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A Decapitated Left Main Coronary Stent

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Complex PCI 2018
Seoul, Nov 2018



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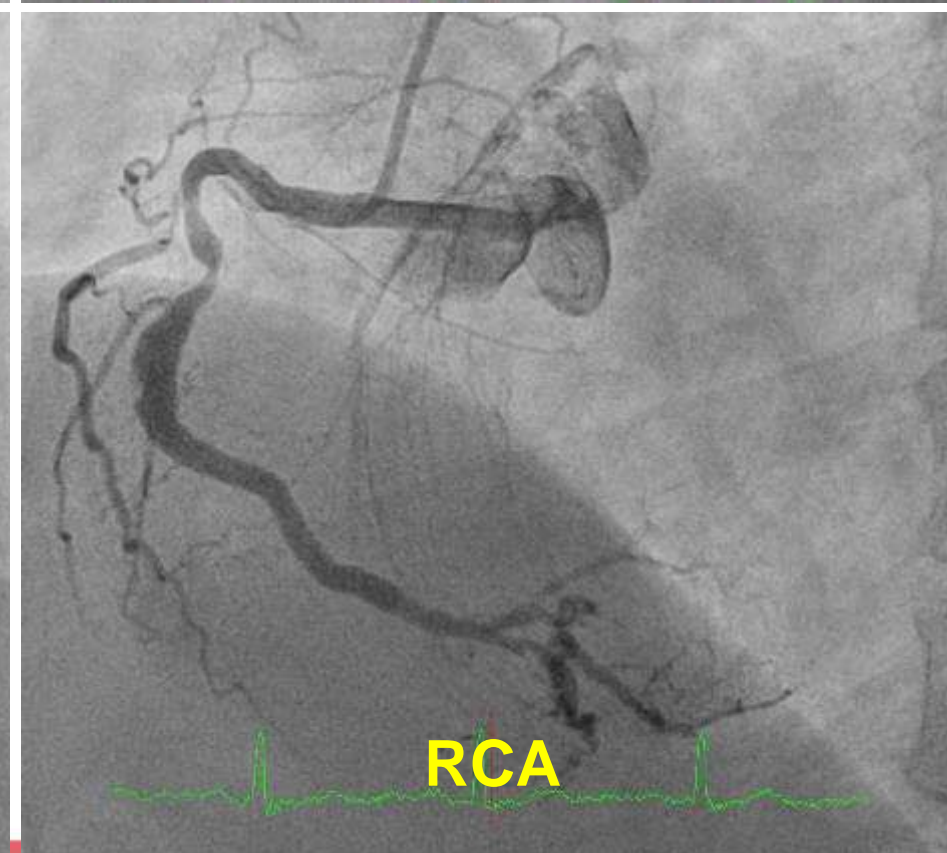
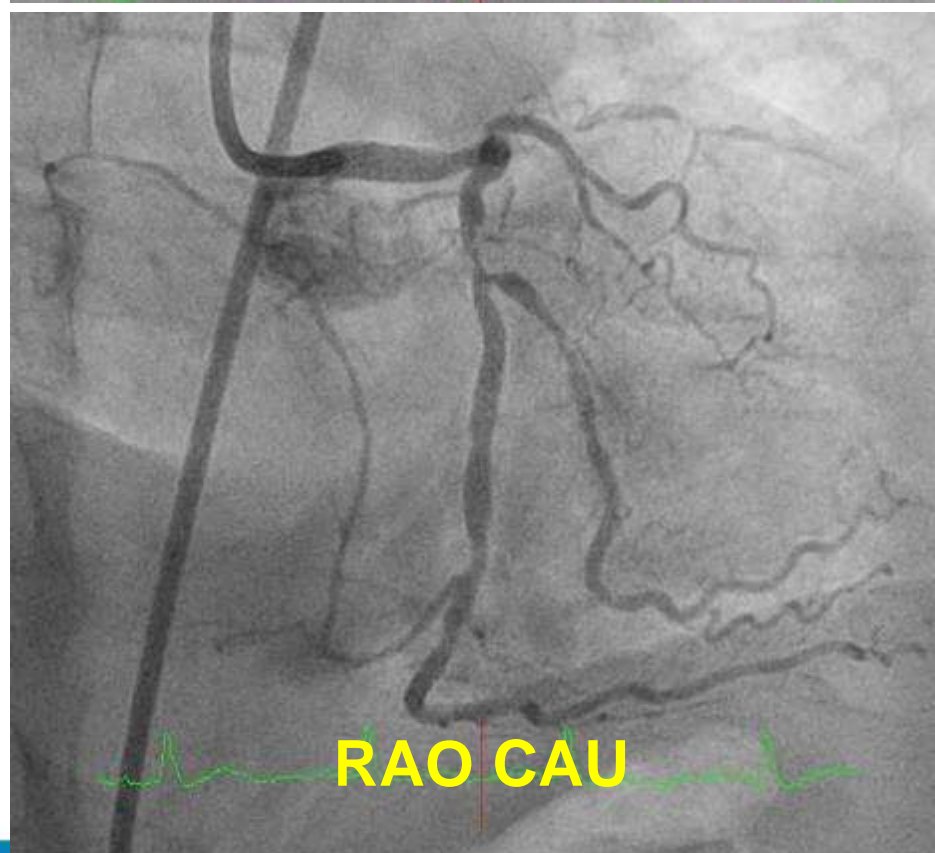
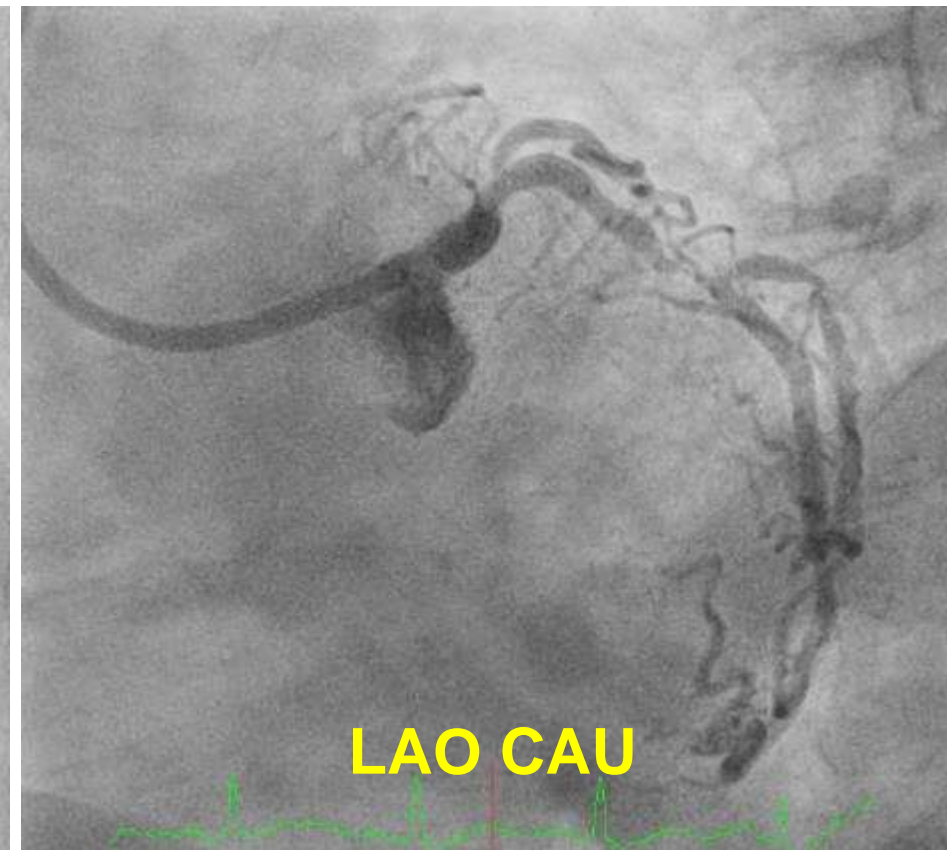
Case history

- 60 y.o. male, diabetic, hypertensive, ex-smoker
- Presents with:
 - Stable angina pectoris, CCS 2
 - Myocardial perfusion scan: Multi-territorial ischaemia at Stage 3 Bruce
 - CAG: 3-vessel disease
 - Patient declined CABG
- Planned for elective multi-vessel PCI

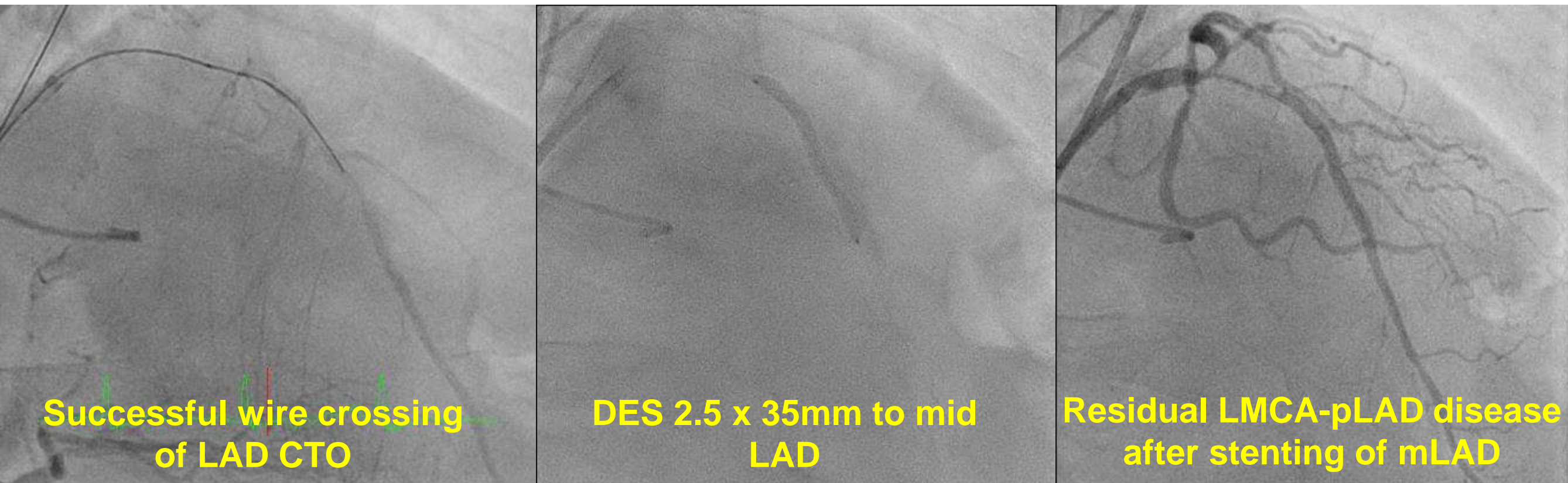
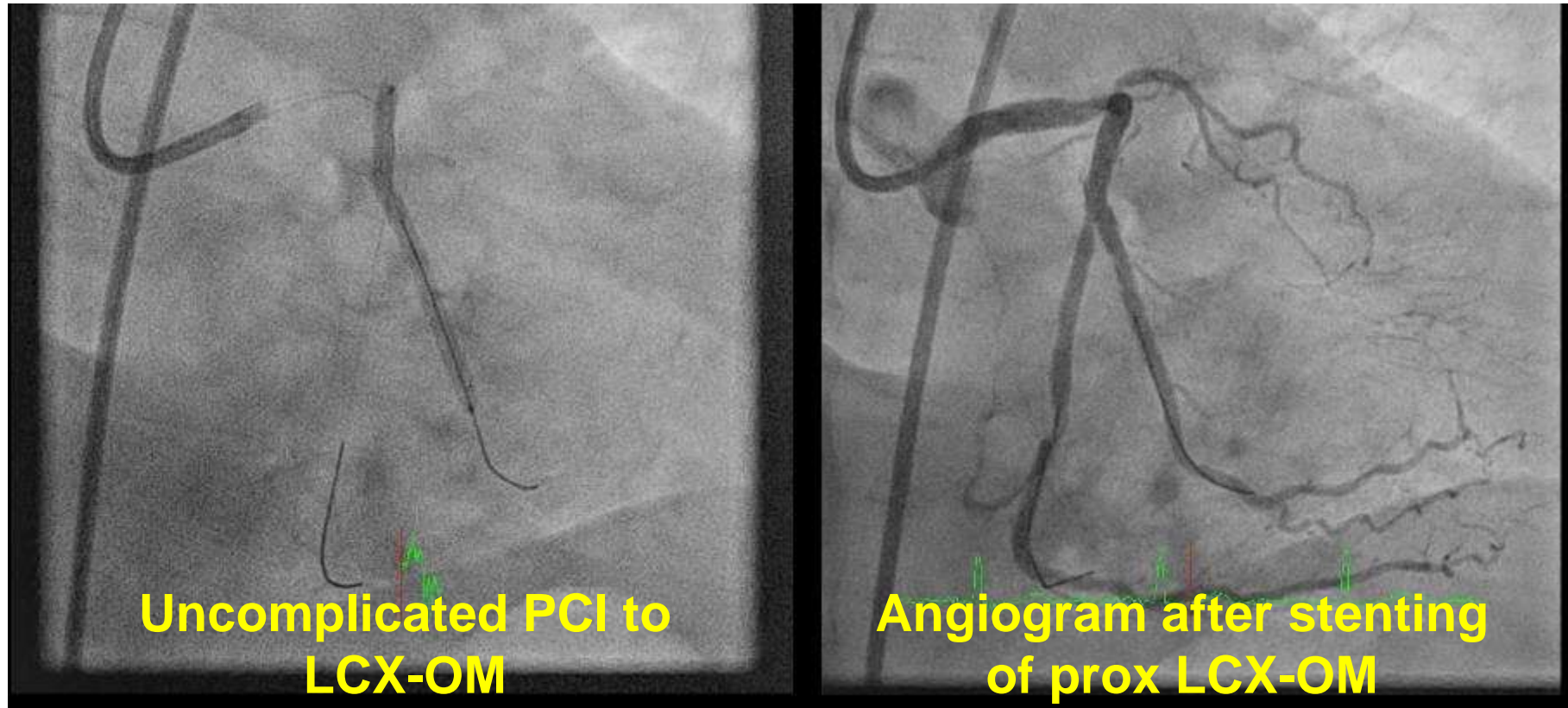
Diagnostic angiogram

3-vessel disease
with very
proximal LAD
CTO.

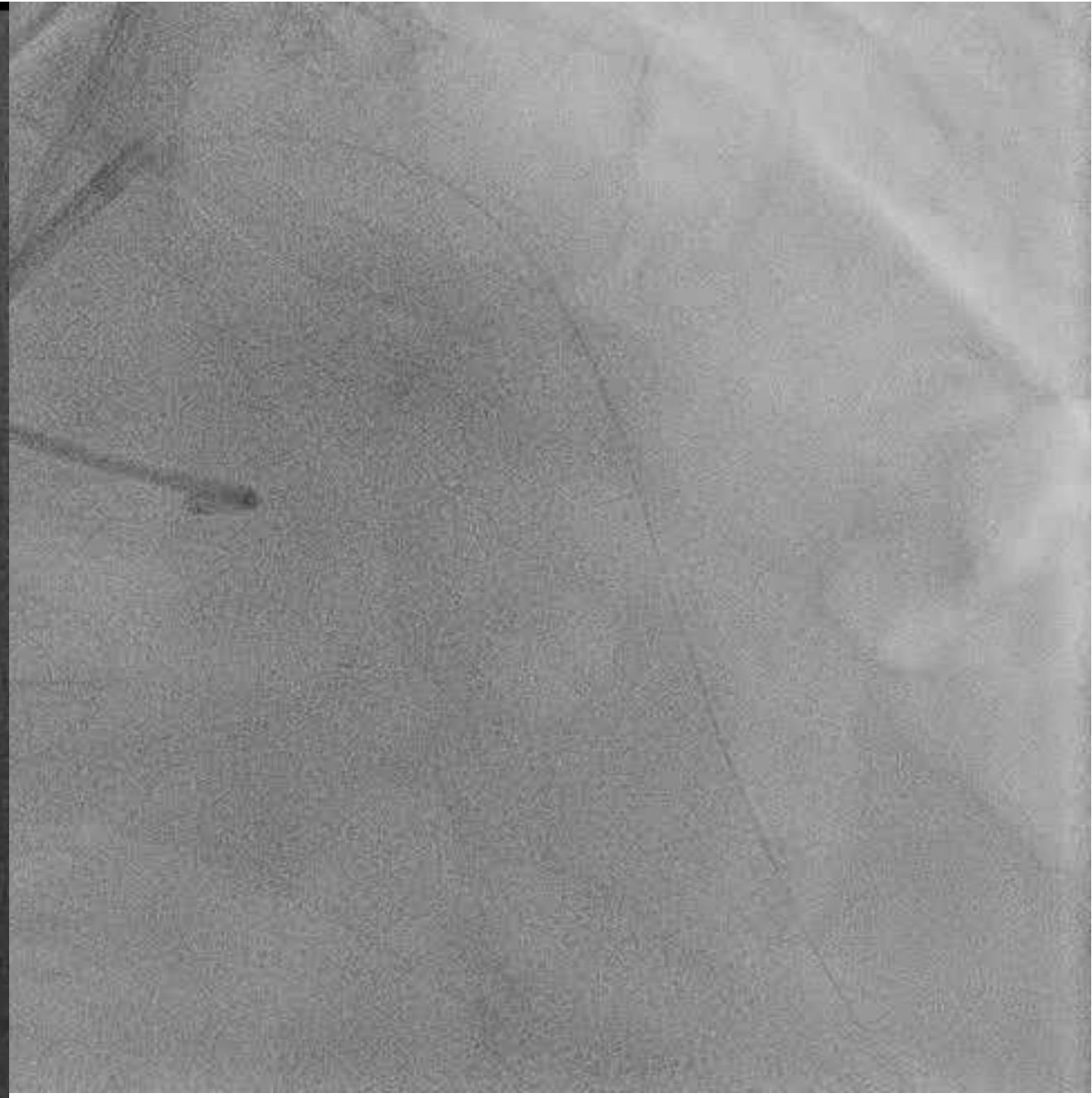
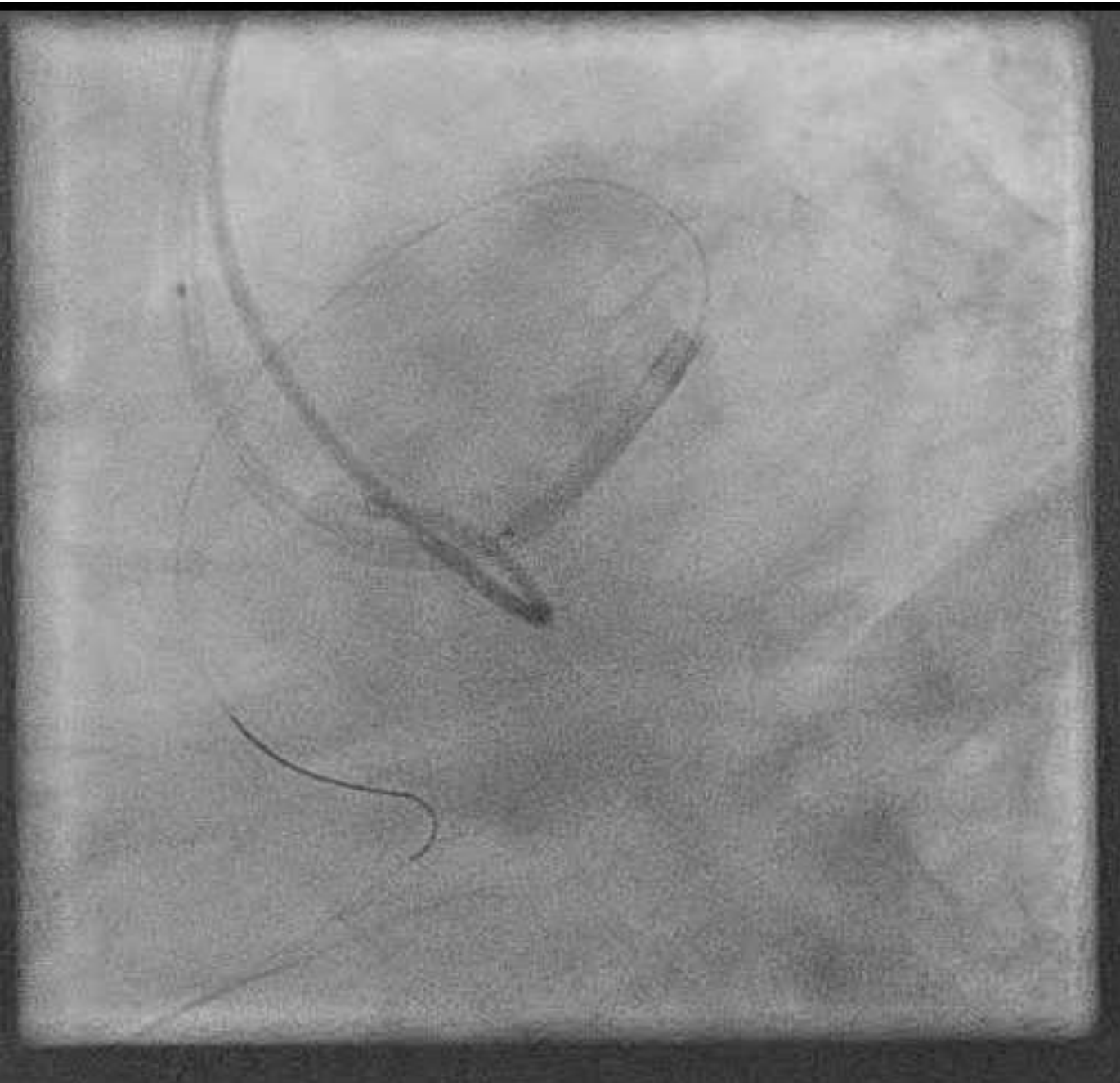
PCI strategy:
PCI to LCX-OM,
then to
LMCA/LAD.
Staged PCI to
RCA at later
date.



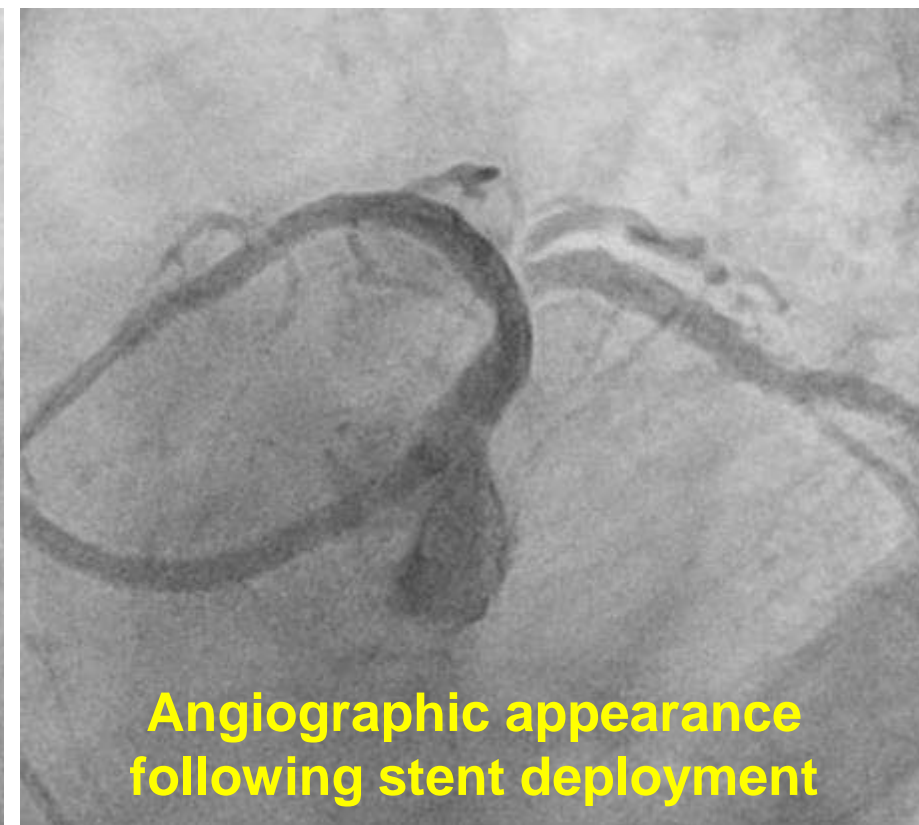
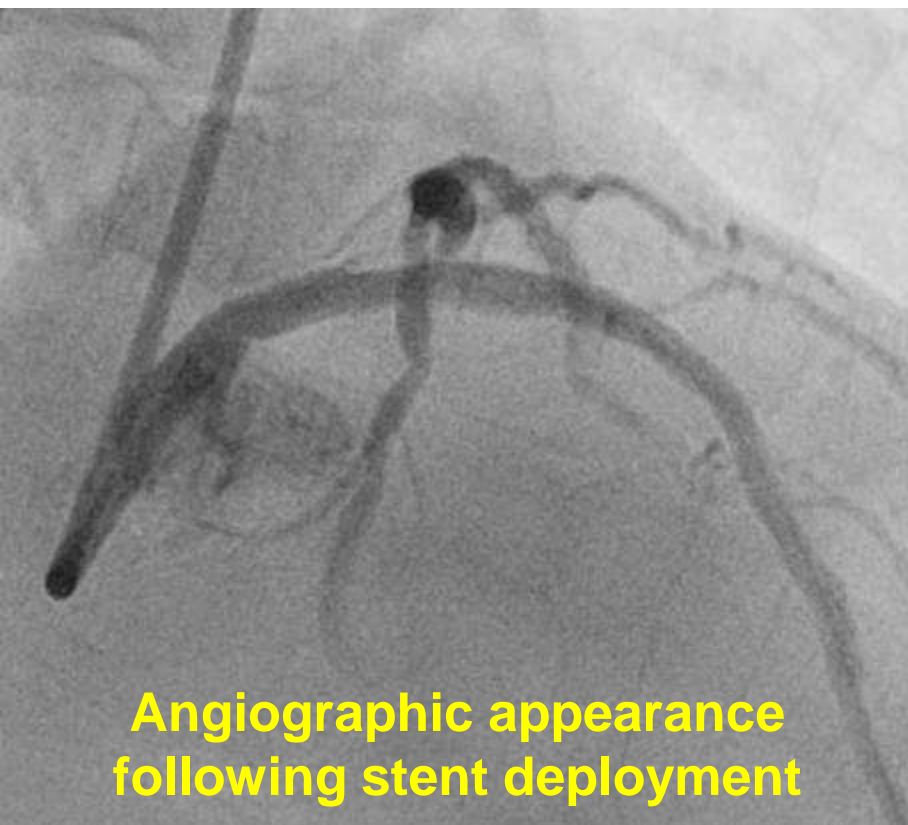
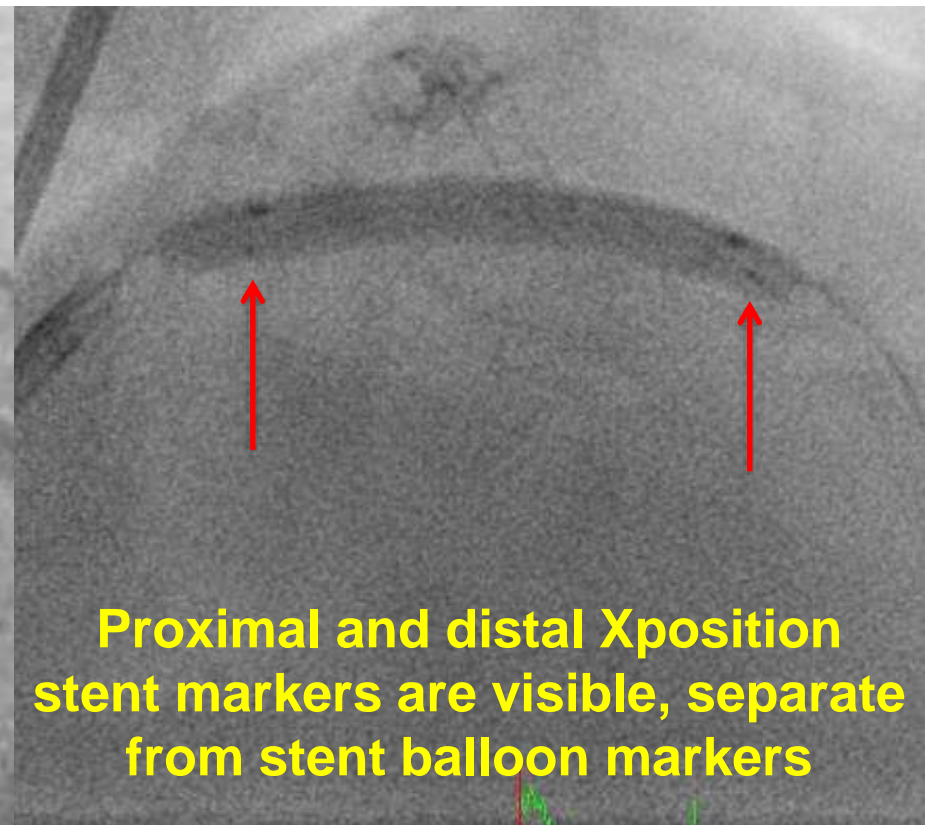
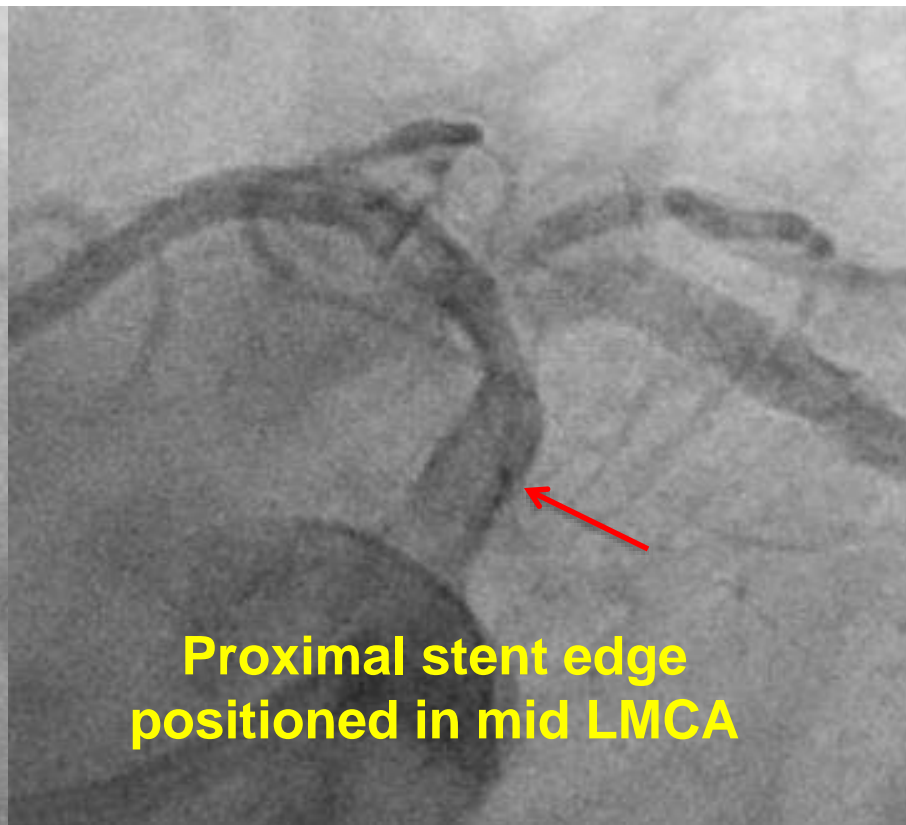
PCI to LCX/OM and mid LAD



Residual prox LAD disease



PCI to LMCA-LAD



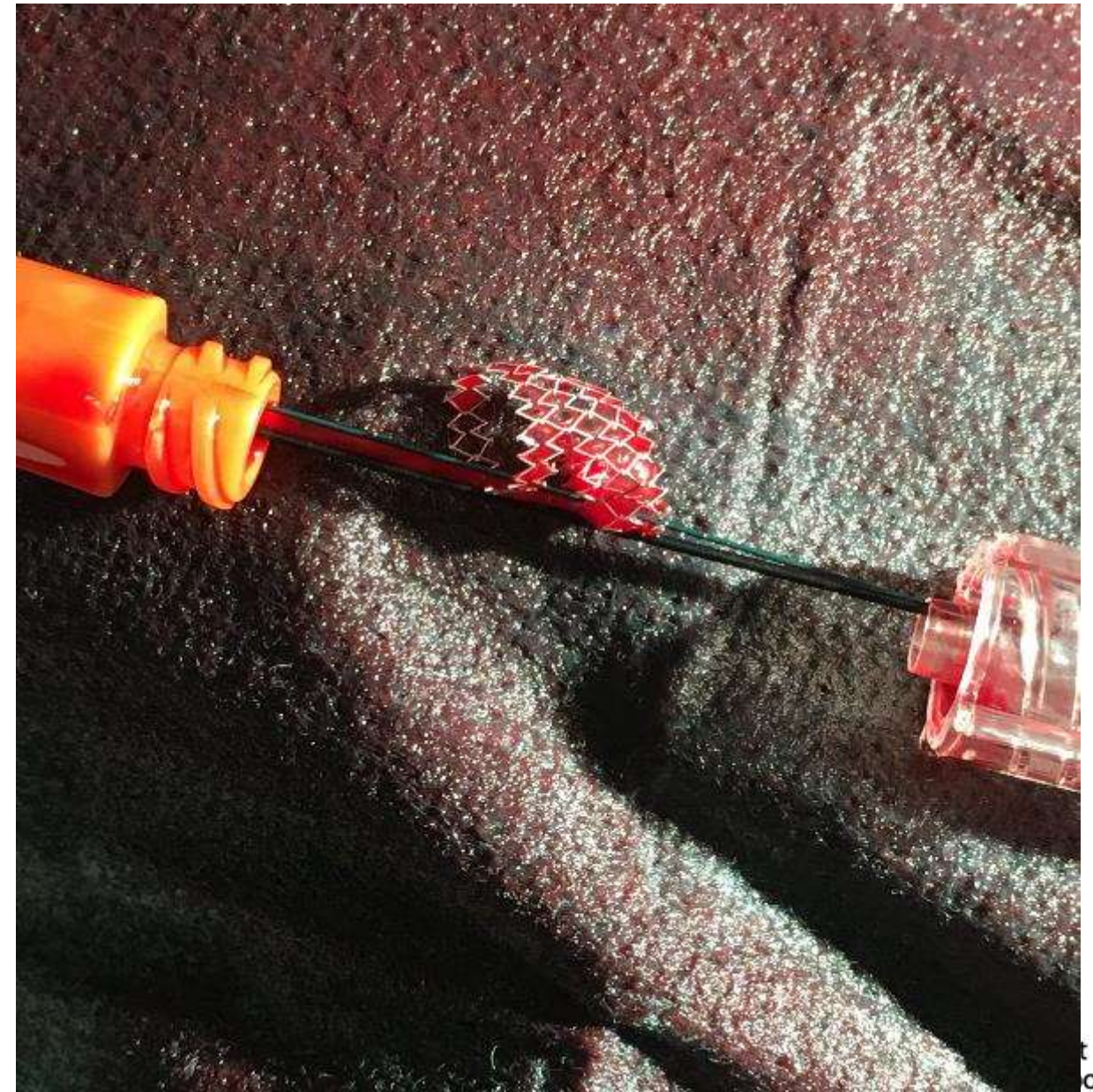
Deployed at nominal 8atm.

Resistance on removing stent delivery system.

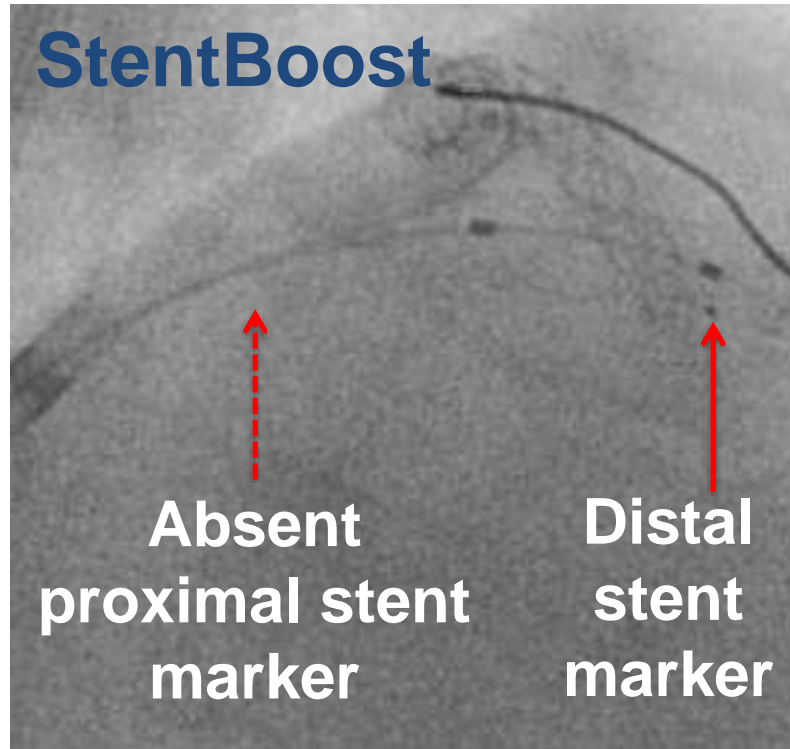
Guidewire repeatedly sucked into LMCA despite generous catheter disengagement.

Removal of stent delivery system

With some force, stent delivery system freed
Friction was felt on withdrawing the system through guide catheter
Guide catheter disconnected and inspected.....
..... 8mm severed segment of stent discovered and removed.



StentBoost and IVUS interrogation

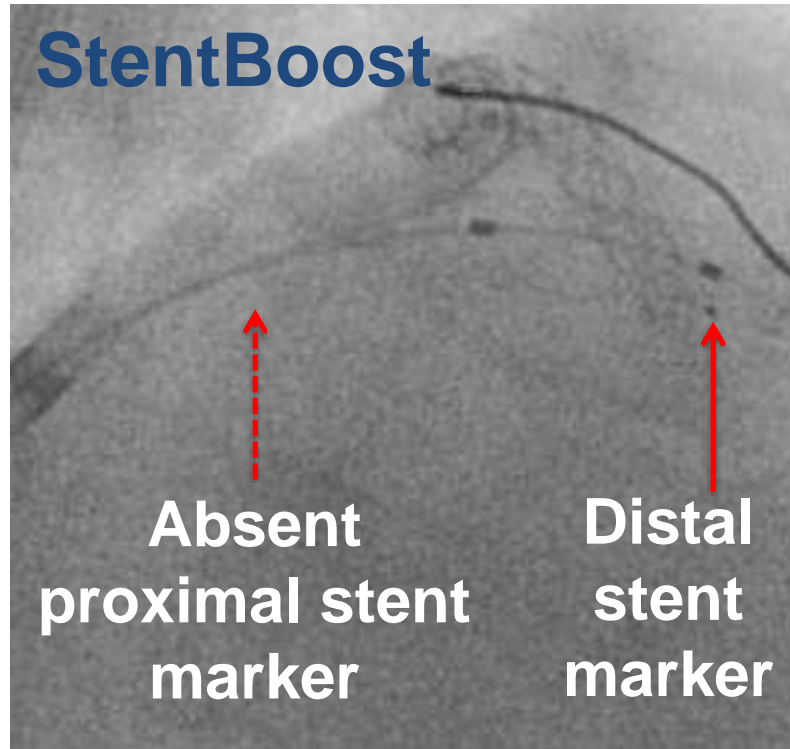


StentBoost revealed that the proximal marker of the Xposition® stent was absent and no stent struts were seen in the LMCA.

IVUS interrogation confirmed no stent was present in the diseased LMCA proximal to the LMCA bifurcation.

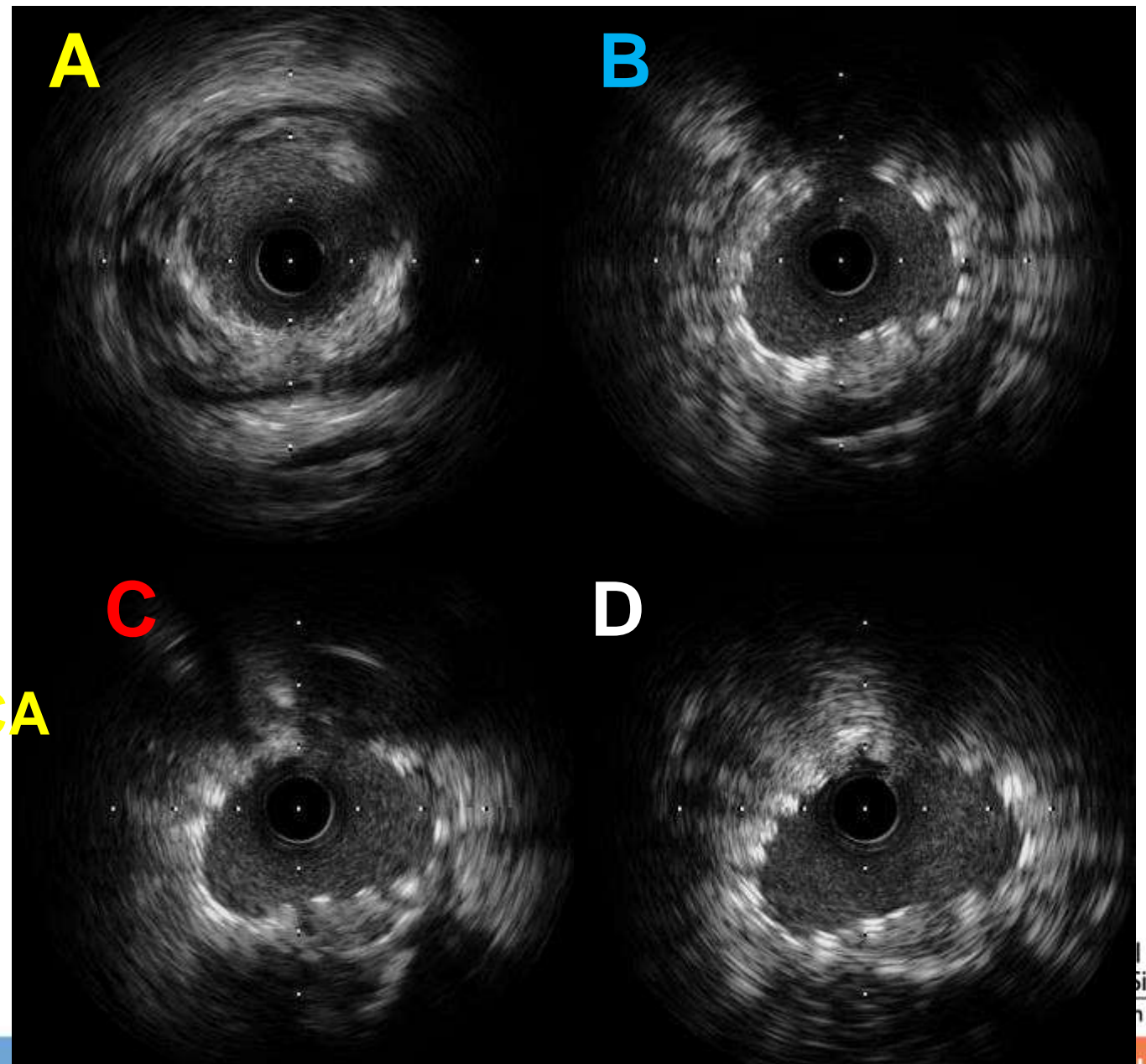
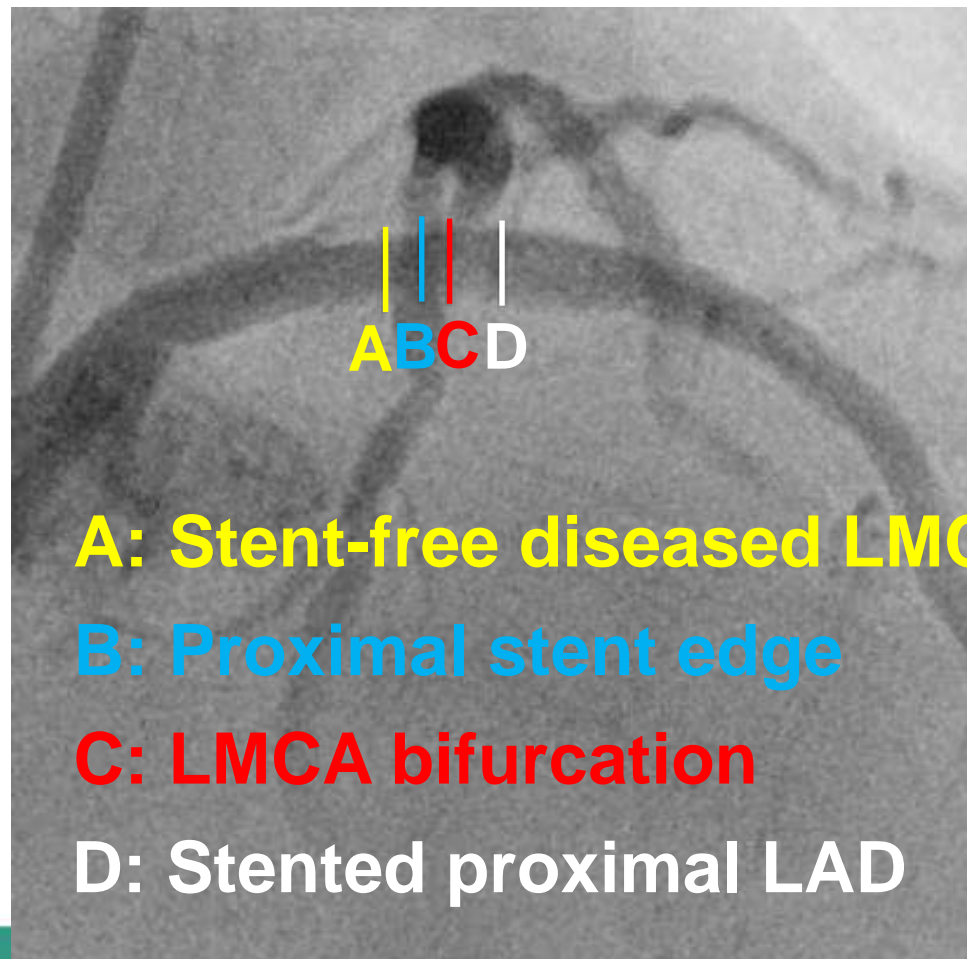


StentBoost and IVUS interrogation

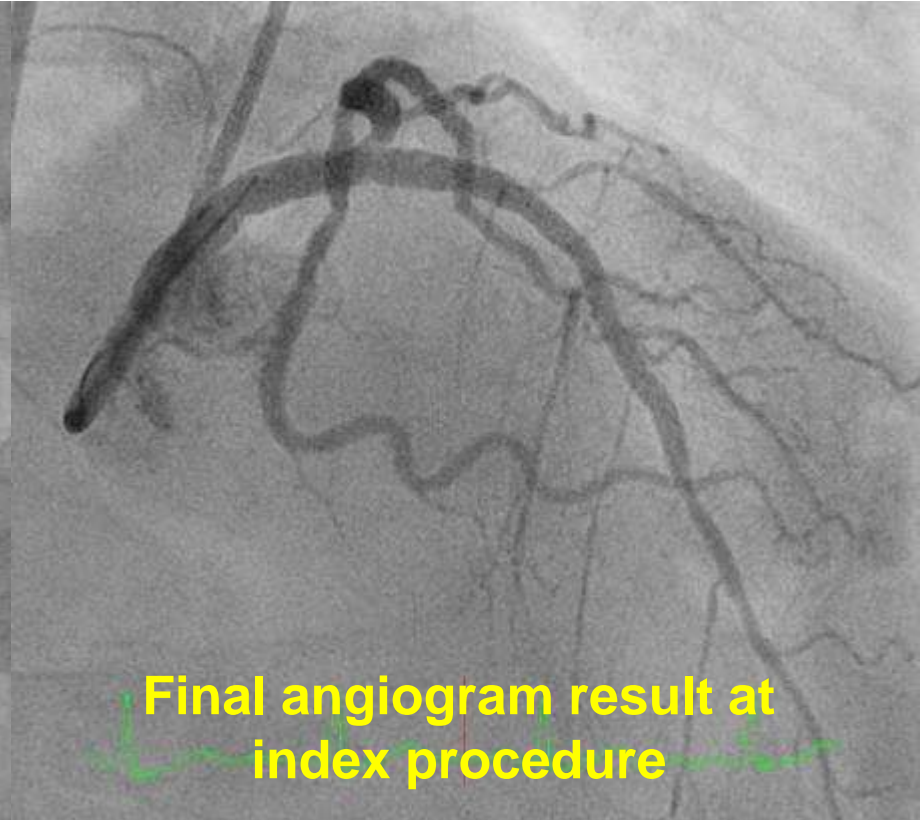
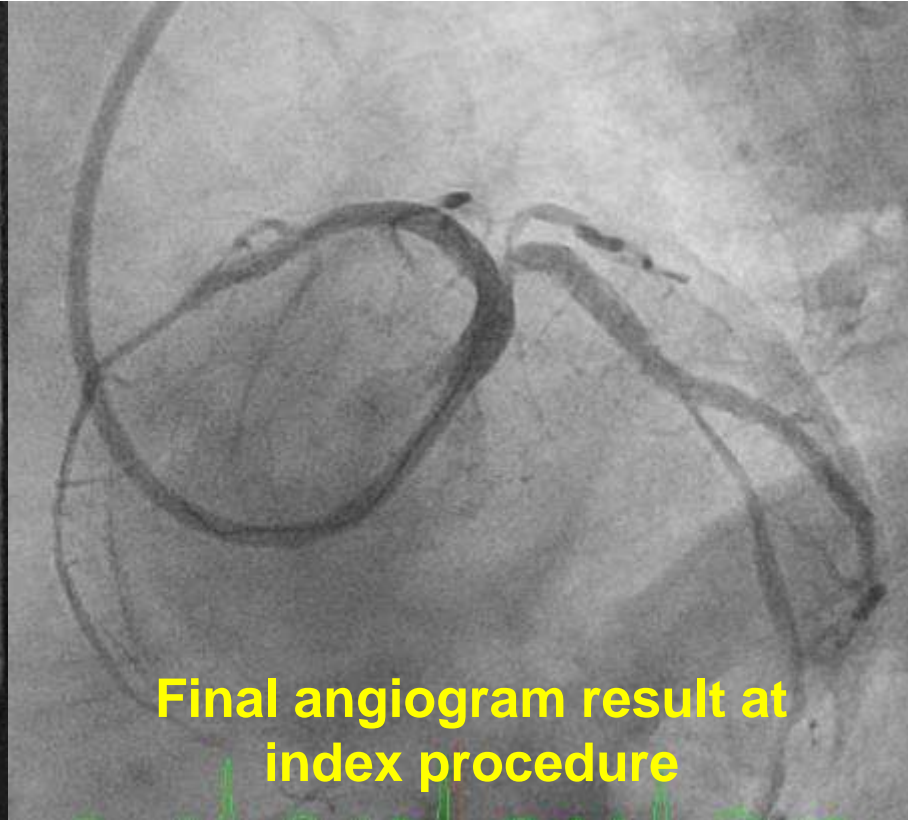
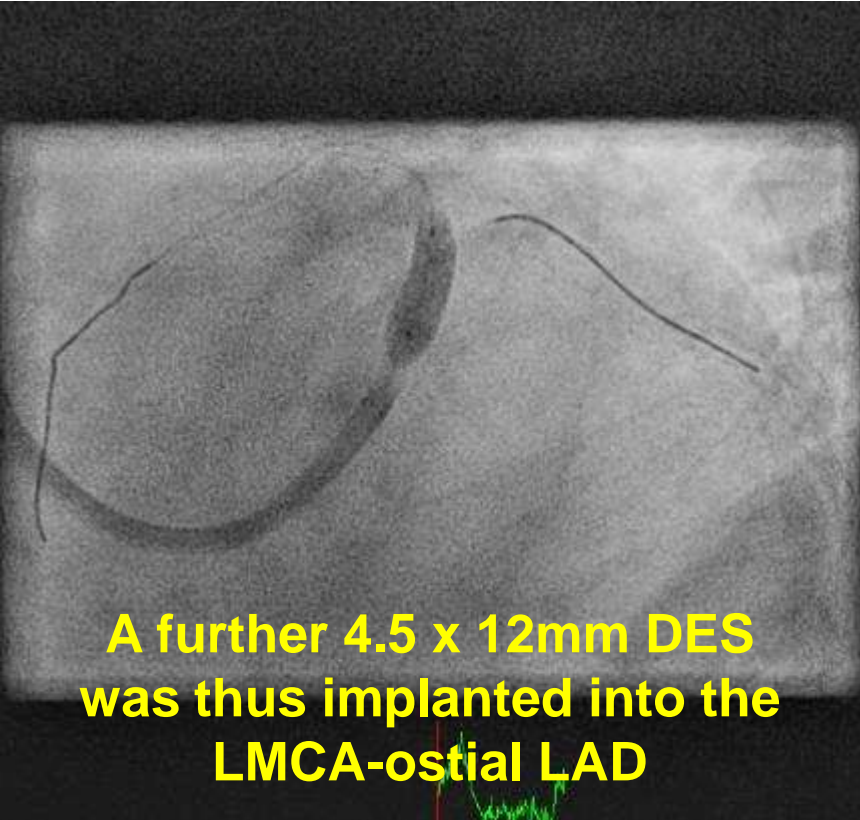


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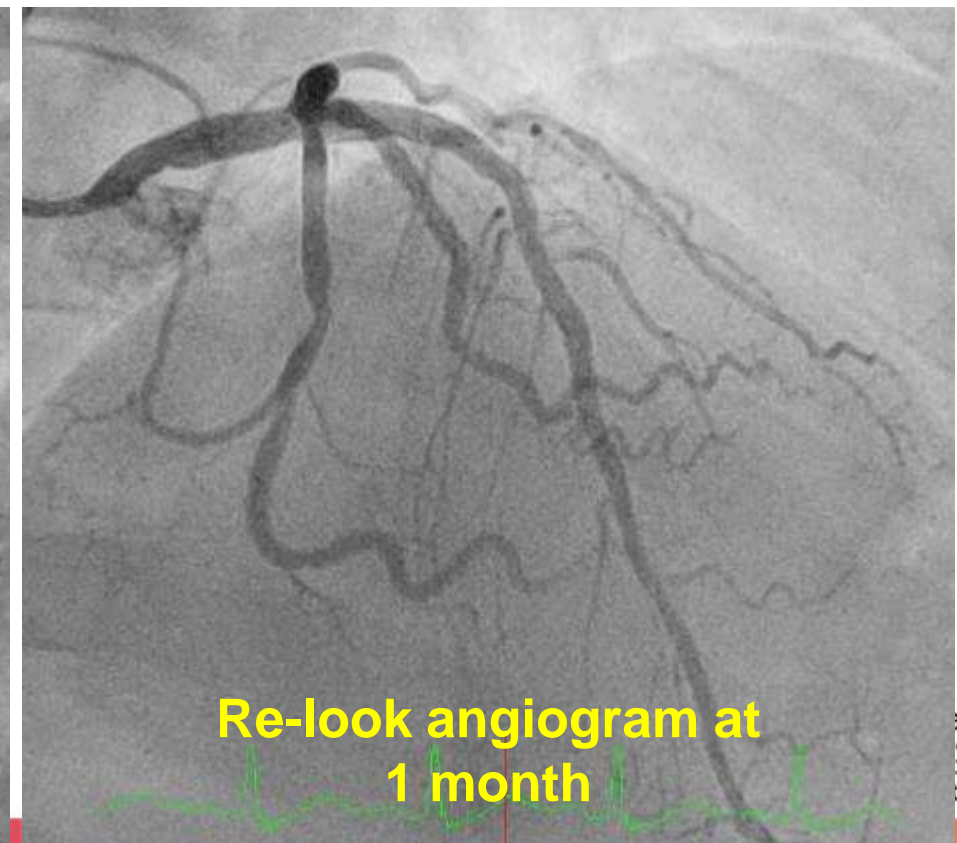
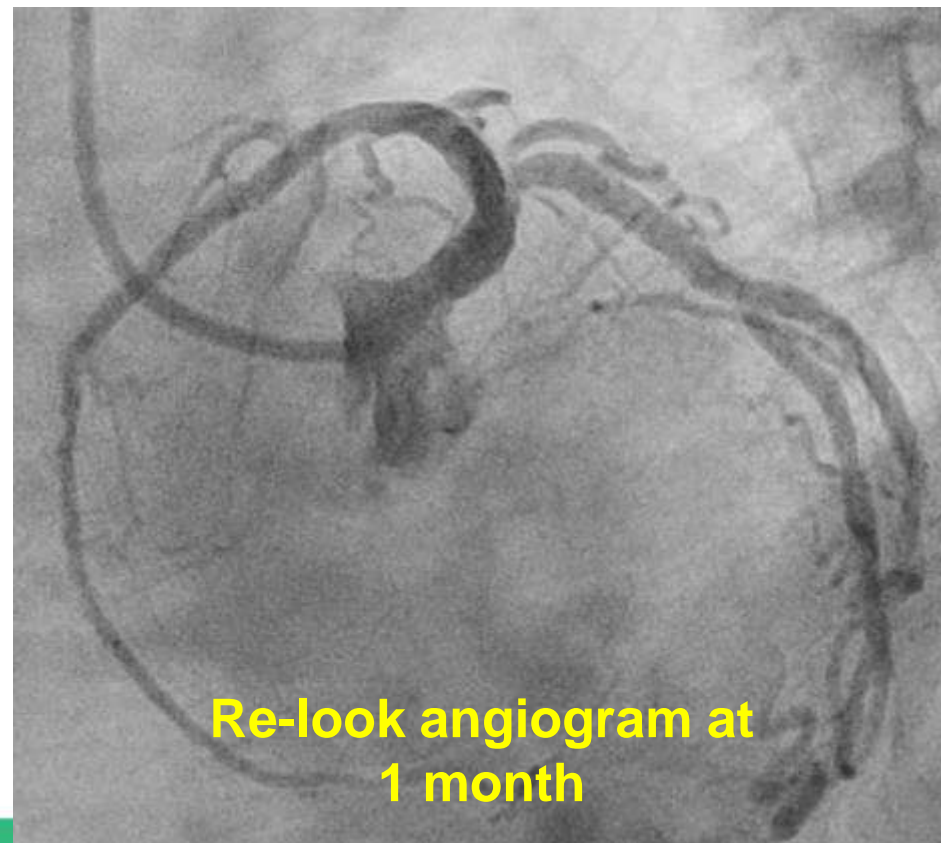
IVUS interrogation confirmed no stent was present in the diseased LMCA proximal to the LMCA bifurcation.



Final result



Re-look angiogram appearances 1 month later remained adequate

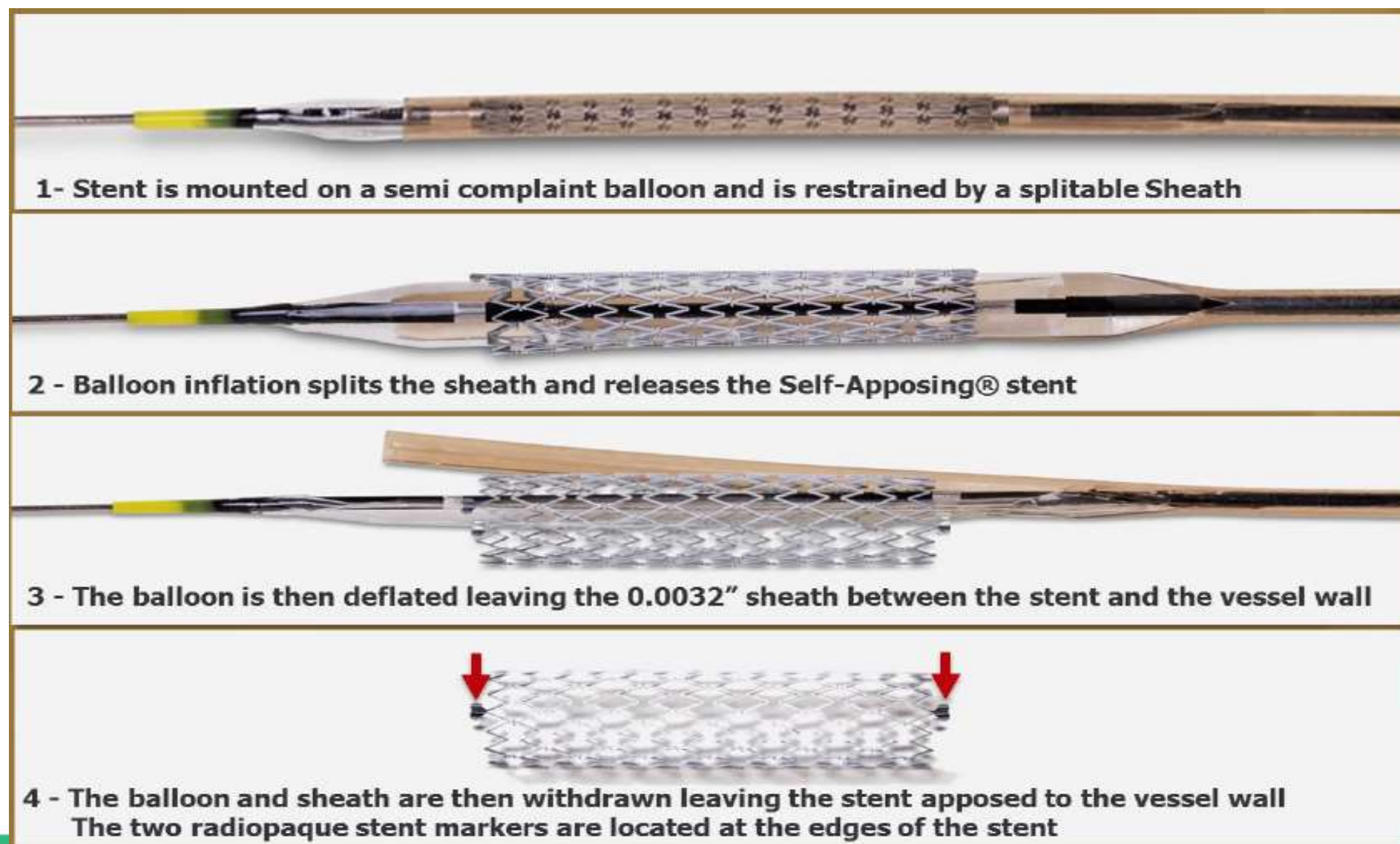


Final result

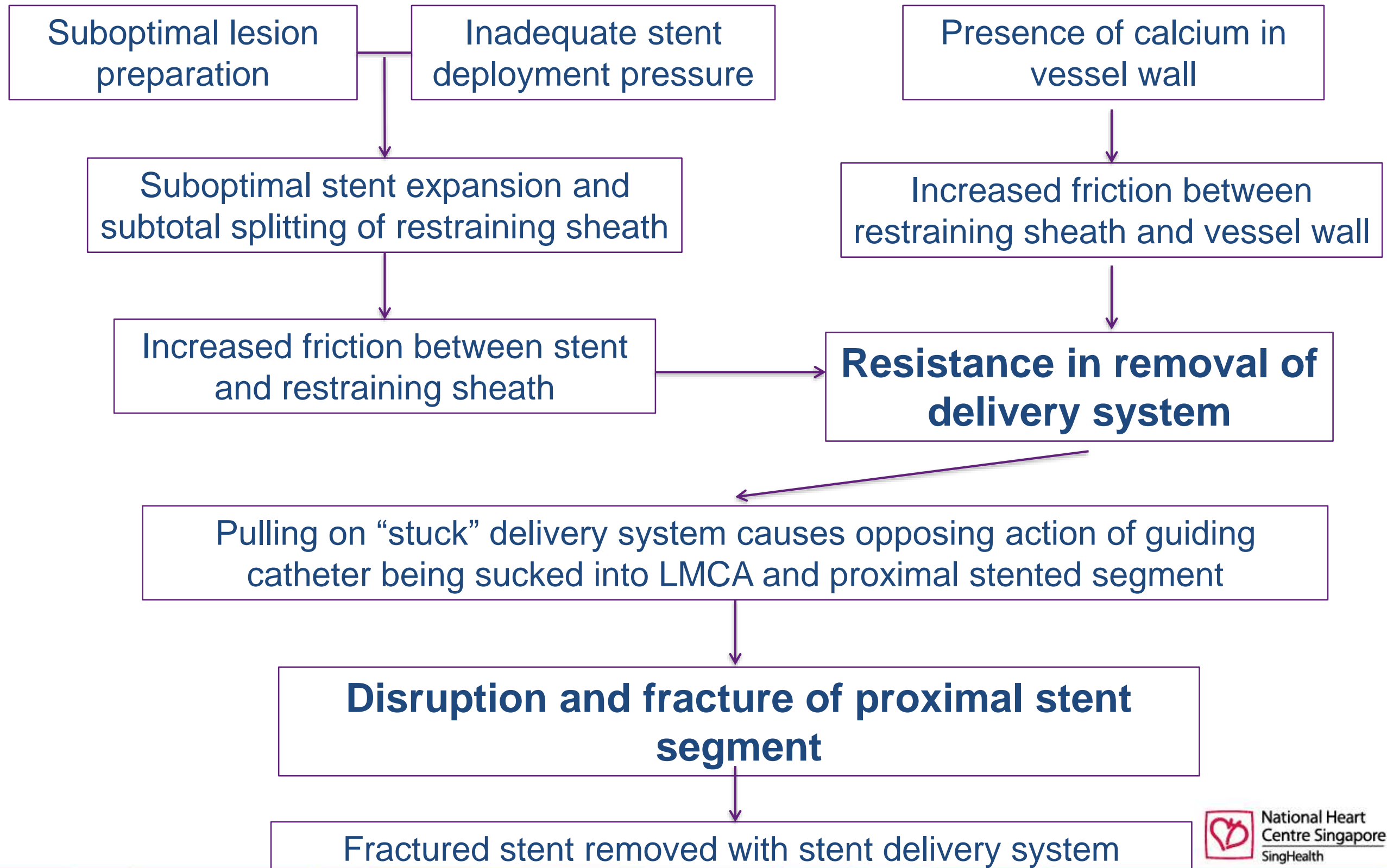


Discussion – Stentys Xposition® stent

- Nitinol alloy properties include shape memory and elasticity, allowing self expansion and apposition
- Although nominal inflation pressure is 8atm, manufacturer recommendation is for stent deployment at 12atm
- Under-deployment may lead to incomplete splitting of restraining sheath
- Some resistance upon removal of delivery system is expected



Discussion – Postulated cause of stent fracture in this case



Conclusion and learning points

- Complete coronary stent fracture and severance is uncommon but potentially serious
- Understanding unique characteristics of each stent, including special implantation techniques, is important to avoid possible complications
- Intracoronary imaging, e.g. IVUS, is extremely useful in diagnosis and management of suspected stent complications, including fracture
- Management of stent fracture should be individualised. Early detection and management can potentially avoid adverse outcomes such as stent thrombosis

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28th Annual Live Interventions in Vascular Endotherapy

17-18 January 2019

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Course Director: Adj Prof Koh Tian Hai

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