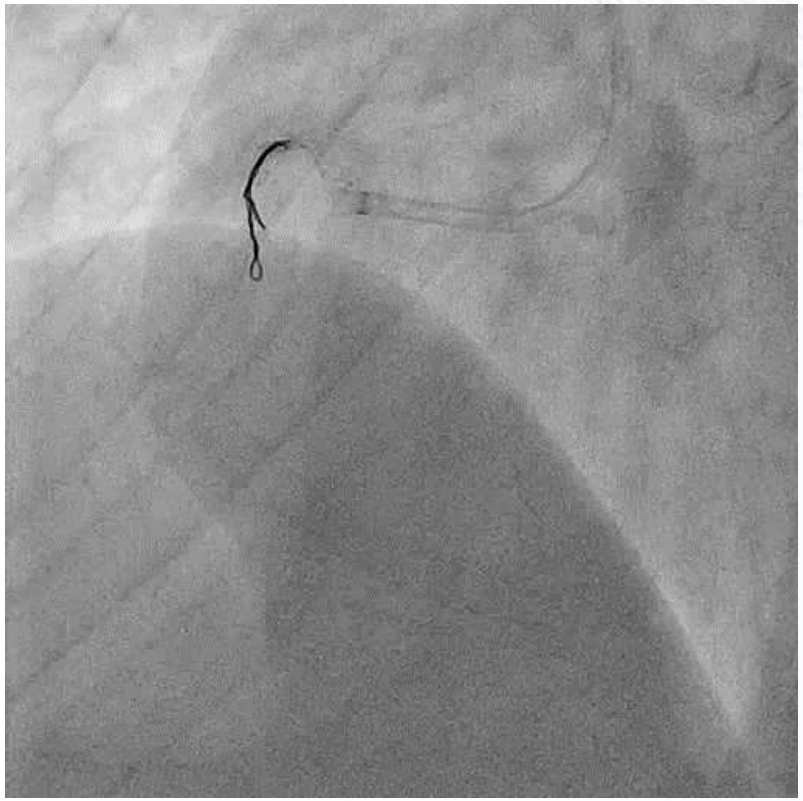
FIGURE 27.2 Algorithm for approaching stent loss.

Manual of Percutaneous Coronary Interventions.

ADVANCE AND TWIRL GUIDEWIRE

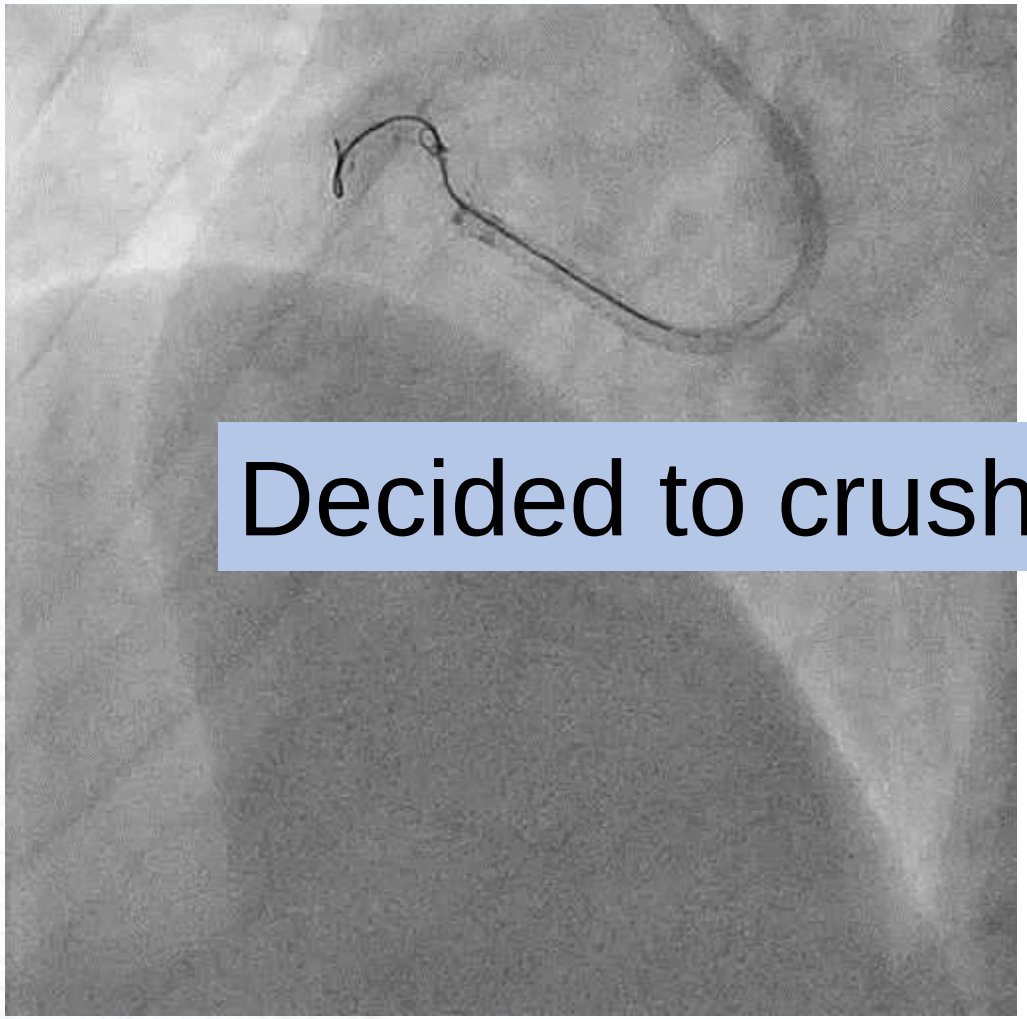


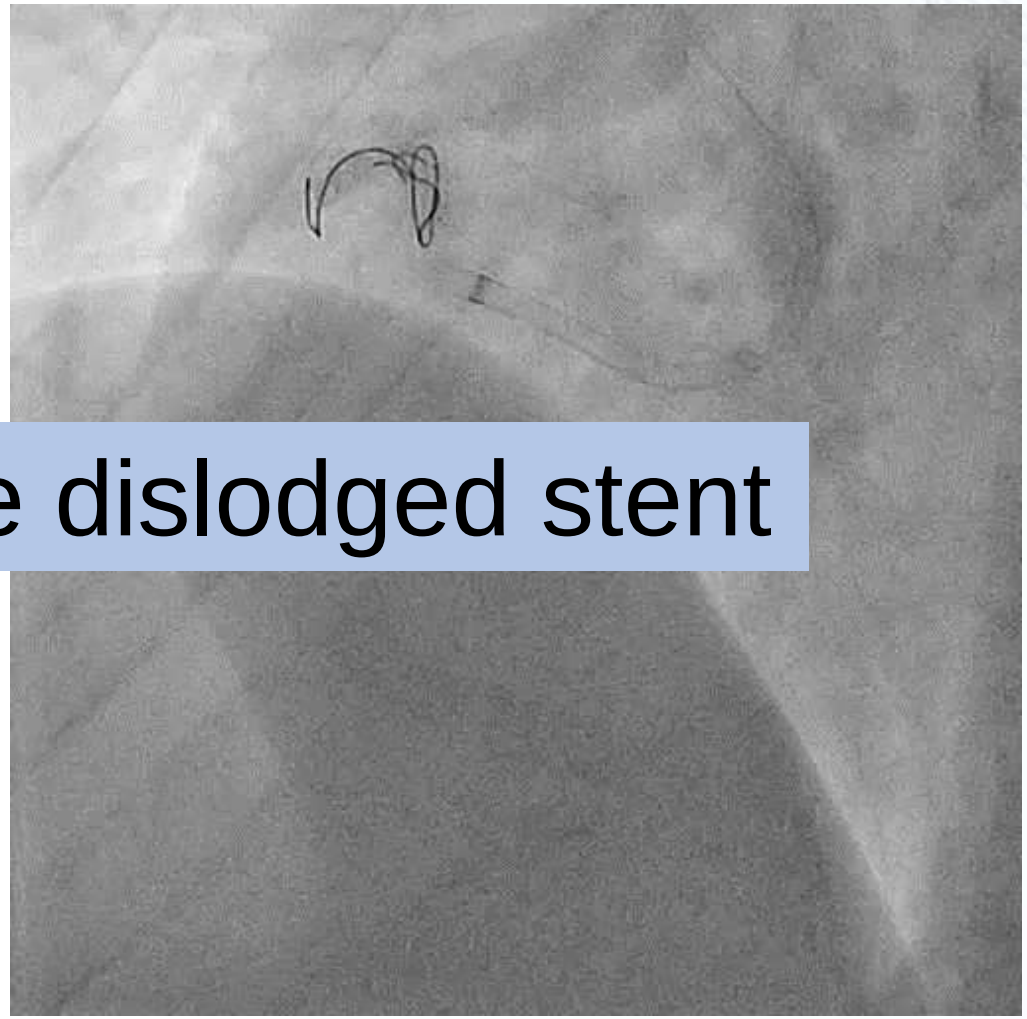




Managed to retrieve the dislodged stent until the proximal segment of RCA

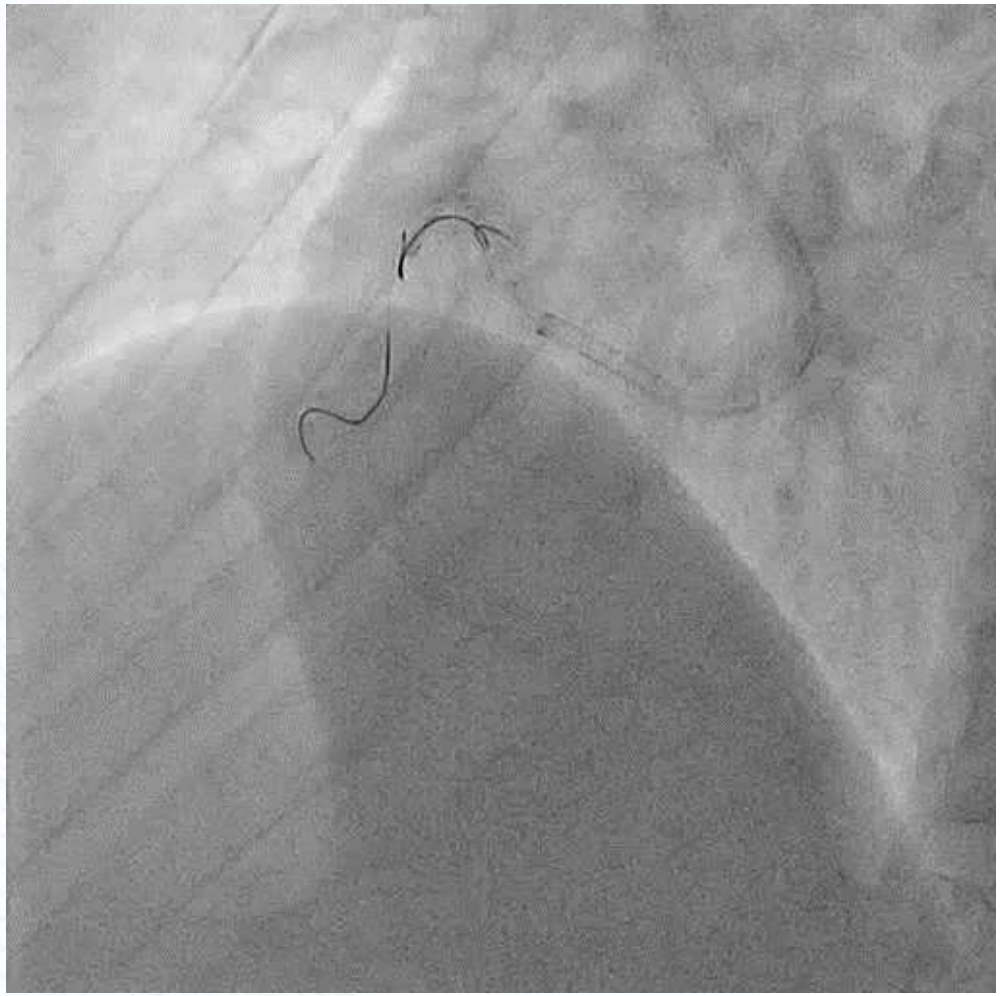
The Perils of Snaped Wires and The Frustration of Failed Rewiring Attempts



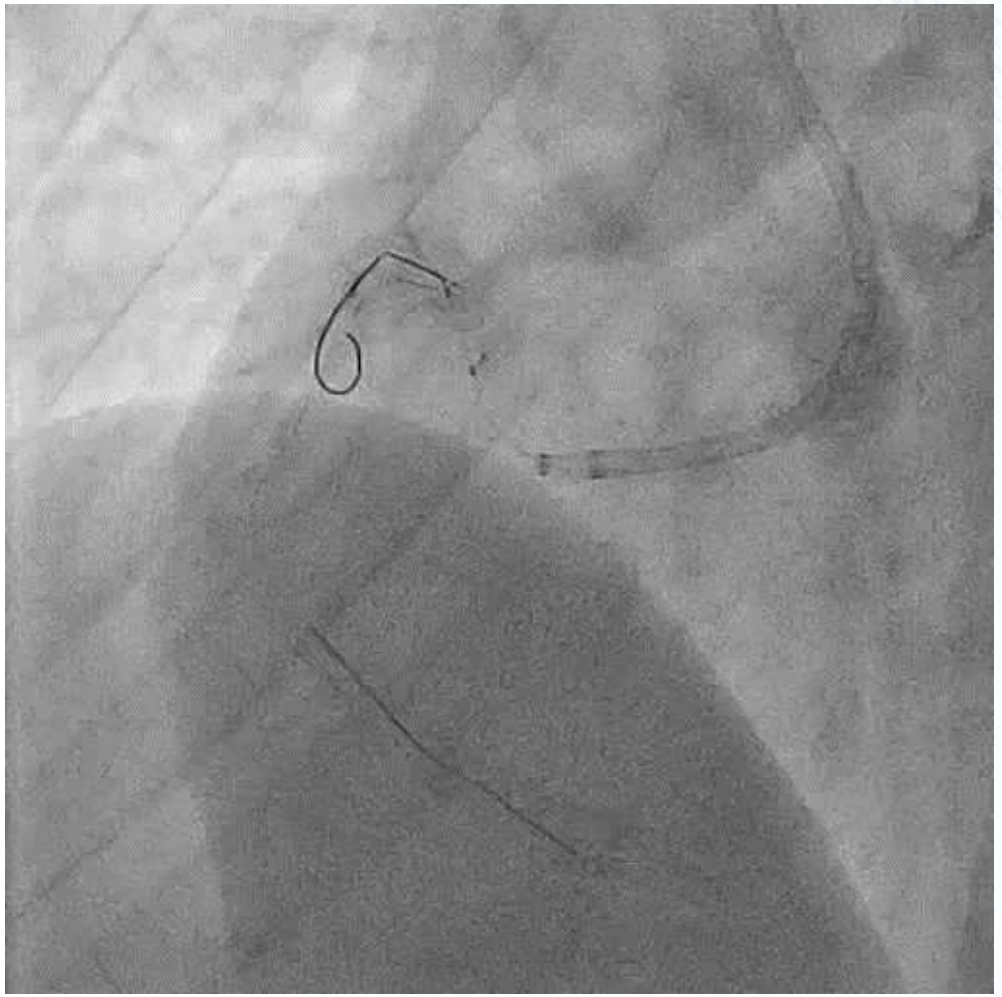


Decided to crush the dislodged stent

Crush Stent

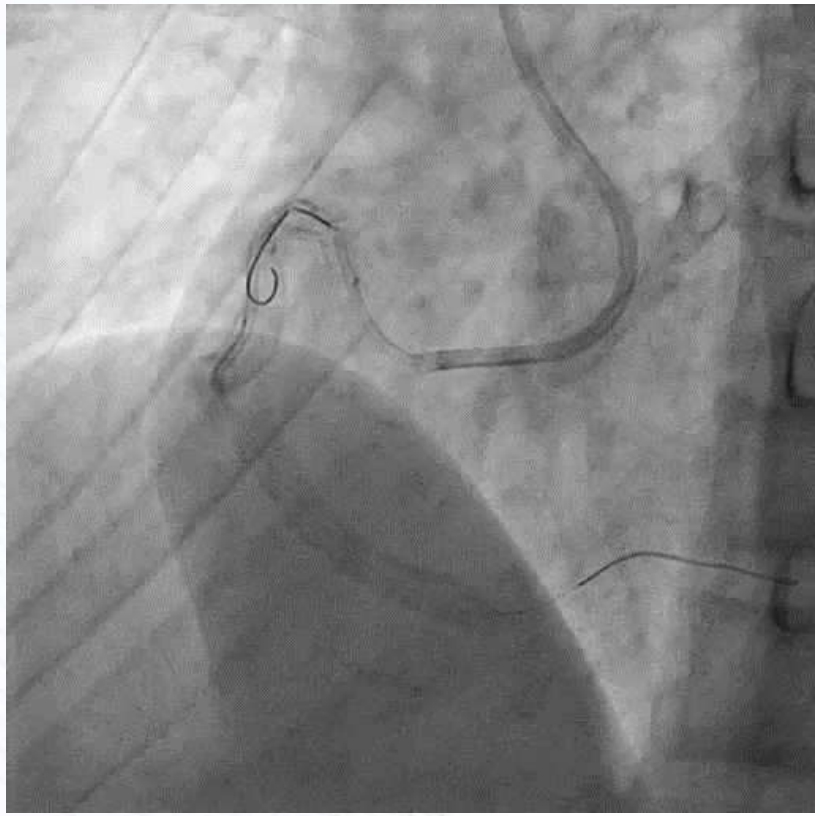


Re-wire RCA

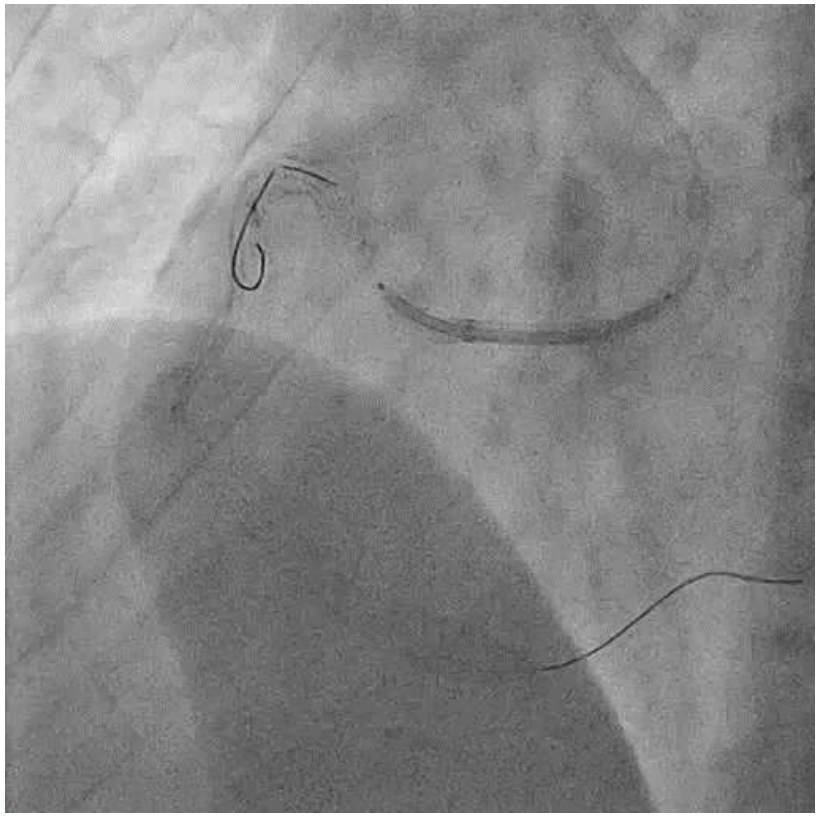


Stent crushed using NC 4.0/10 mm

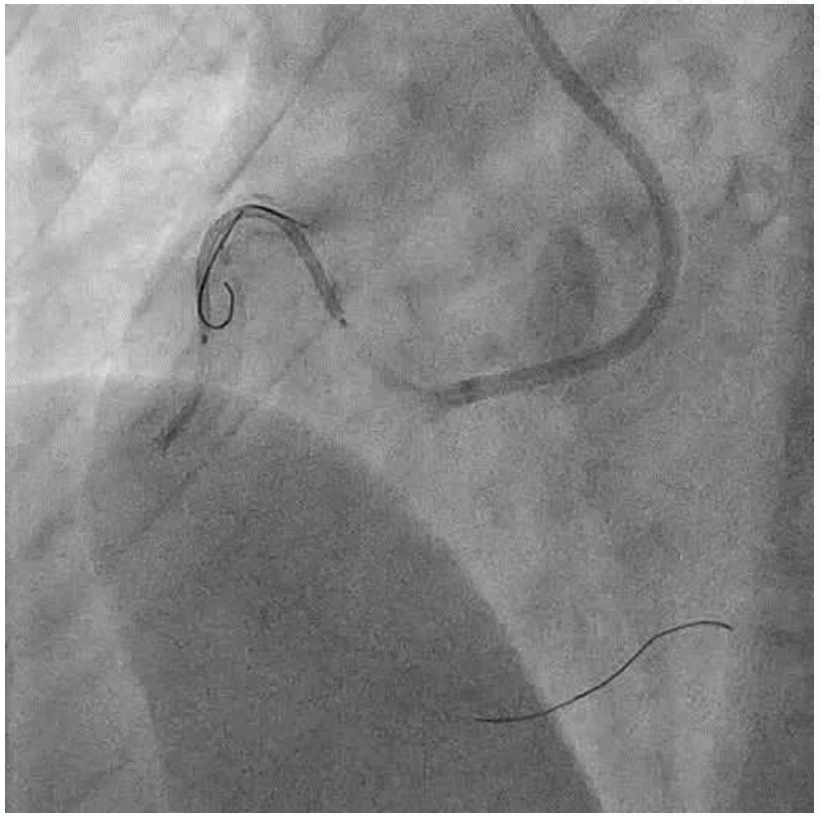
Crush Stent



Guideplus 2 ST

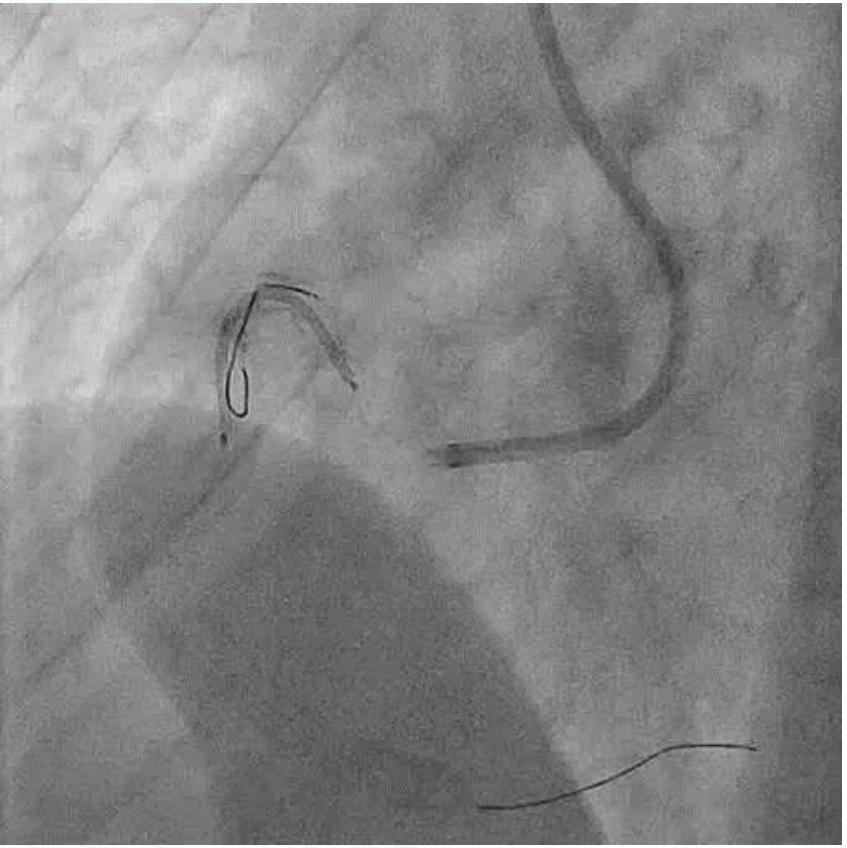


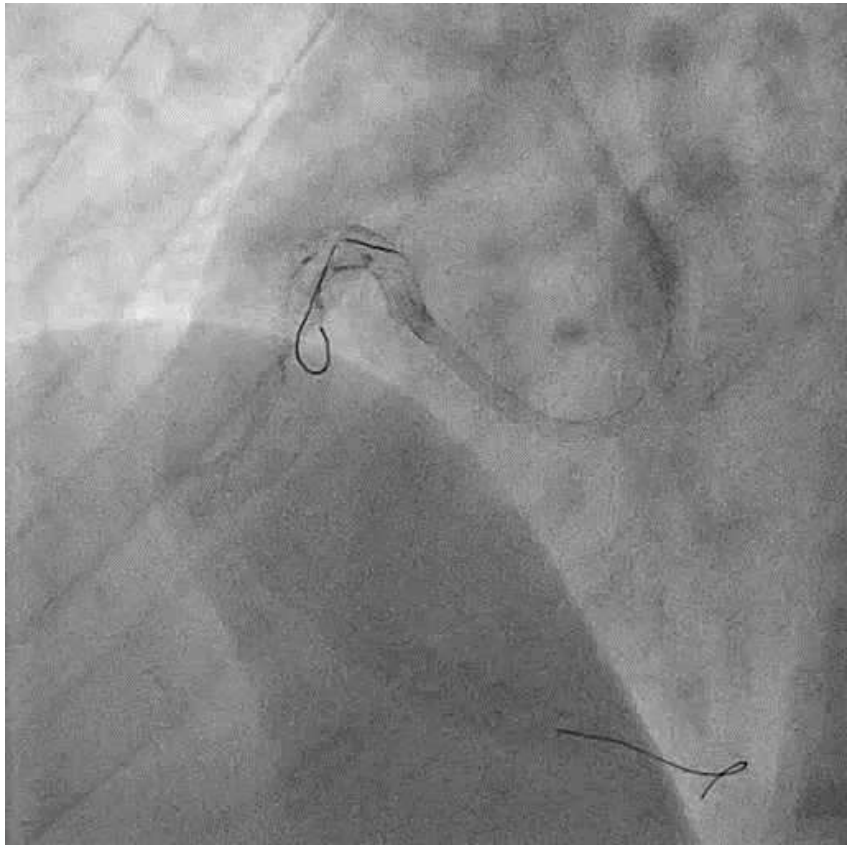
DES 4.0/32 MM

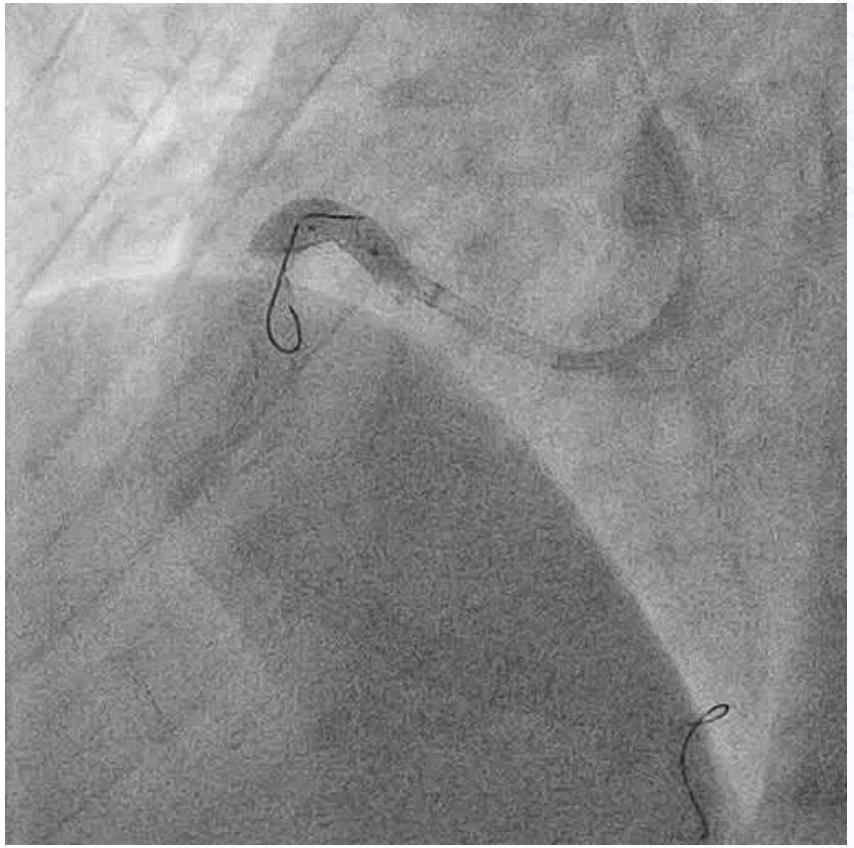


Removal of Guideplus 2 ST

Stent Deployment

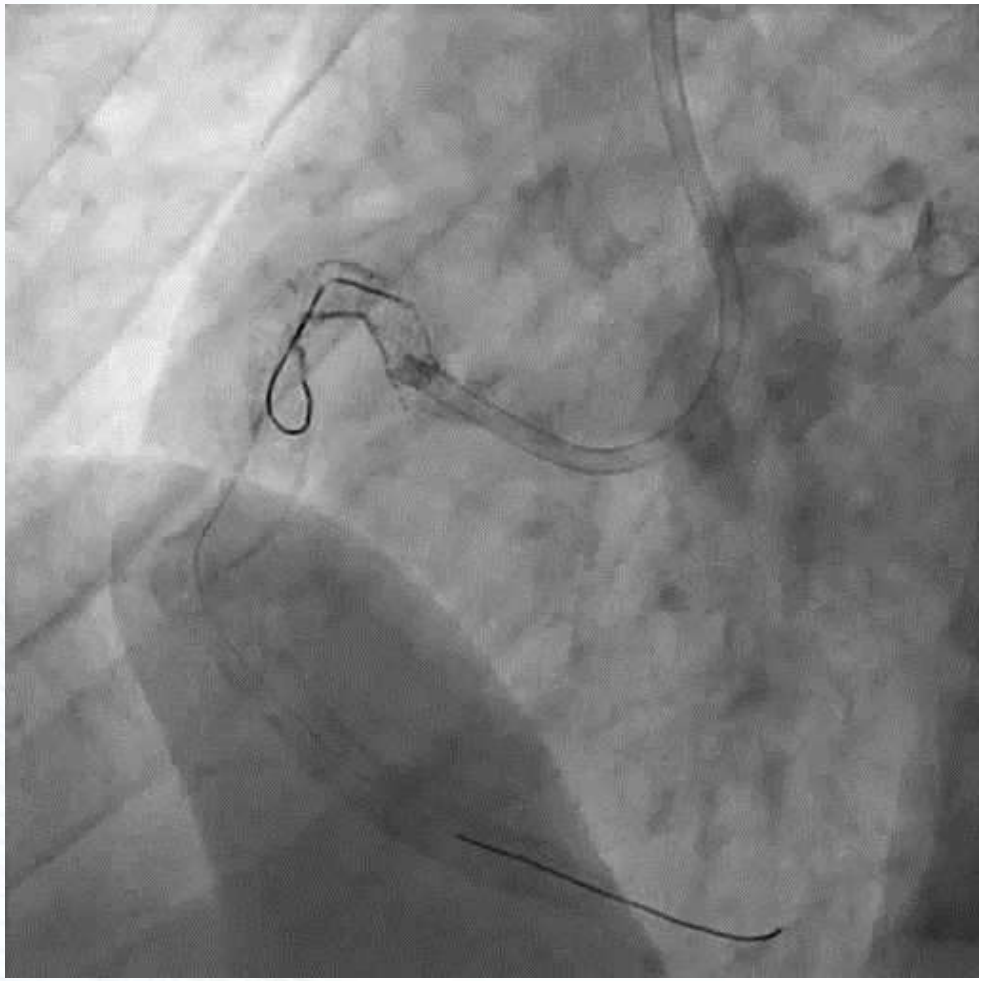


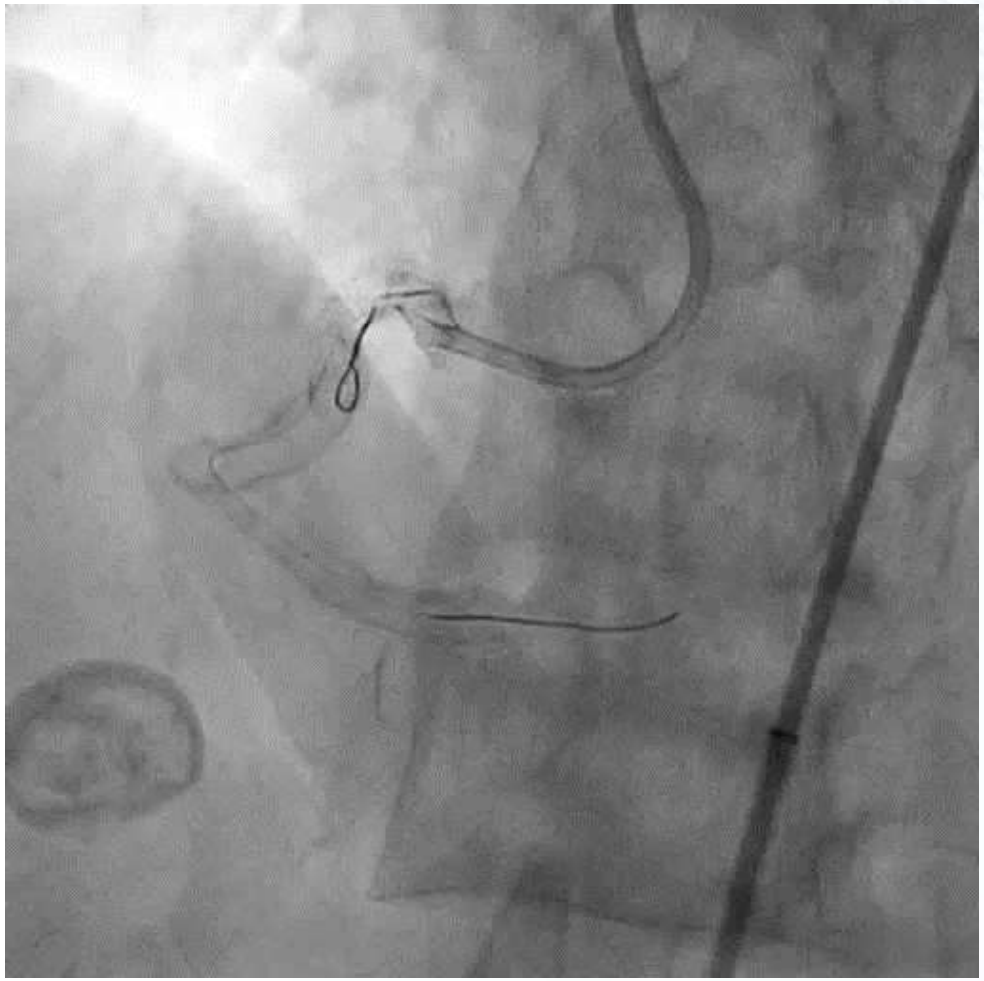




Post-dilate using NC 6.0/ 8 mm

Final Shot





Discussion Points

- Stenting from proximal > distal
  - Reduced risk of stent loss by stenting from distal to proximal
- Tortuosity of RCA
  - Requires good vessel and lesion preparation.
  - Proper usage of guide catheter extension
- Usage of IVUS imaging
  - Exclude dissection/ proper stent expansion
- Post-care (prevention of stent thrombosis)
  - Antiplatelet therapy / Anticoagulant?
  - DAPT duration? SAPT + NOAC?
  - High bleeding risk
  - In this case we planned for lifelong DAPT

Conclusion

- Stent dislodgement and loss are rare nowadays
  - But anticipation of such complication accompanied by careful and accurate stent deployment may prevent it.
- IVUS imaging would help in managing some of the most difficult complications during the coronary intervention, such as dislodged stent.
- Avoid forceful advancement attempts
- Do not apply force if resistance is felt while advancing the stent through a guide extension/angulated vessel.
- All catheterization laboratories should be equipped with proper retrieval instruments and interventional cardiologists to be familiar with percutaneous management of such complications.