

“Stent loss”

- Realise it, find it, retrieve it -

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Disclosures

- I have no conflicts of interest to declare

Stent loss

- Unintended dislodgement or embolization from delivery system
- In early years of PCI incidence was as high as 8.4%¹
- Now days a rare occurrence <1%

With catheter
in situ

Total stent and
guidewire loss

In the coronary
tree

Extra coronary

1 - Bolte J, et al “**Incidence, management, and outcome of stent loss during intracoronary stenting**”, american Journal of Cardiology, 88, 565-567

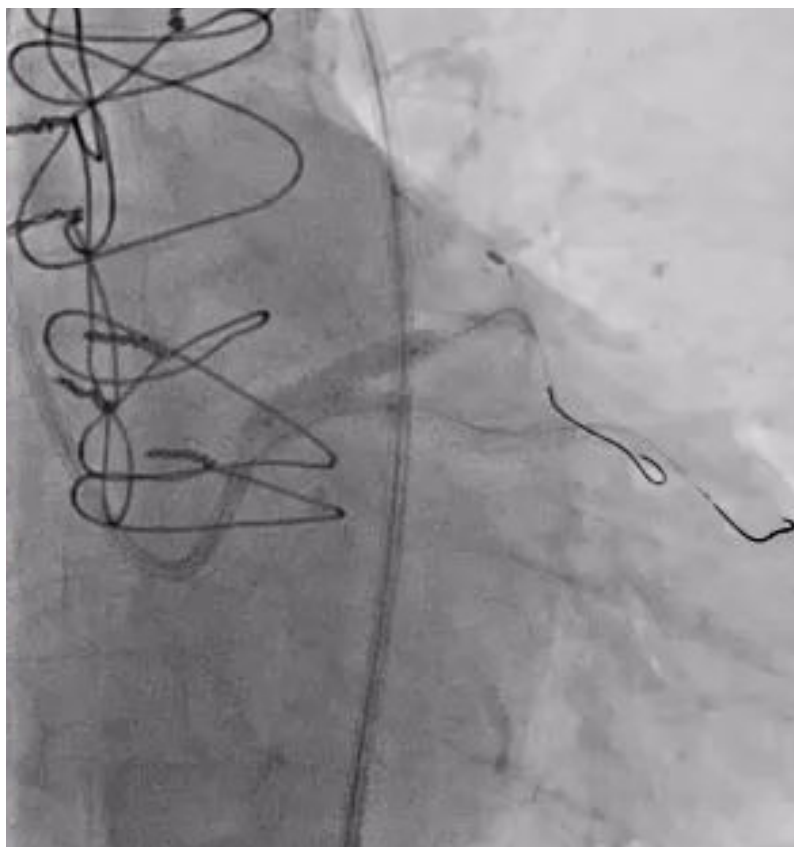
Is it still an issue?

Study	Incidence	Retrieval success	Primary outcome
Briliakis (2005)	0.32% (38/11733)	86%	↑ bleeding (24 vs 7%), ↑ emergency CABG
Alomar et al. (2013)	1.3%	80-90%	Higher risk of type 4a MI
Eggebrecht et al. (2000)	0.9%	N/A	15% mortality in failed retrieval cases

- Overcomplication of a “complex intervention”
- Last remaining vessel: can impact procedural outcome
- May be anticipated

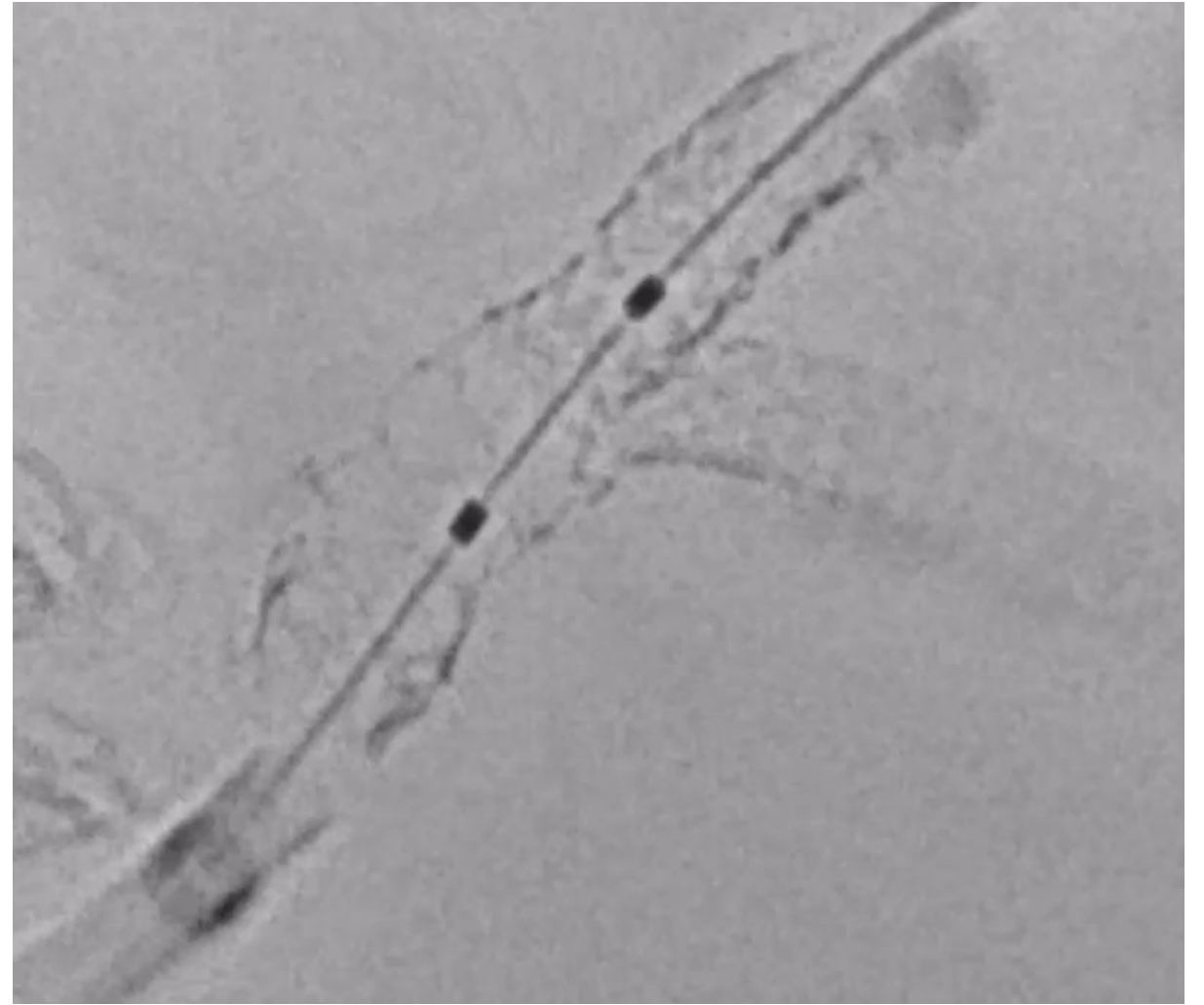
Our case

- 83 y female, with 3 vessel disease
 - CABG 4 y ago (LIMA & VSG-OM₁)
 - Prior inferior MI (CTO of RCA)
 - Hypertension, Diabetes, Hypercholesterolemia
- June 2024 NSTEMI
- Angiography: CTO of RCA, critical stenosis of ostial LAD, significantly diseased LCx-OM₁, and distal LCx
- Aortic CTA documented occlusion of CABG grafts
- PCI LM-LAD and ostial LCx – OM₁





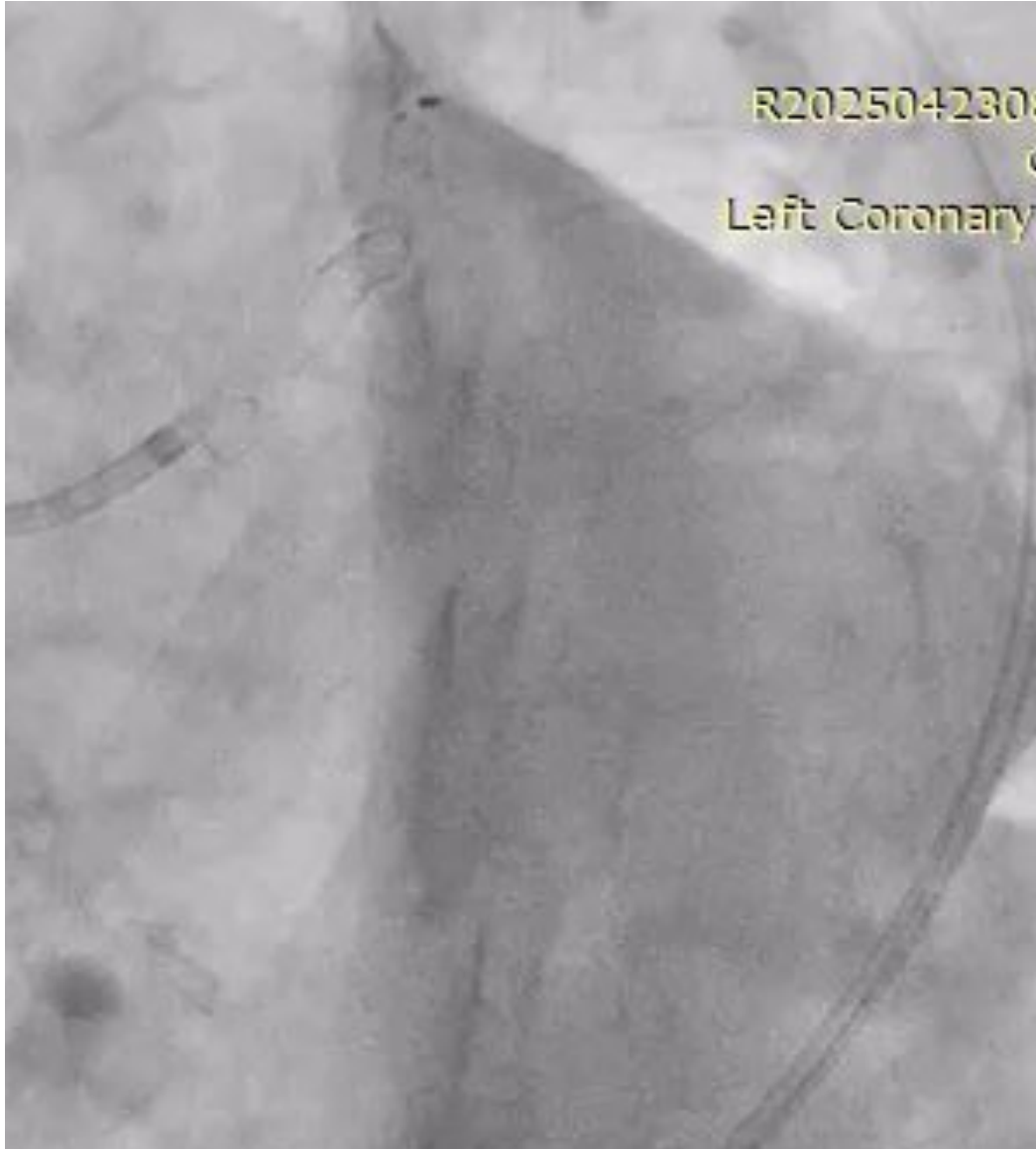
Final result



Neocarina

Our case

- April 2025 she presented as NSTEMI with several weeks of angina in mild exertions
- The previous intervention and CABG status was known
- Coronary Angiography identifies **critical ISR** in the distal portion of OM₁ and **subcritical ISR in ostial LCx stent**



First image

“Lost and found”

- Femoral access and 7F EBU 3.5
- A support guidewire was advanced in OM & dilated with a SC Balloon 2.0 at high pressures
- A 2.75x16 mm DES was unable to advance and the stent dislodged from the delivery balloon

THE CRISIS PROTOCOL: STOP & THINK

Immediate actions for suspected stent loss or entanglement.

1.

FREEZE

Do not forcefully pull the system. Forceful retraction of an entangled stent will cause severe vessel trauma or complete system deformation.

2.

SECURE THE WIRE

Maintain the guidewire position inside the dislodged stent **at all costs. This is your lifeline** to the primary lumen.



3.

ALIGN THE GUIDE

Keep the guide catheter coaxial to the vessel lumen. Gentle, aligned retraction prevents the majority of deep systemic embolizations.

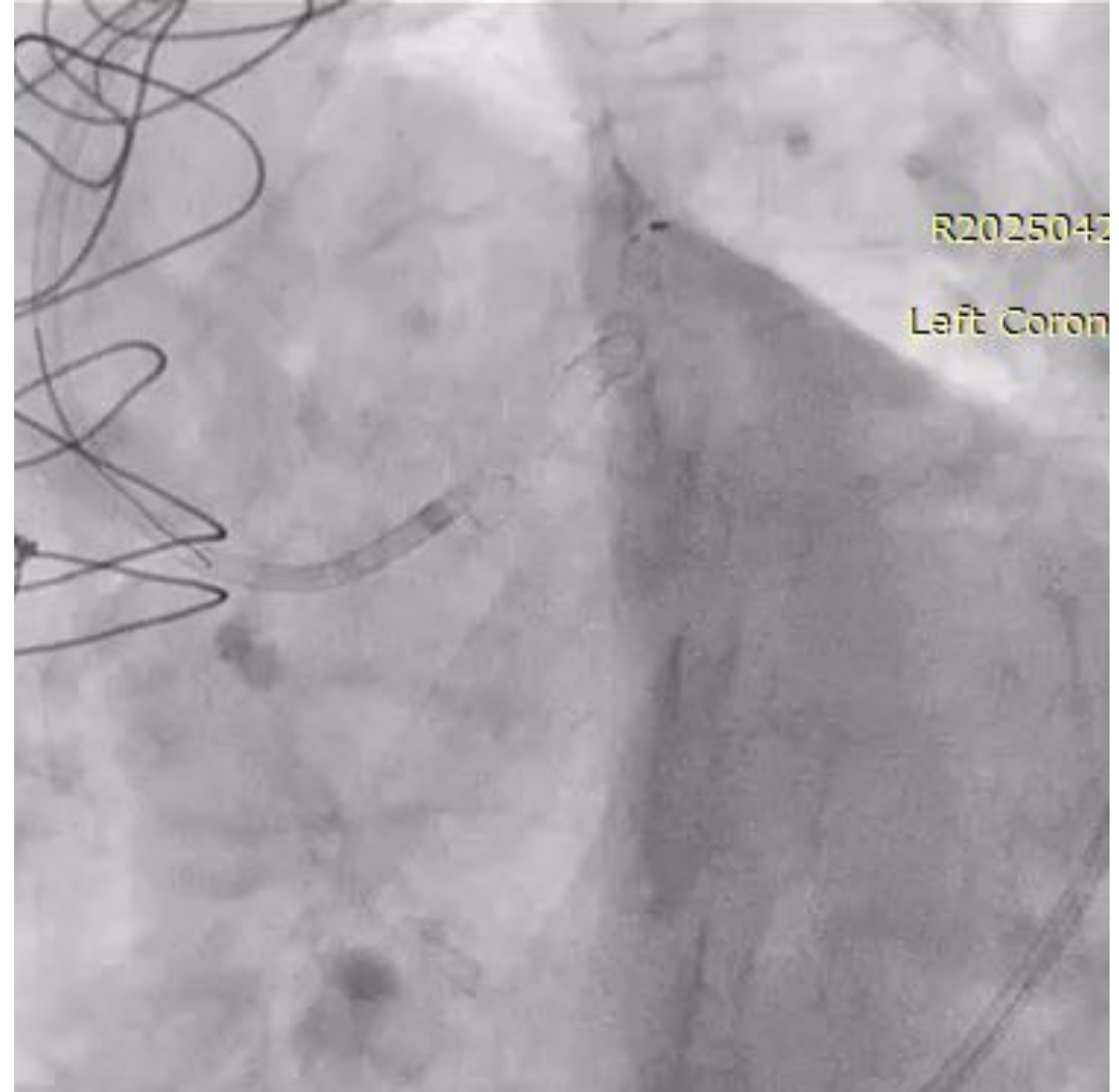
4.

ASSESS

Move immediately to the diagnostic algorithm.

“Lost and found”

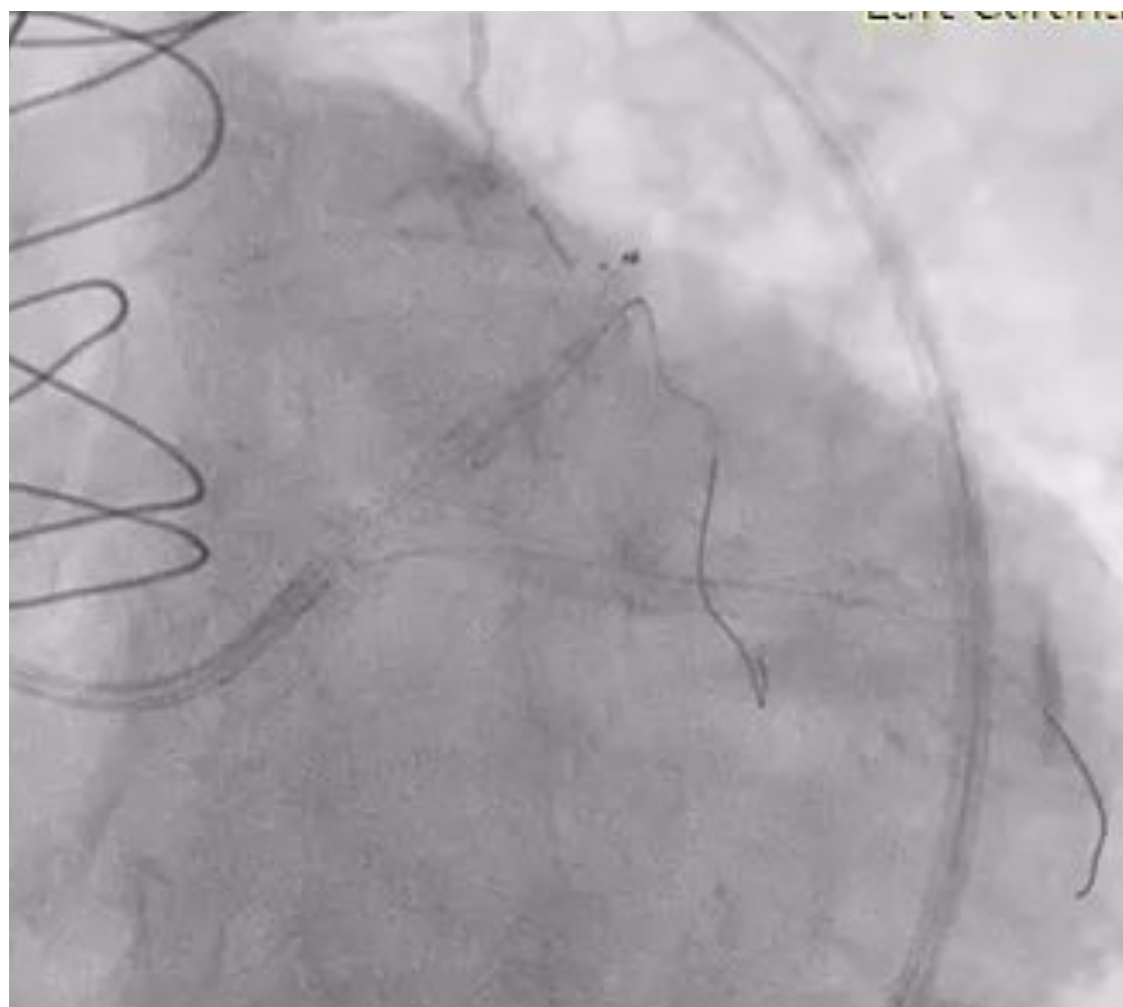
- No visual of the lost stent
- An blind attempt was made to cross with another GW hoping to entangle it
- In chaos we retrieved everything
- Nothing came out
- A fluoroscopy search in the neck and periphery was inconclusive



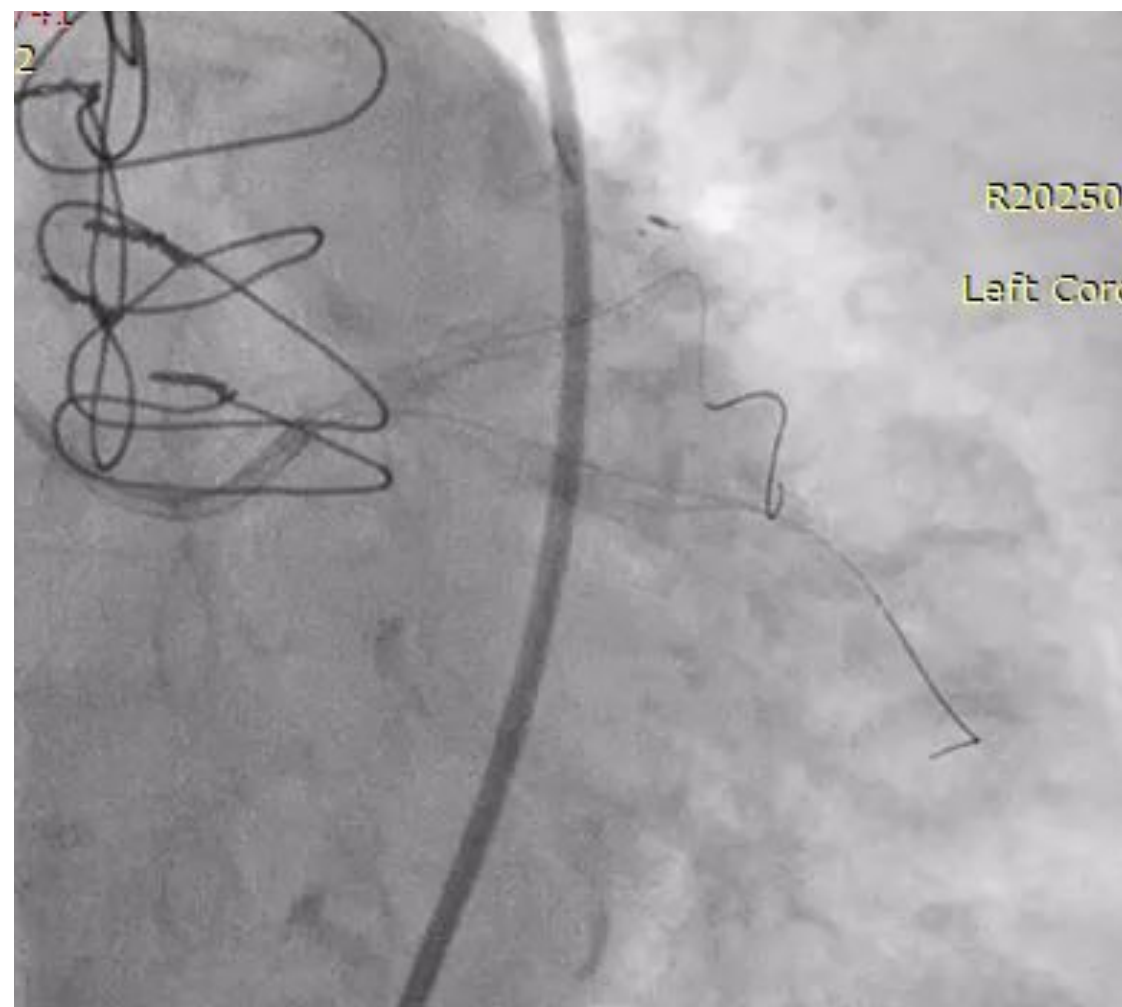
LAO 9°, CAU 29°

“Lost and found”

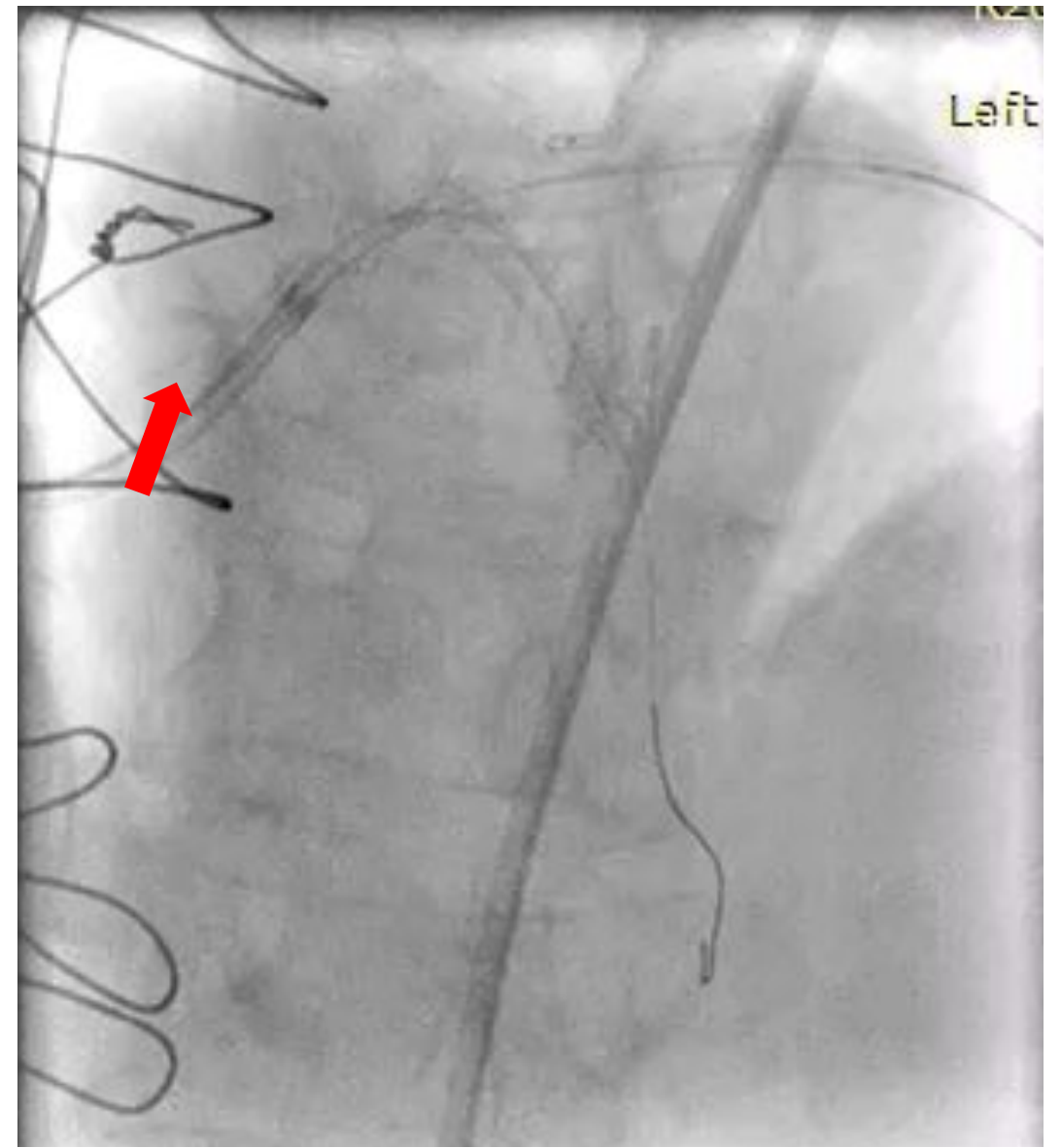
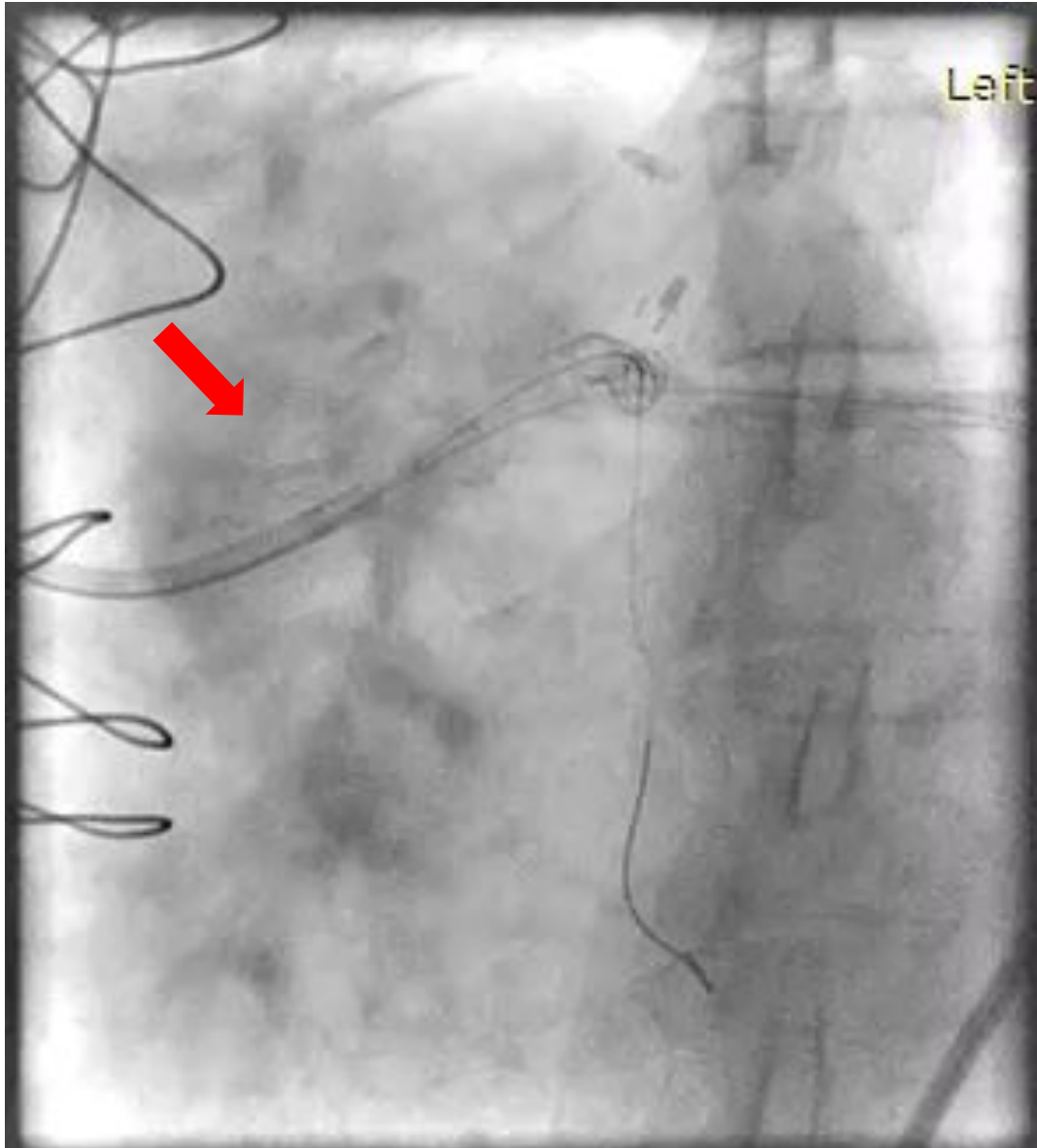
- Patient remained stable
- Still not visible image of the lost stent
- We decided to finish the revascularisation and search again
- Multiple balloon dilatations on LCx-OM, KBI & POT in LM
- A 2.75x16 mm thin strut DES was implanted in OM



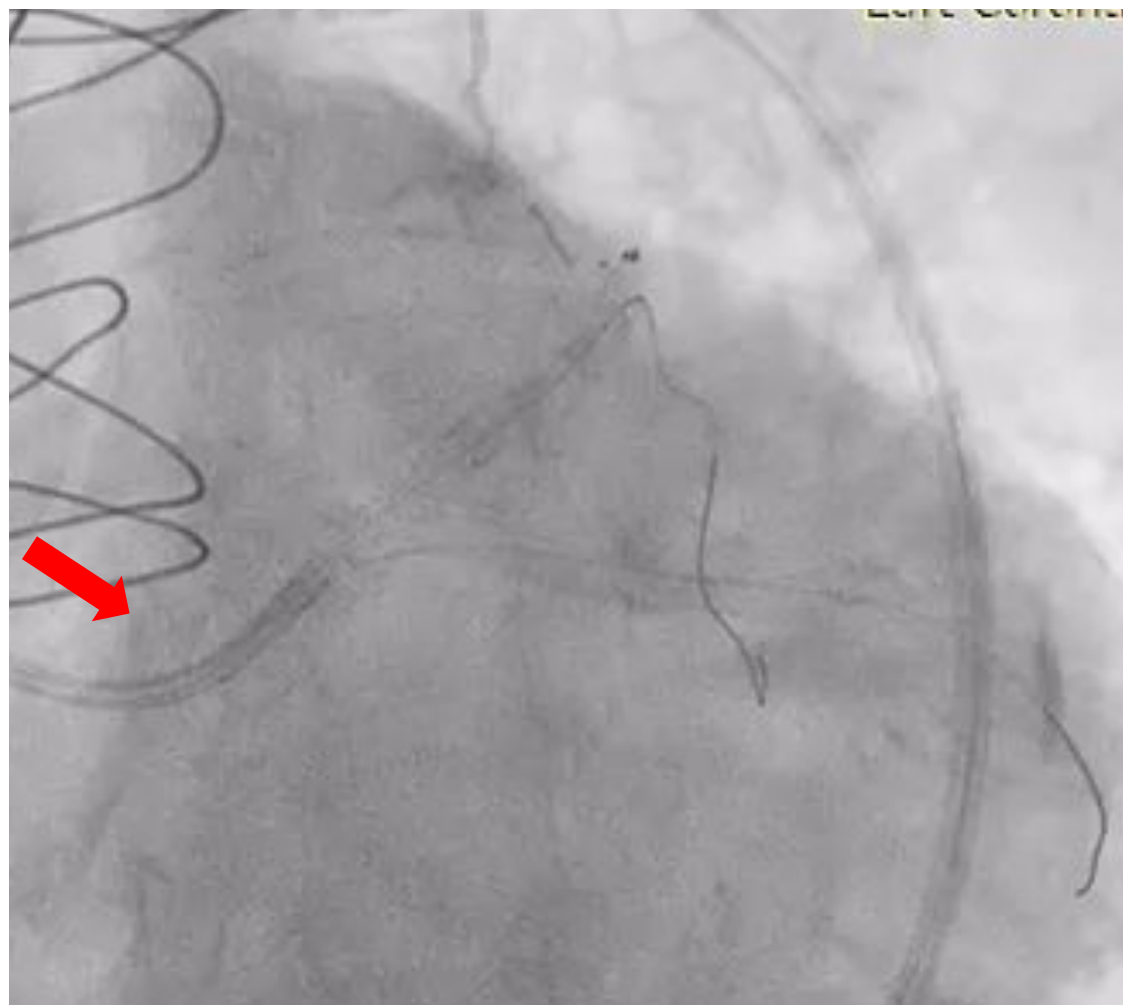
Final result after ballooning of
LCx-OM₁



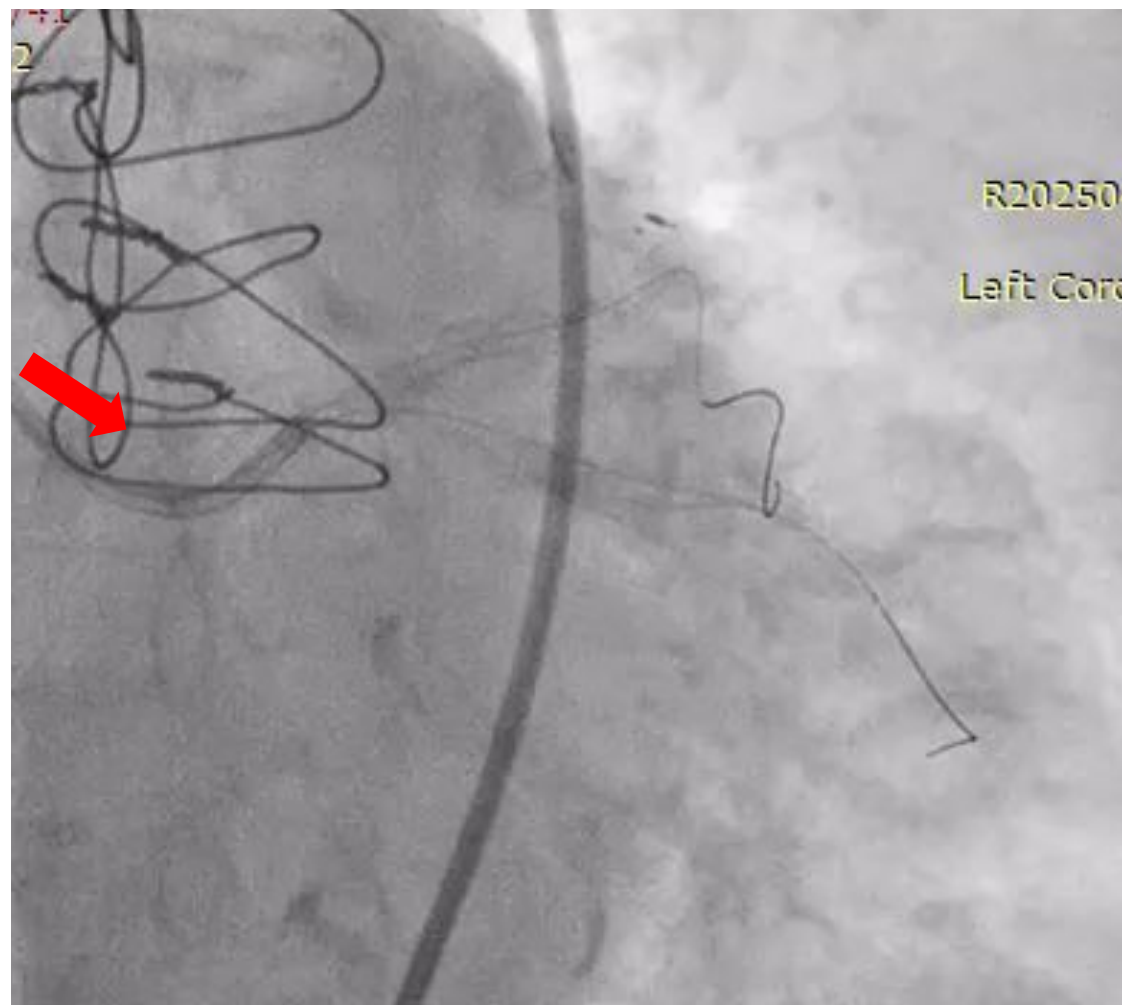
Stent deployed on OM₁



The lost stent was found resting on above the aortic cusps



Final result after PTCA



Stent deployed on OM₁

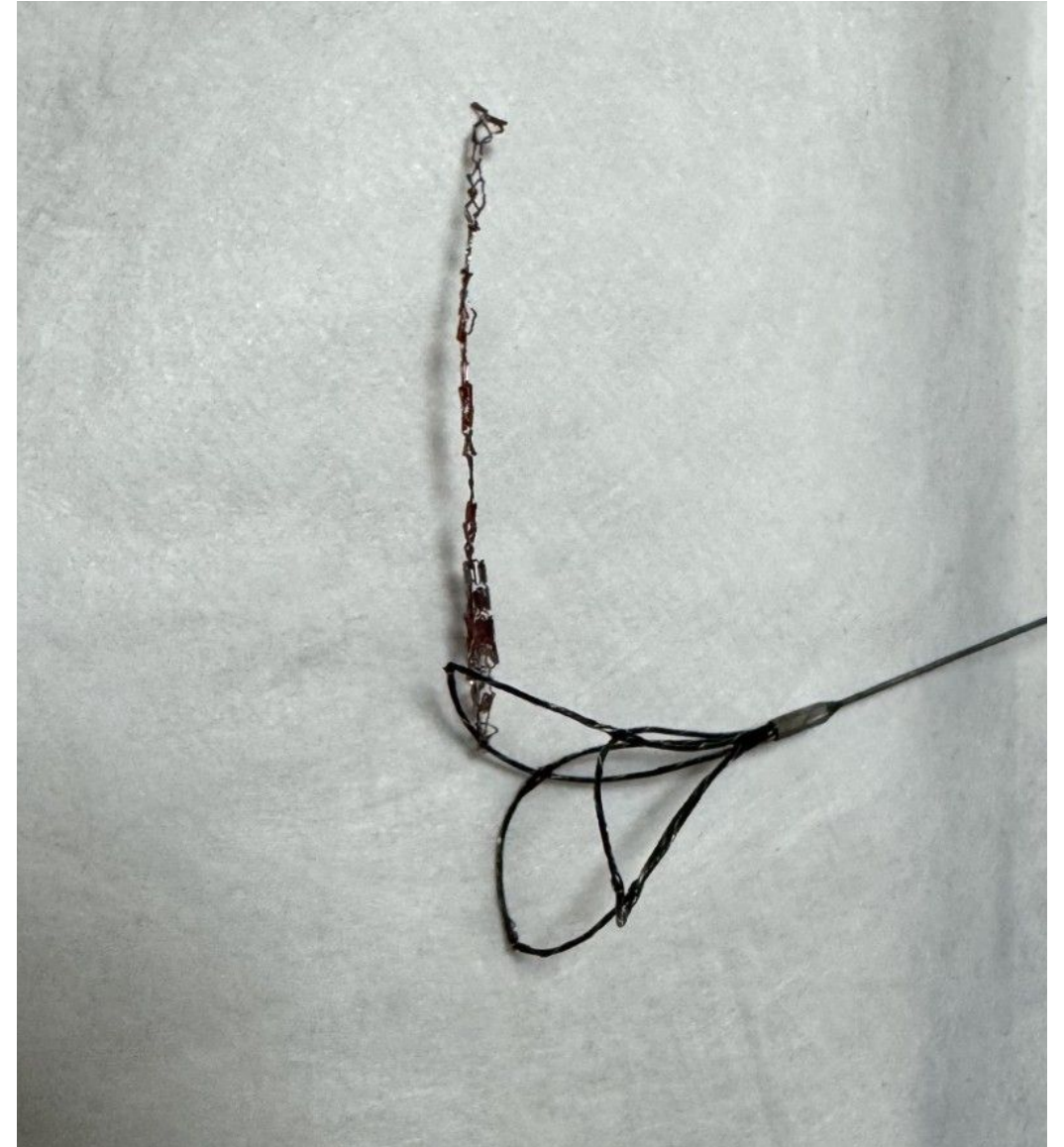


Nothing left behind

- Radial access, JR 4 6F guiding with EN-Snare was advanced and positioned superior to the dislodged stent
- Under fluoroscopic guidance using rotational movement the stent was entangled in the edge and extracted.
- Successful retrieval
- Patient was uneventful



Stent retrieval



The “the runaway”

- This was a case where the crucial moment of stent dislodgement was noted but the dislodged stent was not clearly visible
- Dislodged stent finding was challenging due to wires, stents, clips, poor image quality and stent architecture (thin struts)
- Stent extraction was achieved with En-Snare device
- The lesion and ISR were successfully treated, the follow-up was uneventful and discharged as usual

Discussions

- In our case snaring was the first option
- Snaring through radial access is not recommended, risk for vessel injury during retrieval (↓ GC size)
- Femoral access up to GC 8F, allows GW & stent retrieval
- Different snares can be used for different scenarios
- Sumitsuji (home made) snare is a cheap easy alternative
- When retrieval is not possible stent deployment, crush or parking in periphery is an acceptable solution depending on the site

Take home message

- Lost stent retrieval is a “high stakes medical rescue mission”
- **STOP AND THINK**
- Demands specific devices and in some cases “thinking outside of the box”
- Recognition of anatomic and procedural risk factors for stent loss is the key to prevention
- Overconfidence makes it worse
- Algorithms for stent loss exist, know before disaster happens



Thank you