How to do Stent Sizing and Optimization by IVUS

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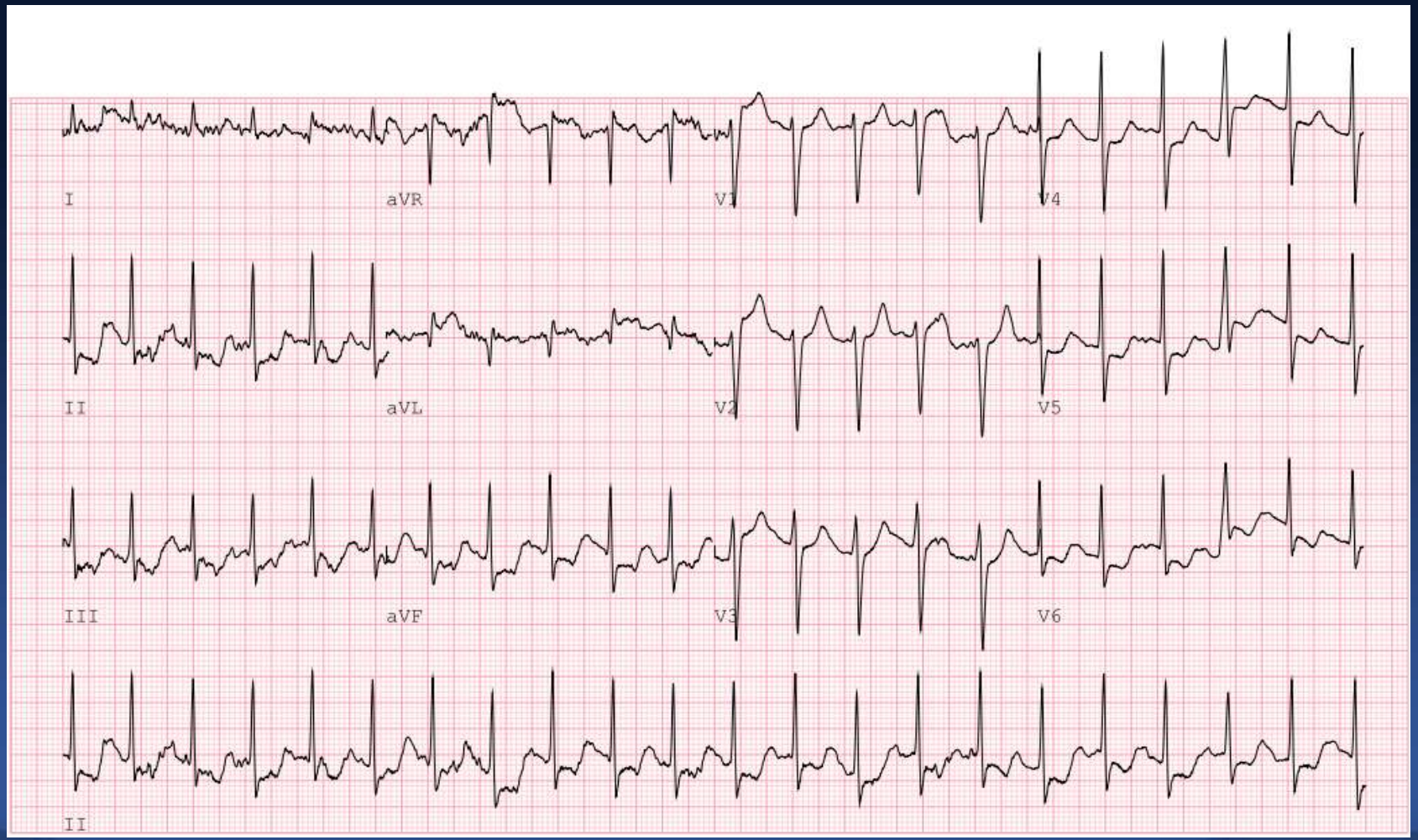
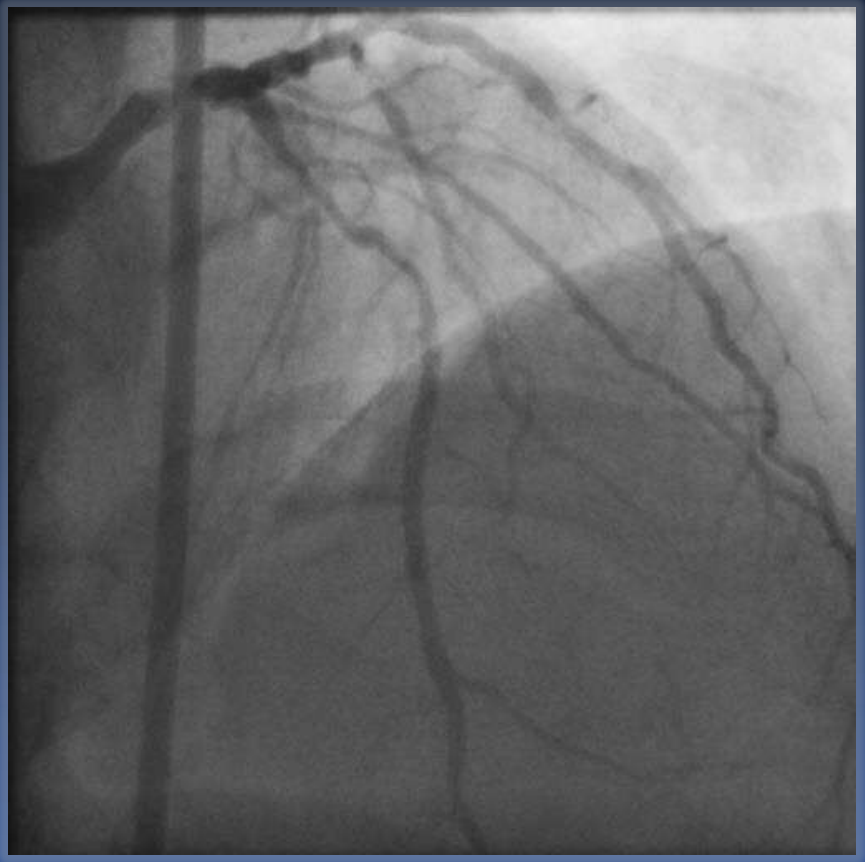
CASE 1

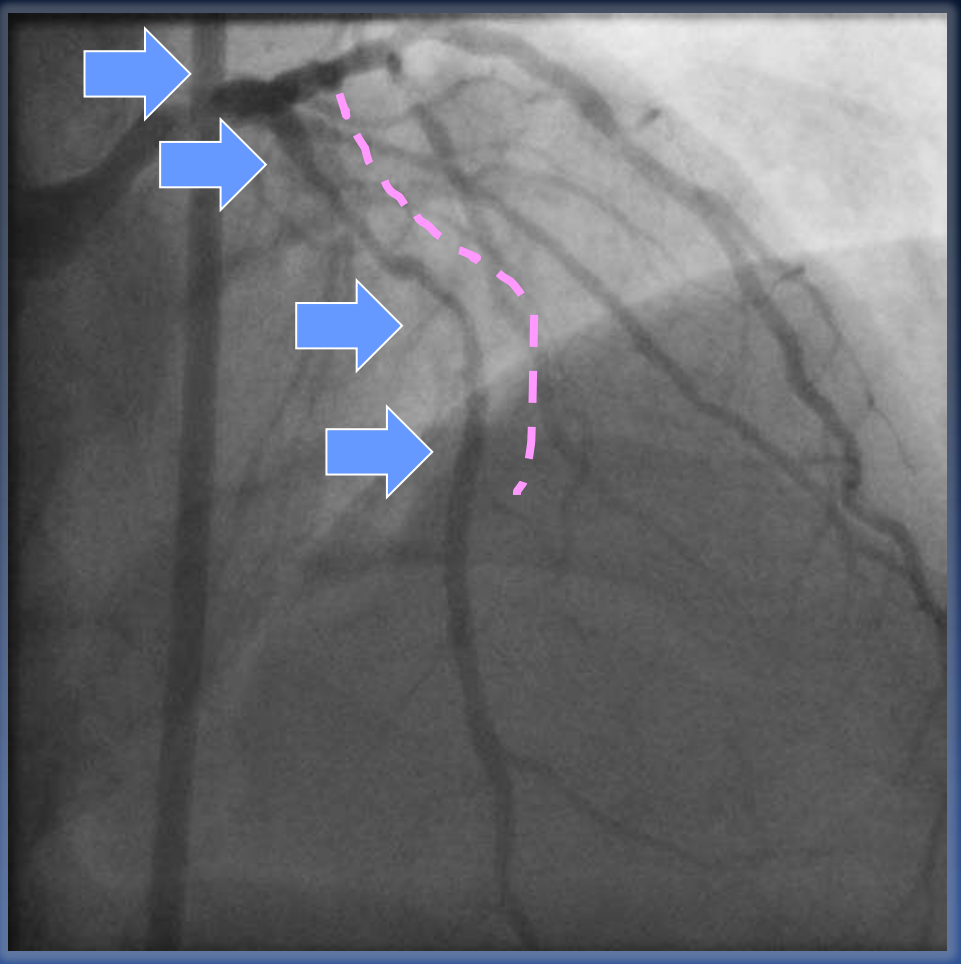


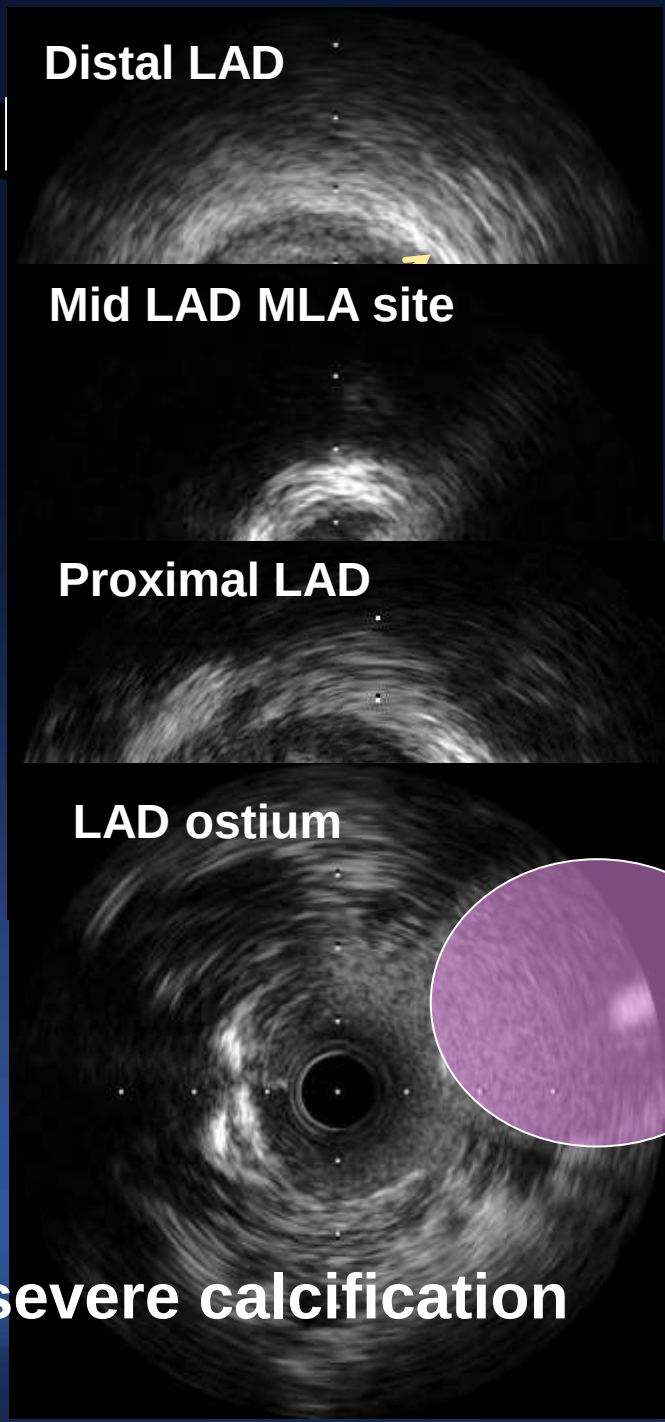
Significant LM lesion with diffuse stenosis of LAD



Near Normal RCA

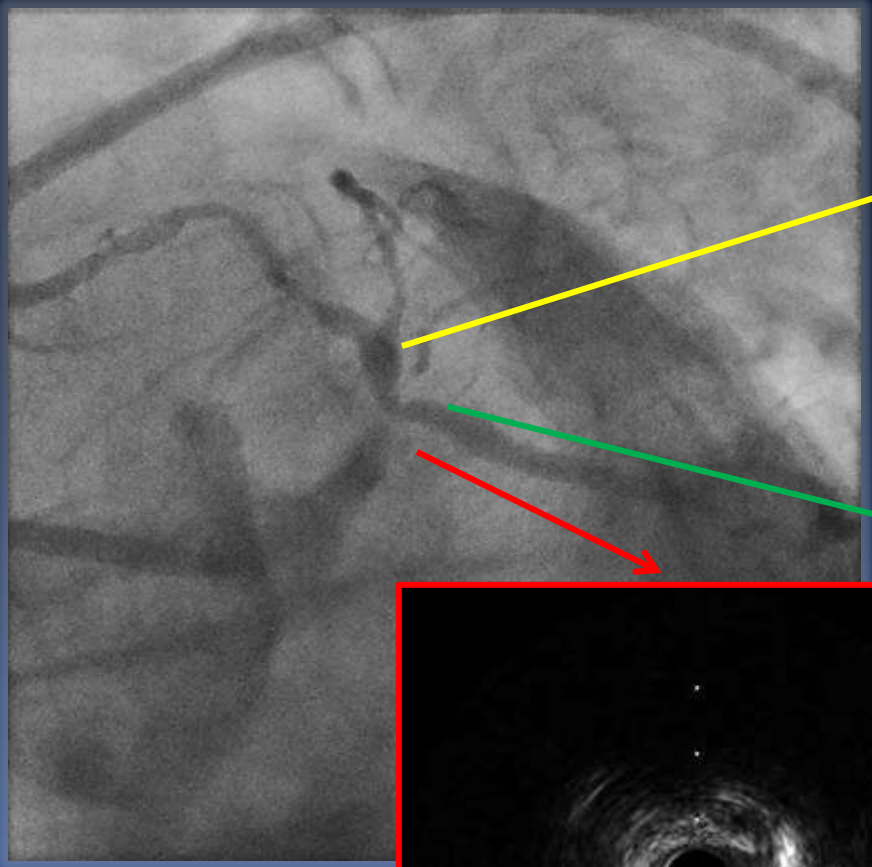
LAD Evaluation

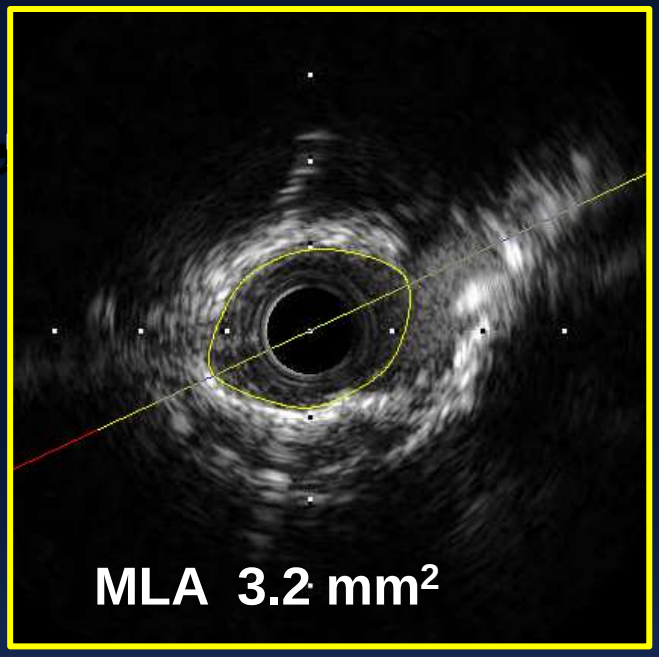


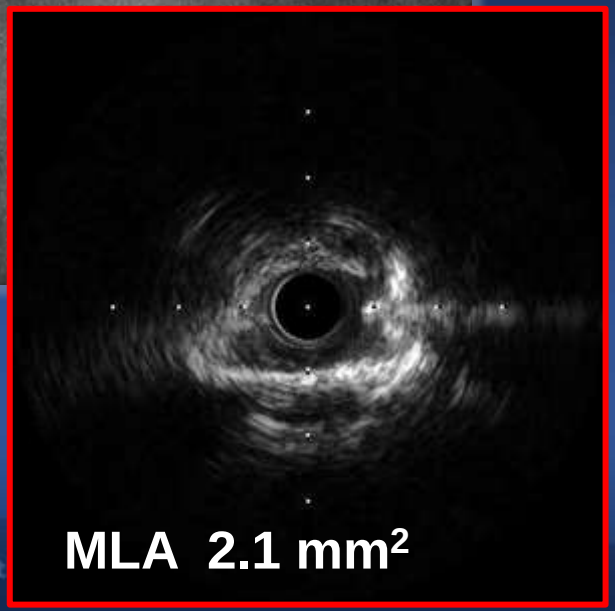


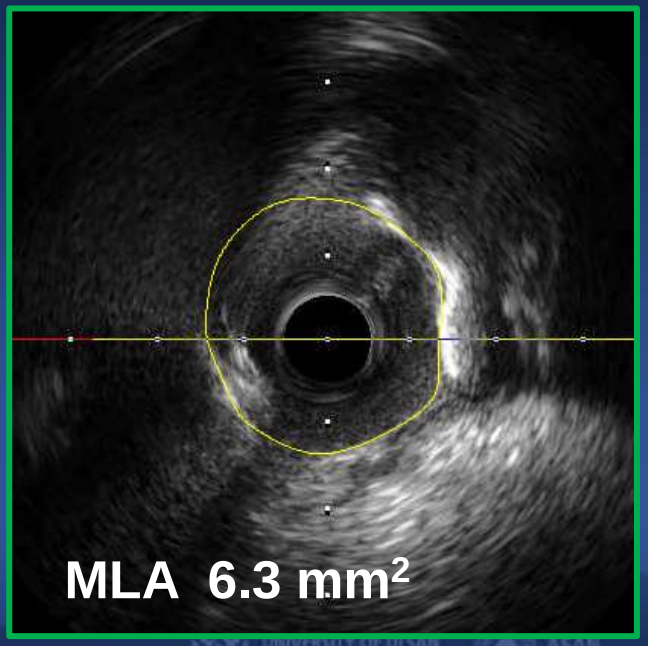
- Diffuse disease throughout LAD with severe calcification

LM bifurcation (1,

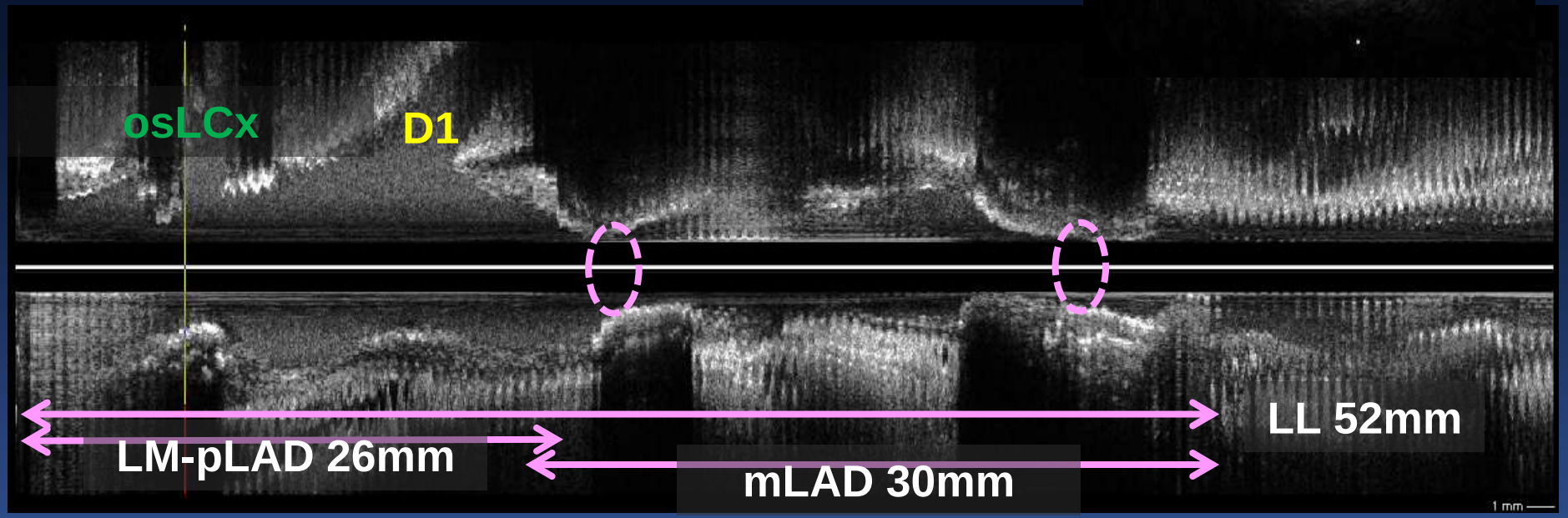






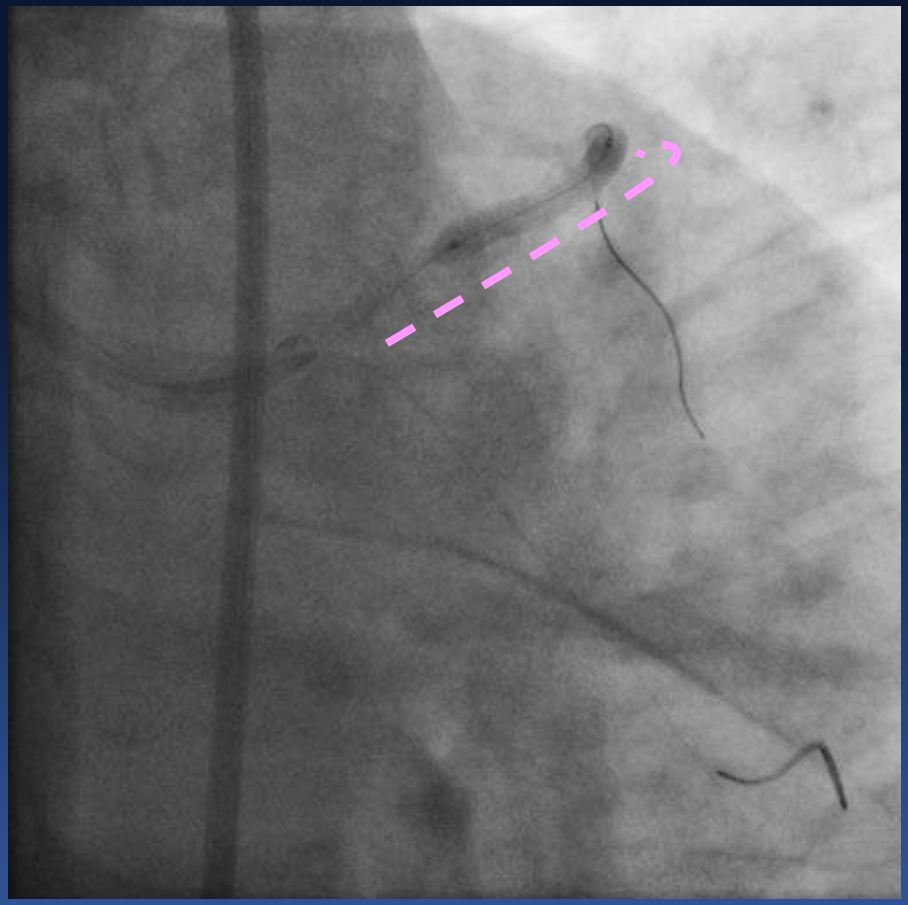


LAD Pull-back



- Decide where to cover and where to overlap

Treat LAD lesion first



Whole lesion length 52mm
Proximal reference 3.8mm
Distal reference 3.2mm

Resolute 3.5/30mm
up to 6atm (3.30)

Under nominal pressure, inflating slowly.
Then, plan to use high pressure balloon.

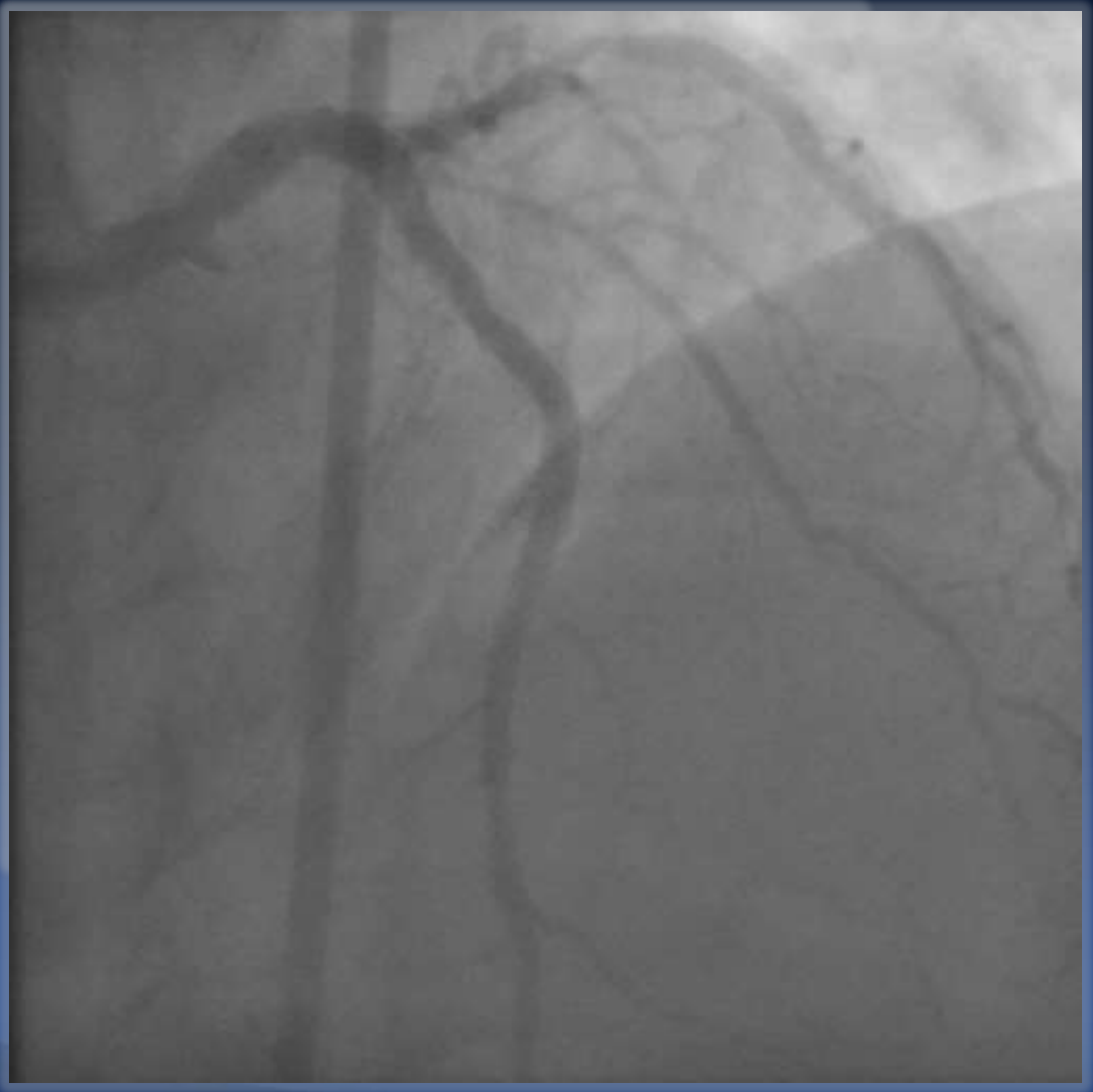
Single Stent Cross-Over

Remnant lesion length 22mm
Proximal reference 4.5
Distal reference 3.8

Resolute 4.0/26mm
up to 9atm (3.95)

Cover the LM ostium and overlap the mLAD stent.
Left the LCx wire, in case of jail.

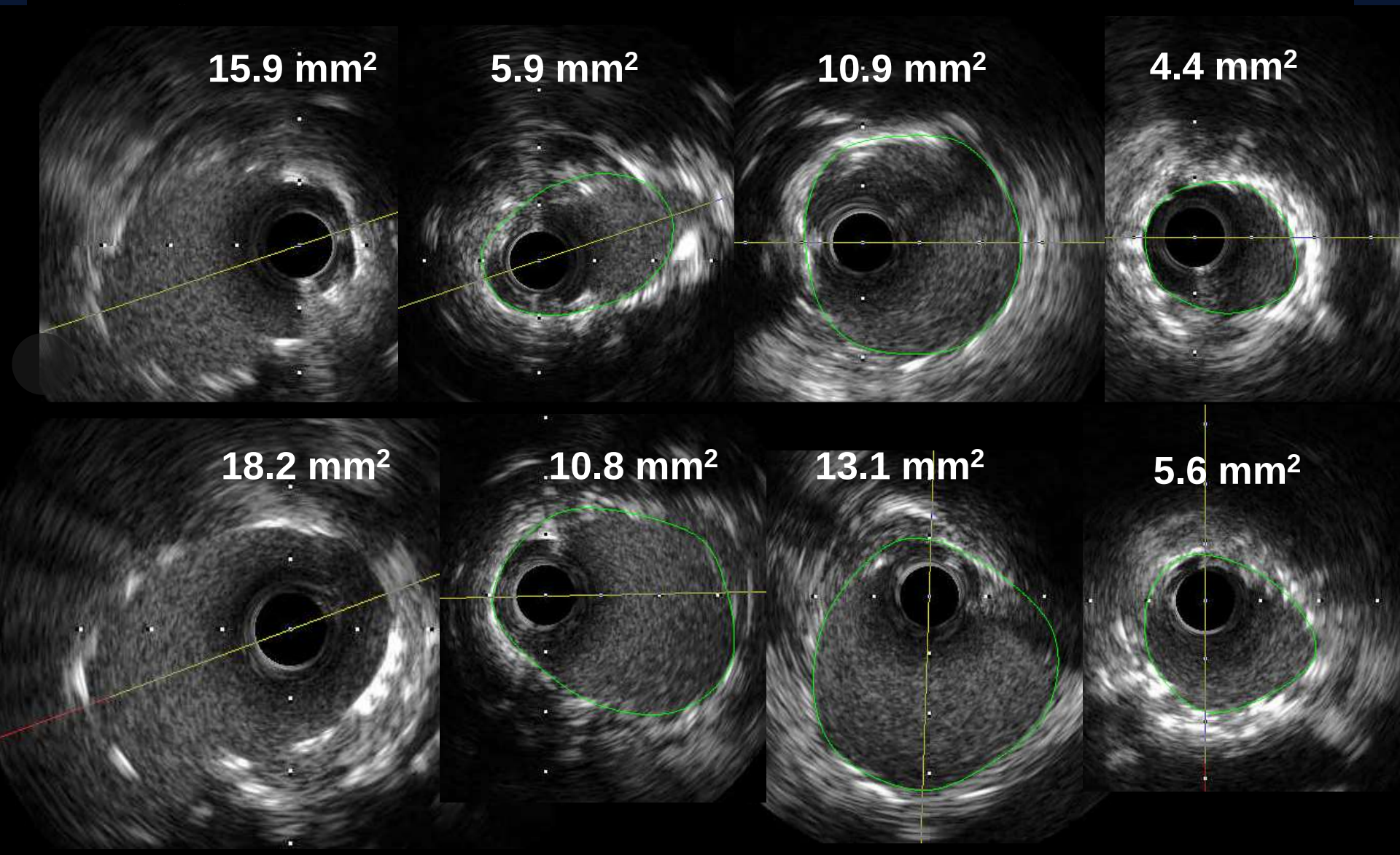
High pressure balloon



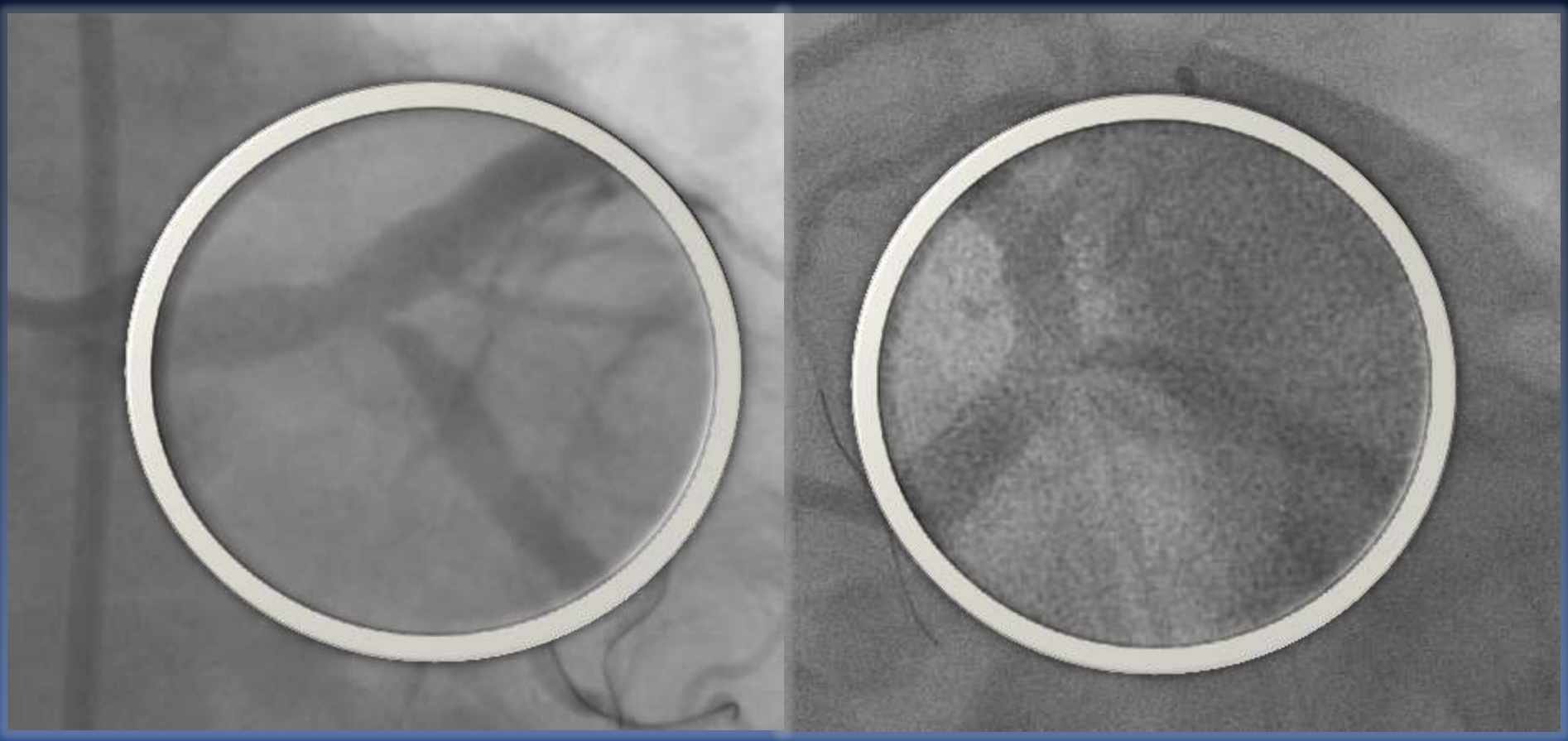
Quantum
4.5x15mm for
LAD

Pantera
5.0x8mm for LM

Stent size optimization

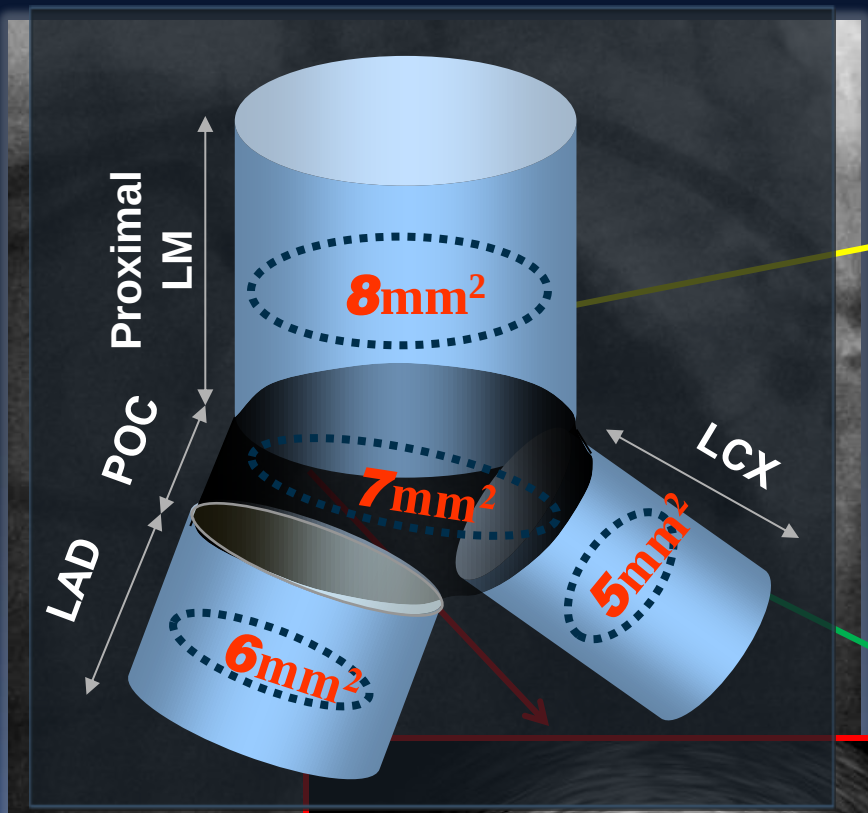


Compromized LCx ostium ?

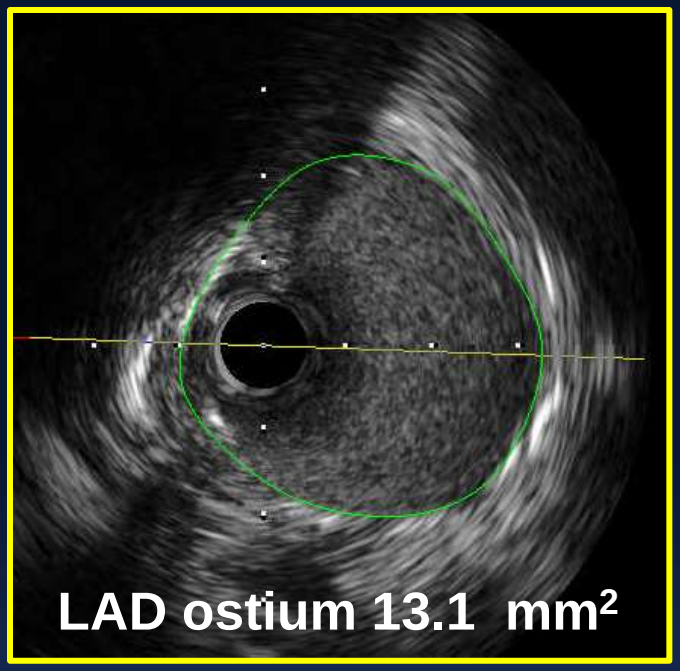


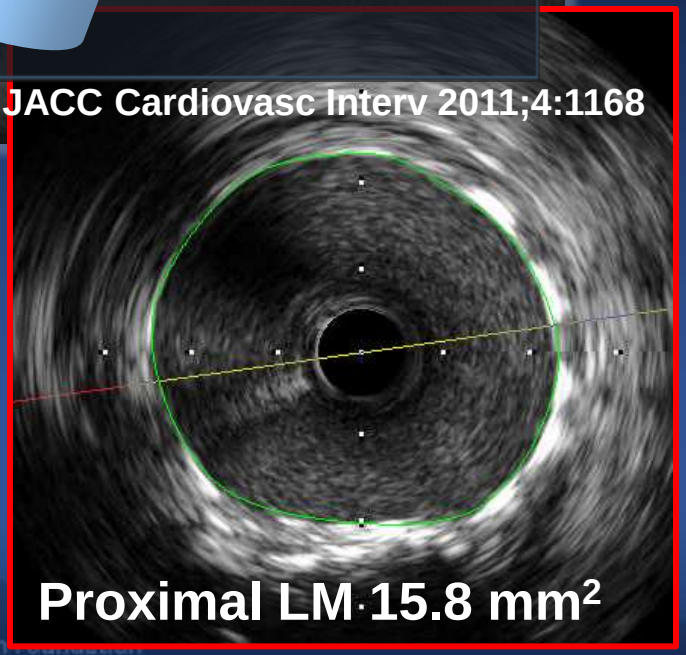
After stenting, there was some compromise of LCX ostium

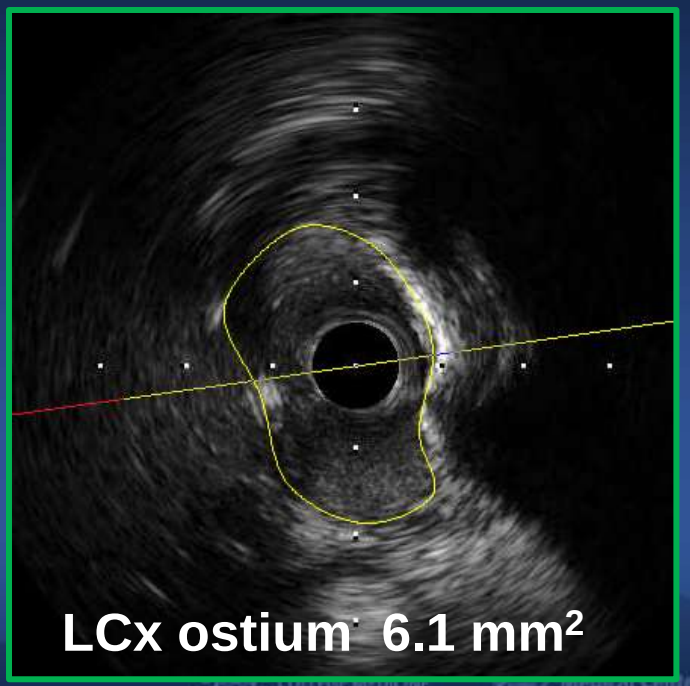
Carina shifting matters to the flow ?



SJ Park et al. JACC Cardiovasc Interv 2011;4:1168



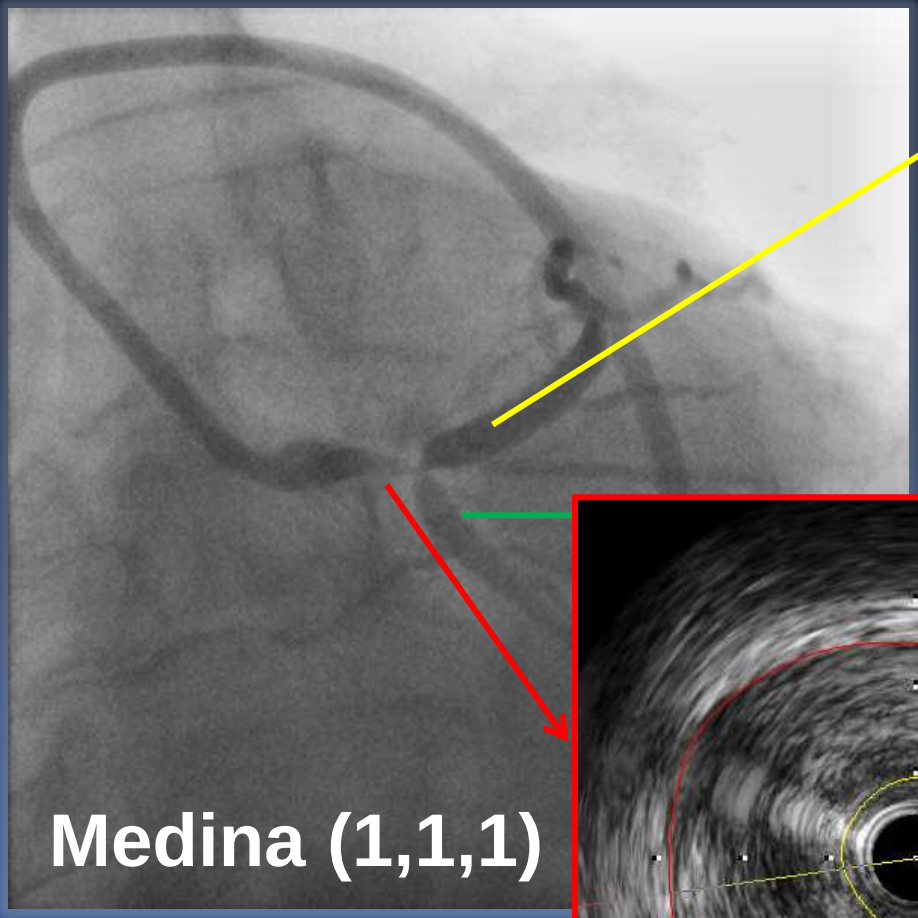


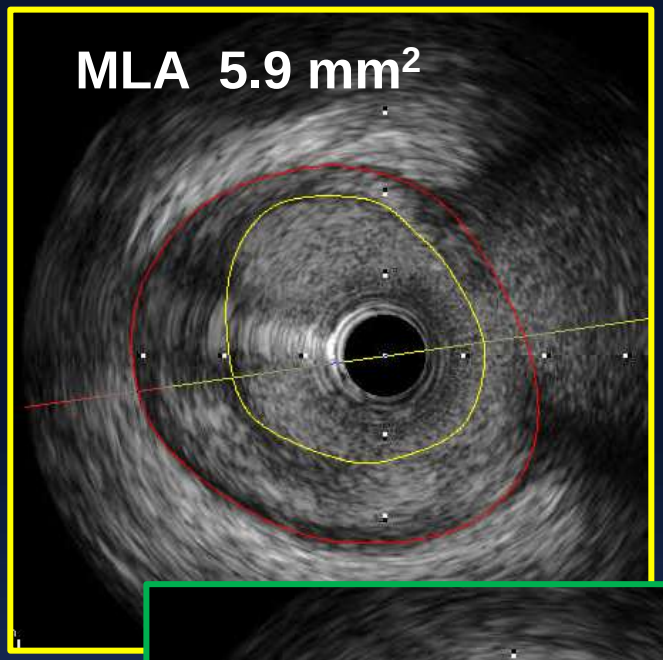


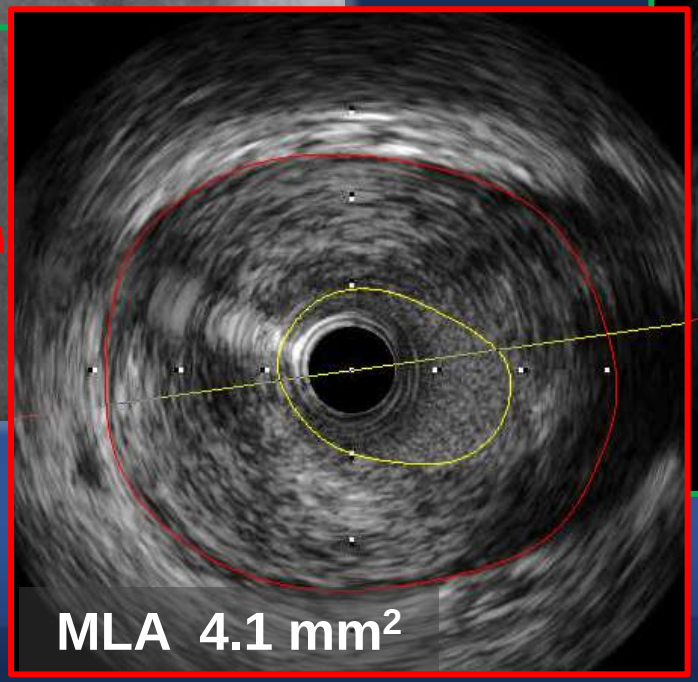
CASE 2

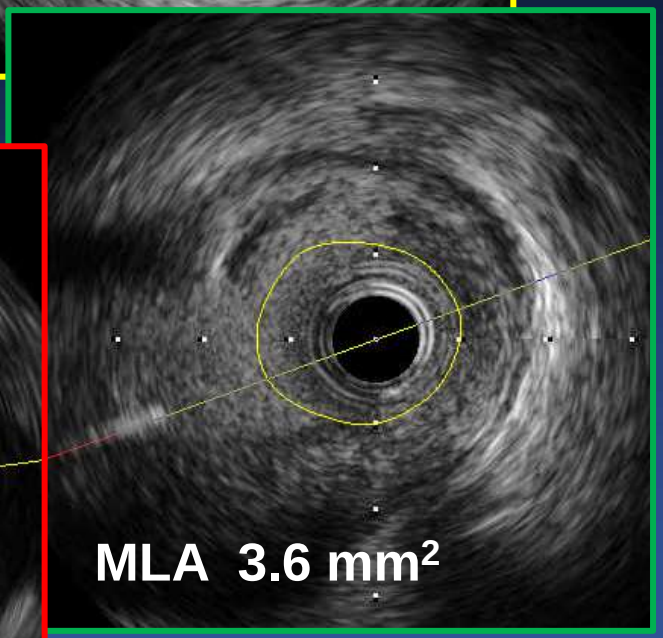
- M/61
- Chief complaints
  - Effort angina for 1 month, recently aggravated
- Risk factors
  - Hypertension, Diabetes, Cerebral infarction
- Echocardiography : normal (EF 71%)

True bifurcation

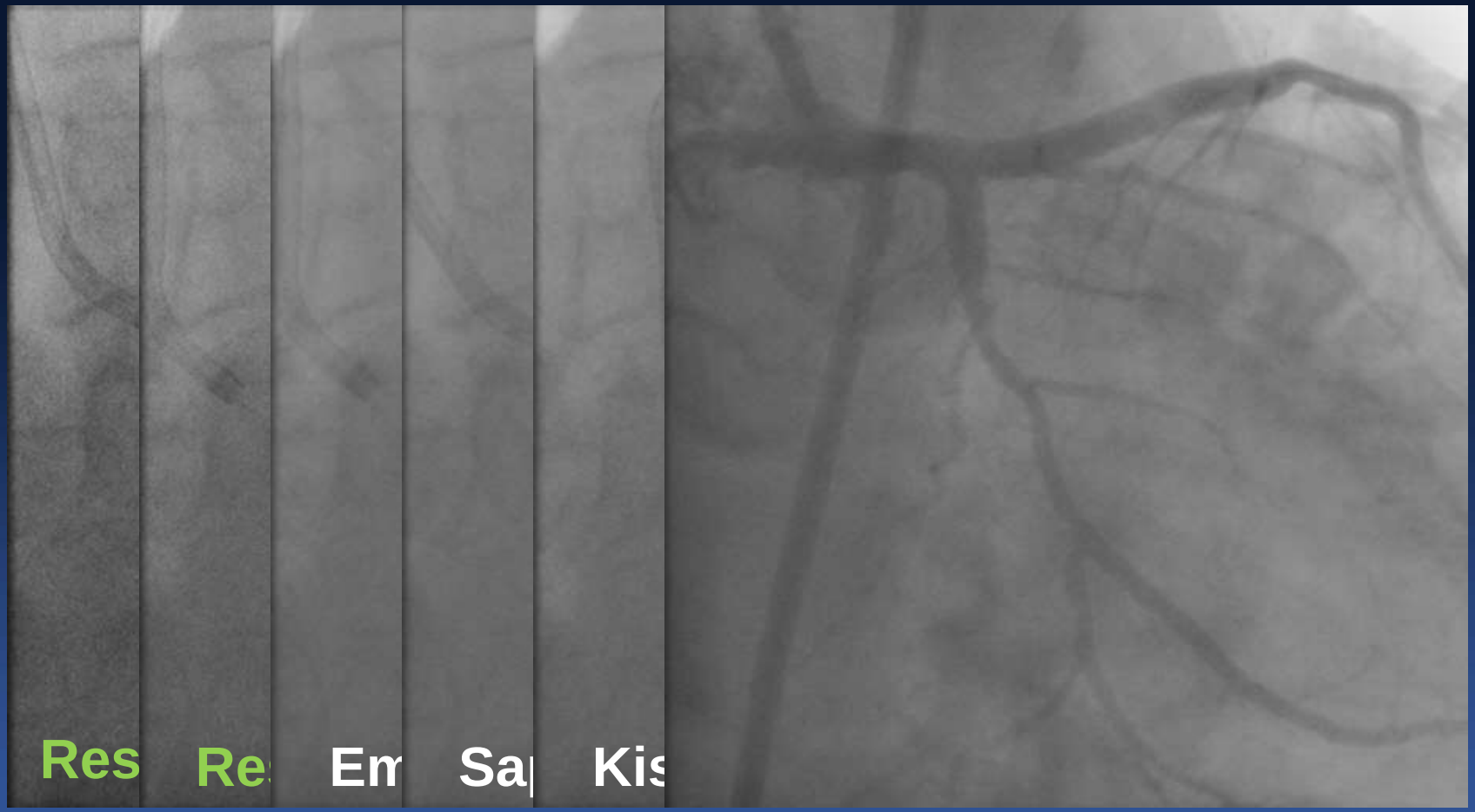




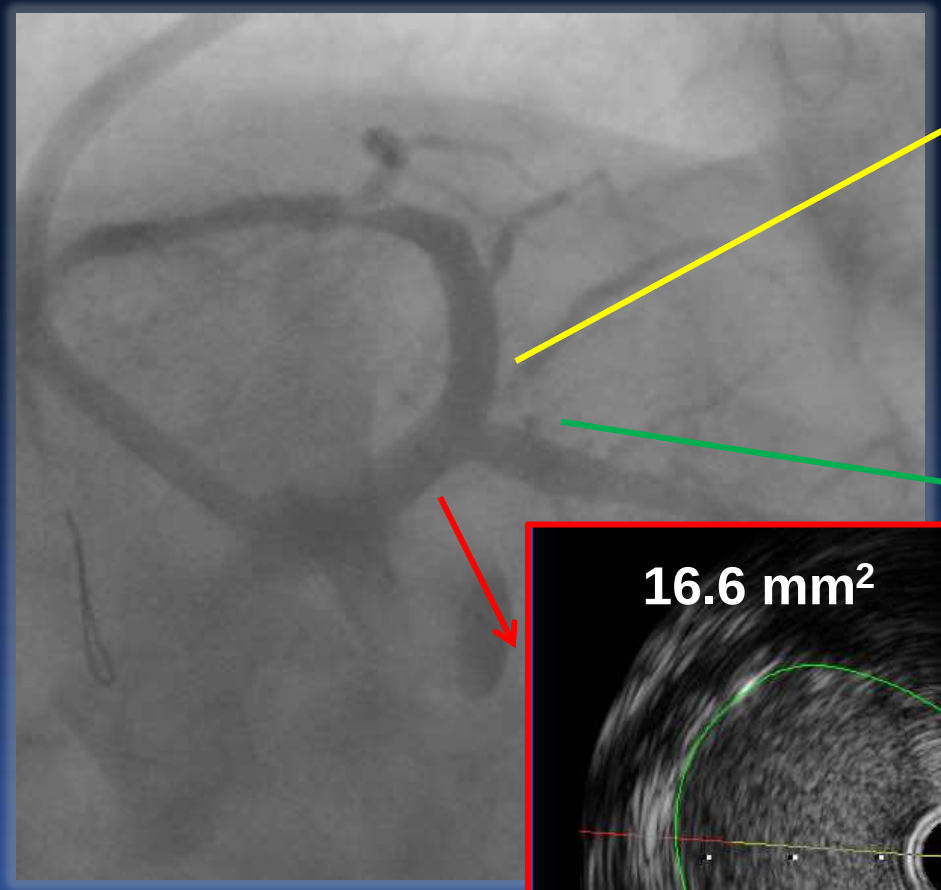


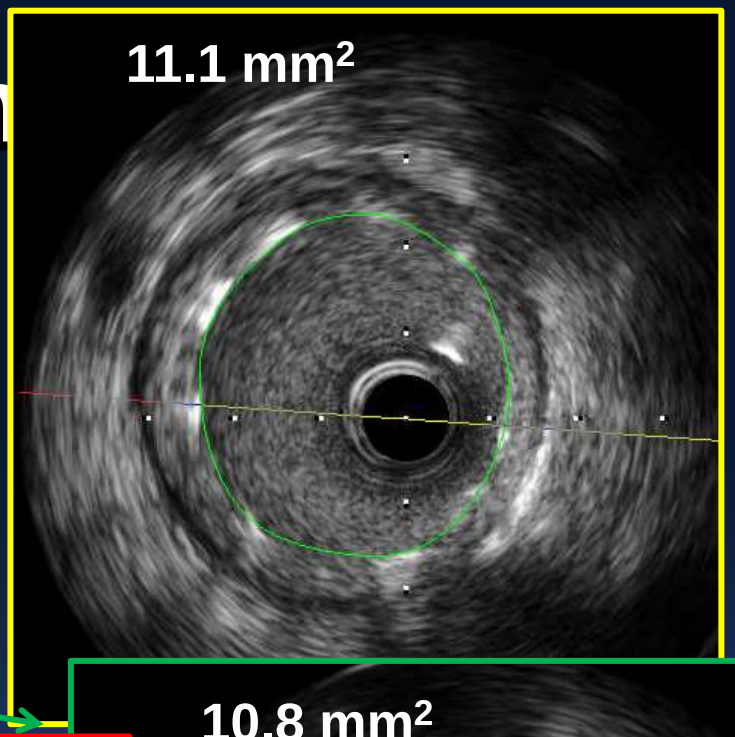


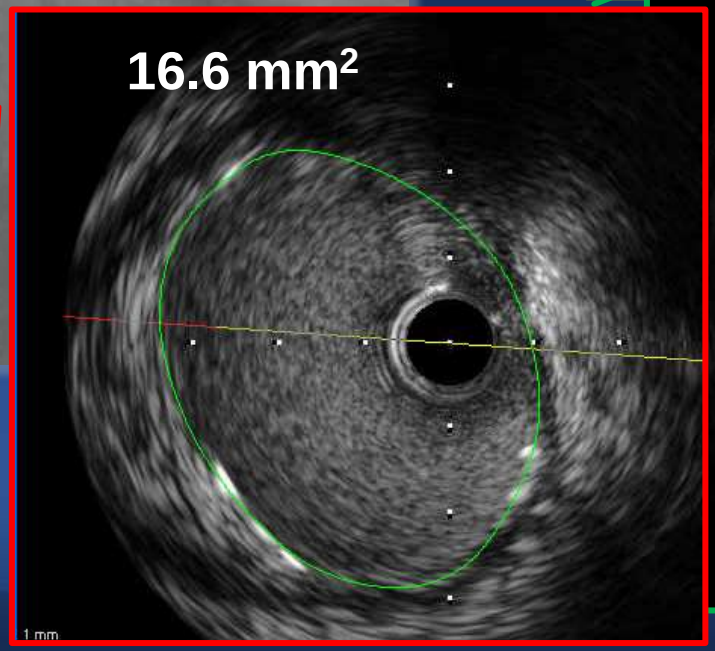
Procedure

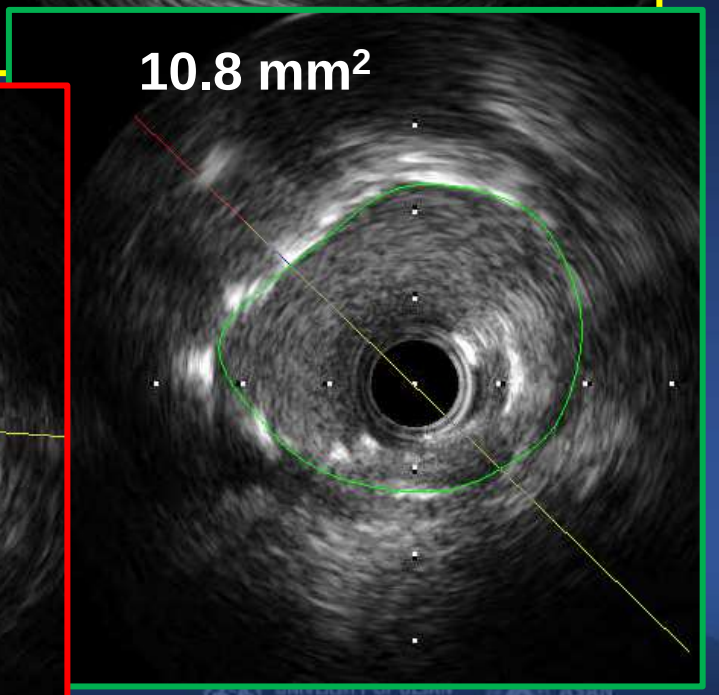


Reassure the optim









Decision Steps guided by IVUS

Treat or Not?

Stent Strategy

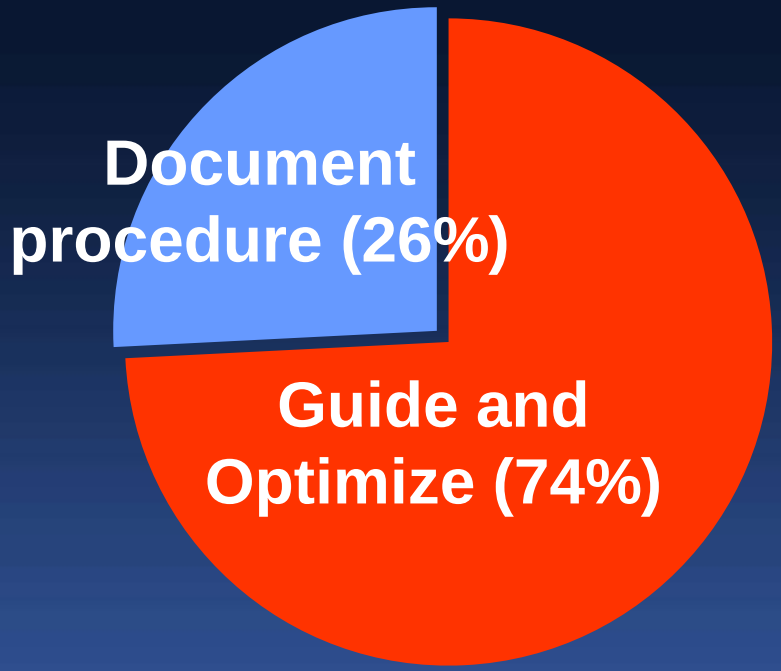
SB Jailing

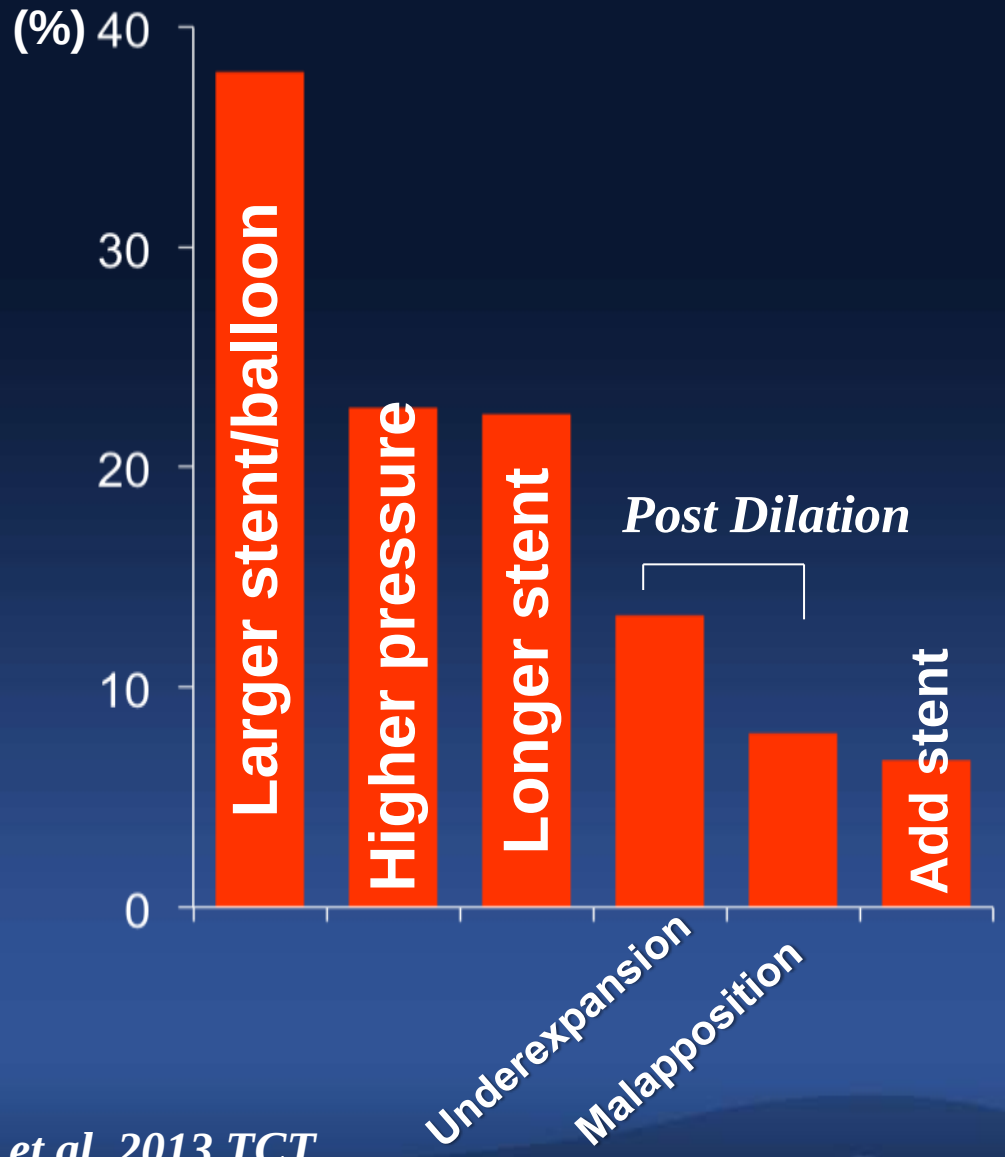
Device Sizing

Optimization

Kang et al. 2013 TCT

How IVUS Changed the Procedure?





Maehara et al. 2013 TCT

IVUS-guided Stenting Improves Patient Outcomes