

New Strategy for SVG Stenting

A Pichard

**L Satler, K Kent, R Waksman,
W Suddath, N Bernardo, H Sievert.**

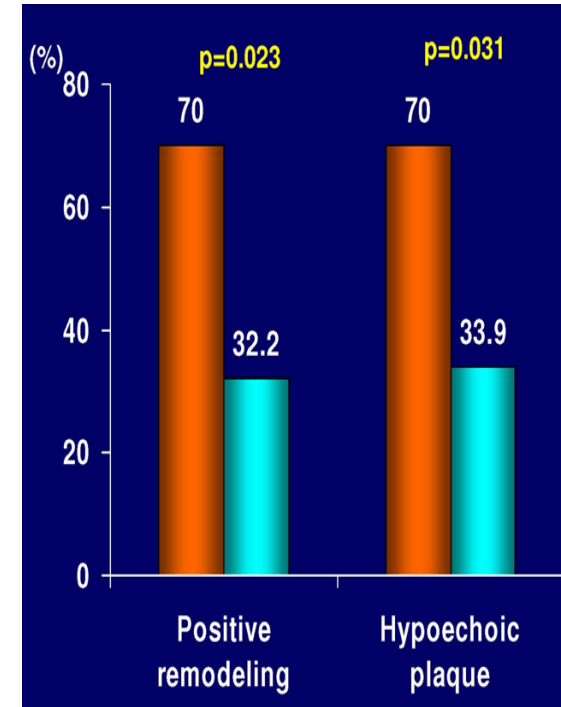
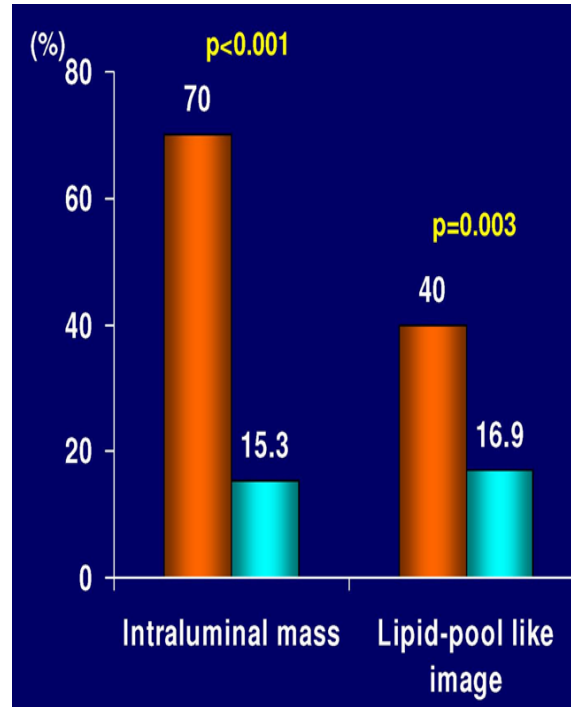
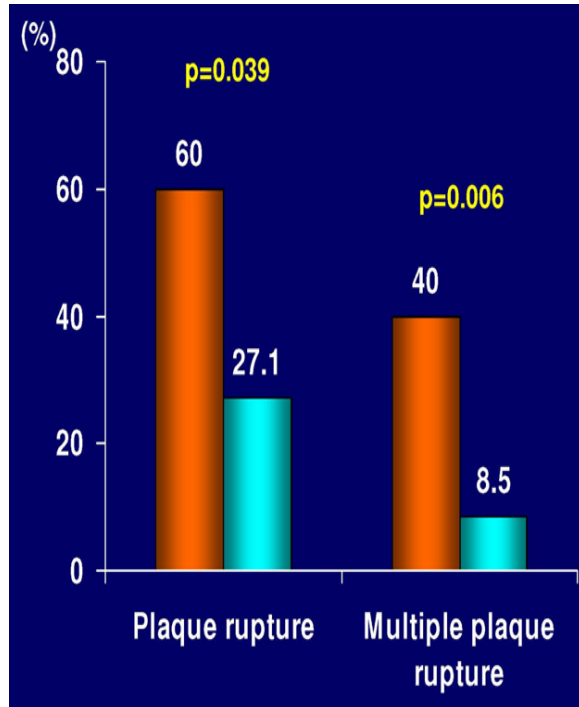
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Which lesions embolize?

- 1. Cannot predict which lesion will embolize.**
- 2. Cannot predict how severe the embolization will be.**
- 3. Significant embolization occurs in 5-20% of SVG's.**

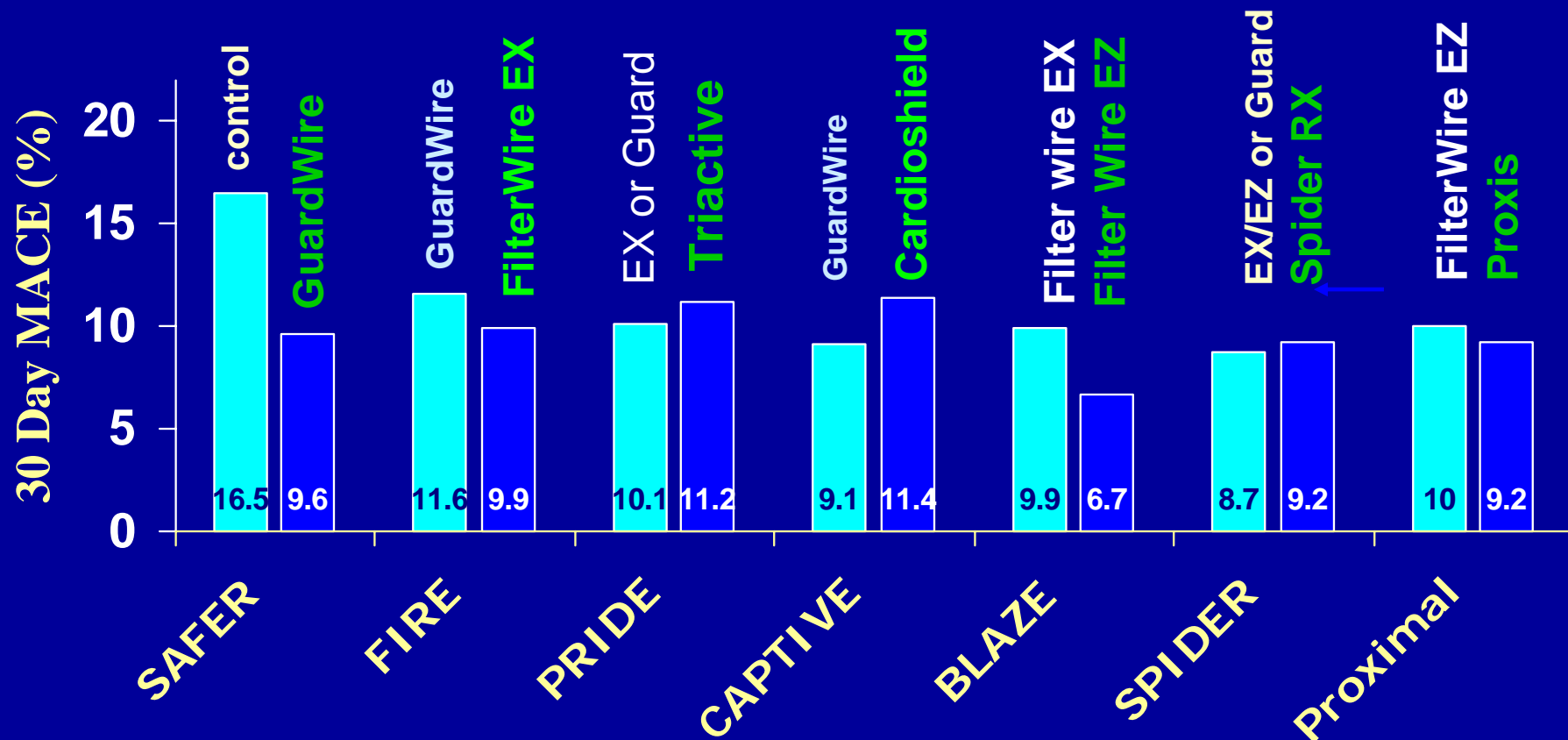
IVUS Predictors of No Reflow in SVG's.

WHC: YJ Hong et al. AJC 2006;99:179M



■ No-reflow
■ Normal reflow

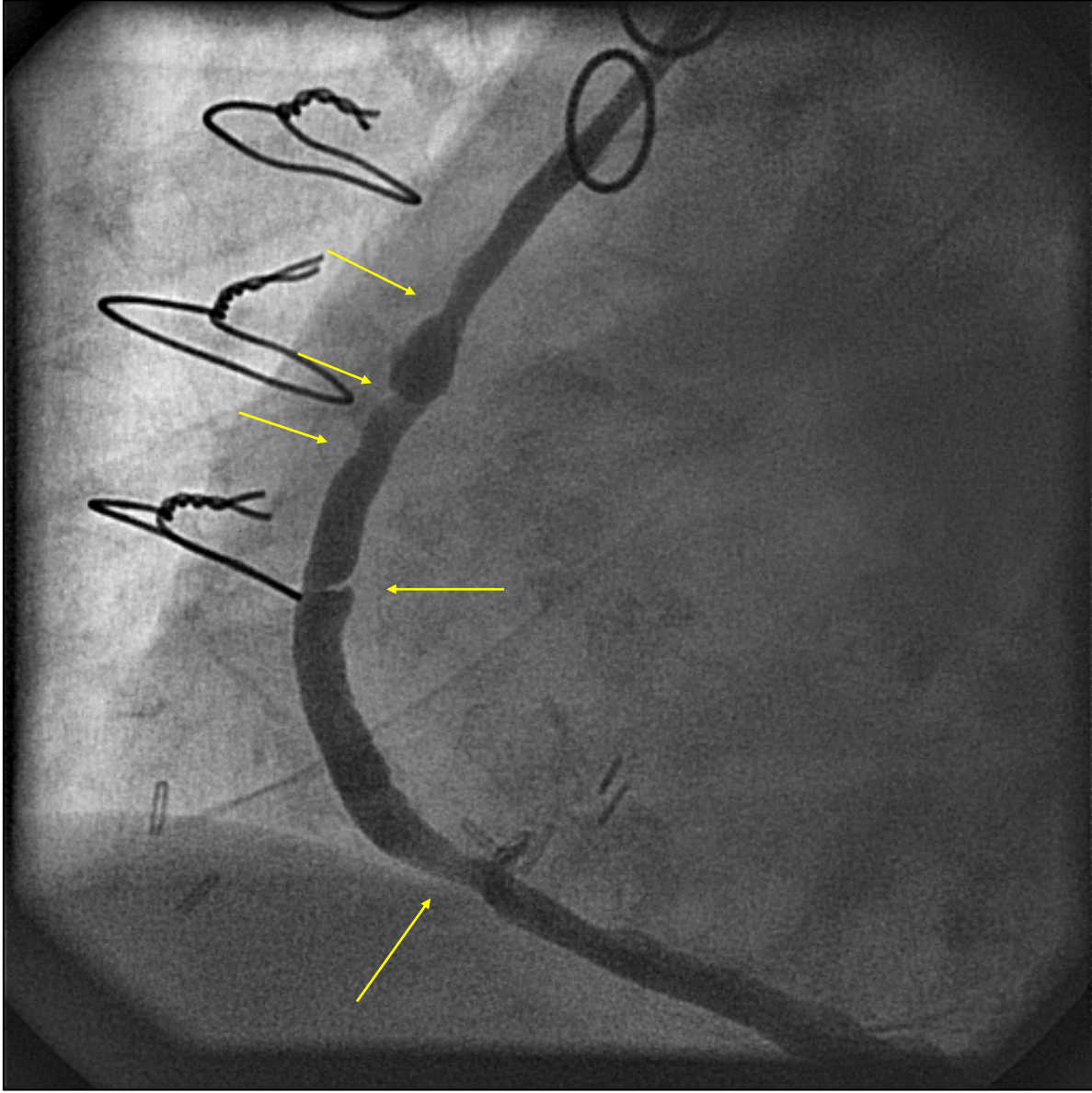
Distal Protection Devices do not eliminate distal embolization.



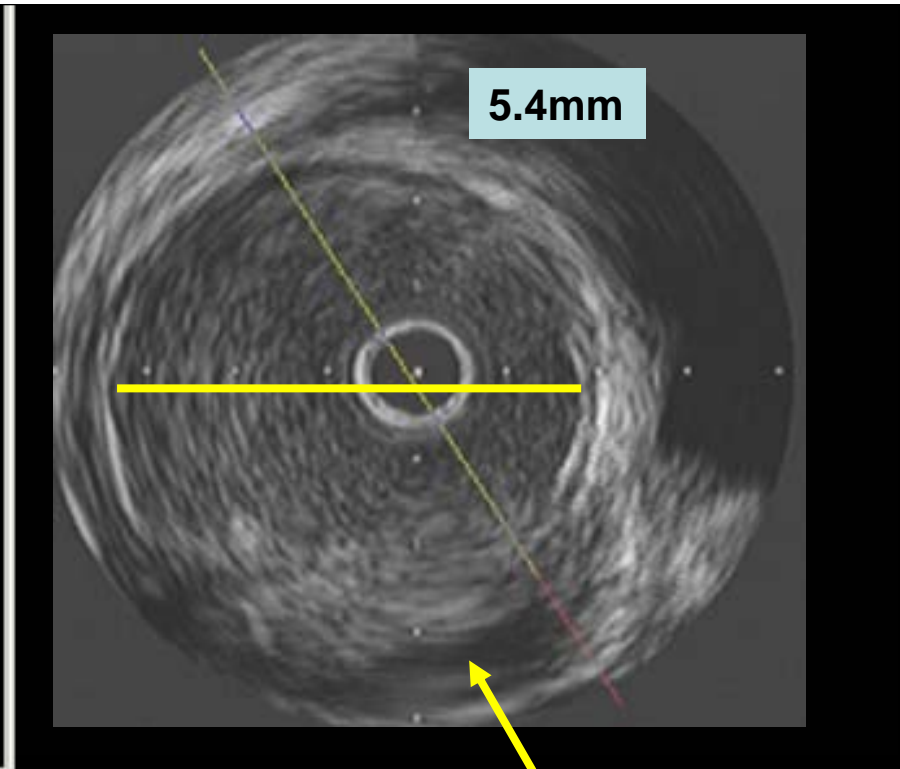
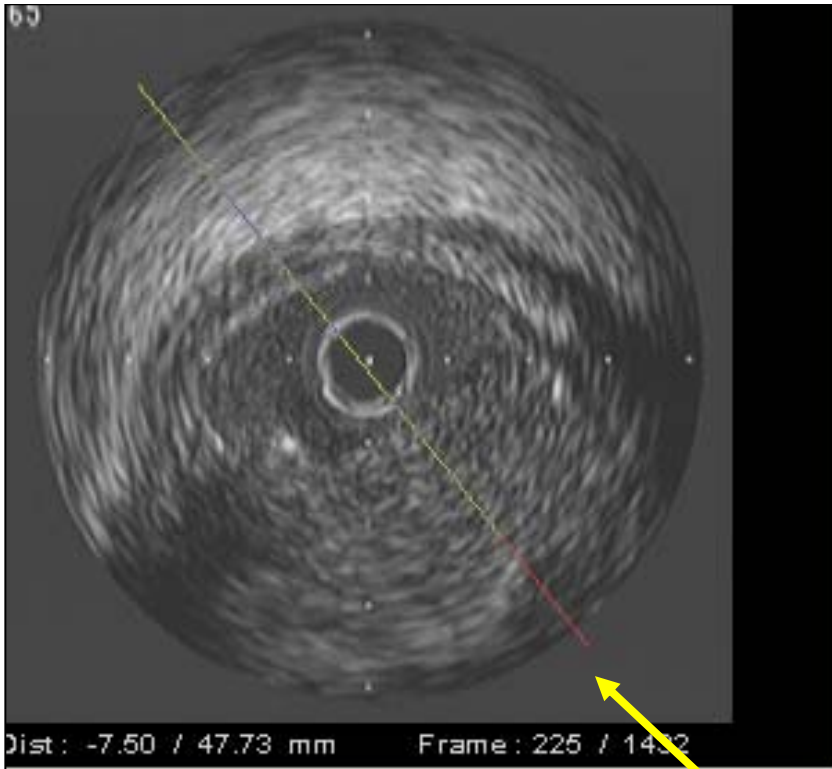
Ellis, *et al.*, JACC 1998; Vol. 32, No. 6: 1619-23
 Baim DS, *et al.*, Circulation. 2002;105:1285-1290.
 Stone GW, *et al.*, Circulation. 2003;108:548-553.
 Cox, D. presented September 2003; TCT.
 Emboshield is a registered trademark of MedNova Limited.

Strategies to Prevent Distal Embolization.

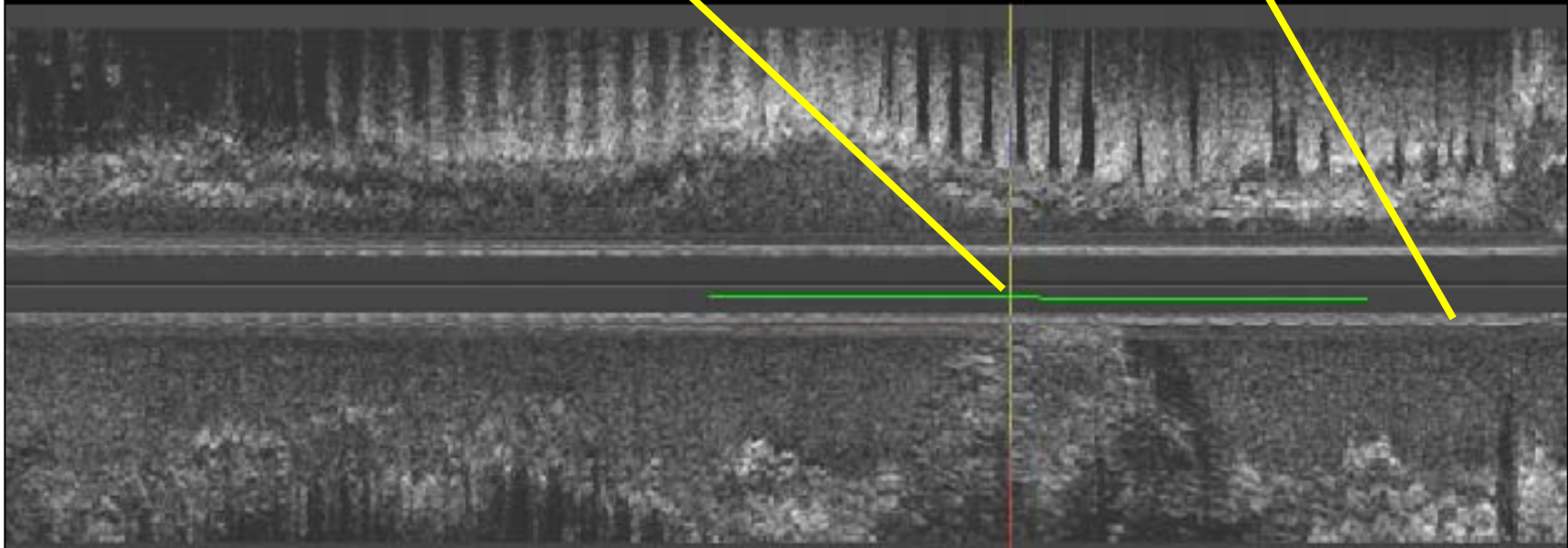
- **The safest is to use Protection Devices.**
- **Direct stenting.**
- **Low stent deployment pressure.**
- **3-10 days of Low Molecular Weight Heparin, ASA and Plavix (Toulouse Strategy).**
- **Small stent in large veins.**

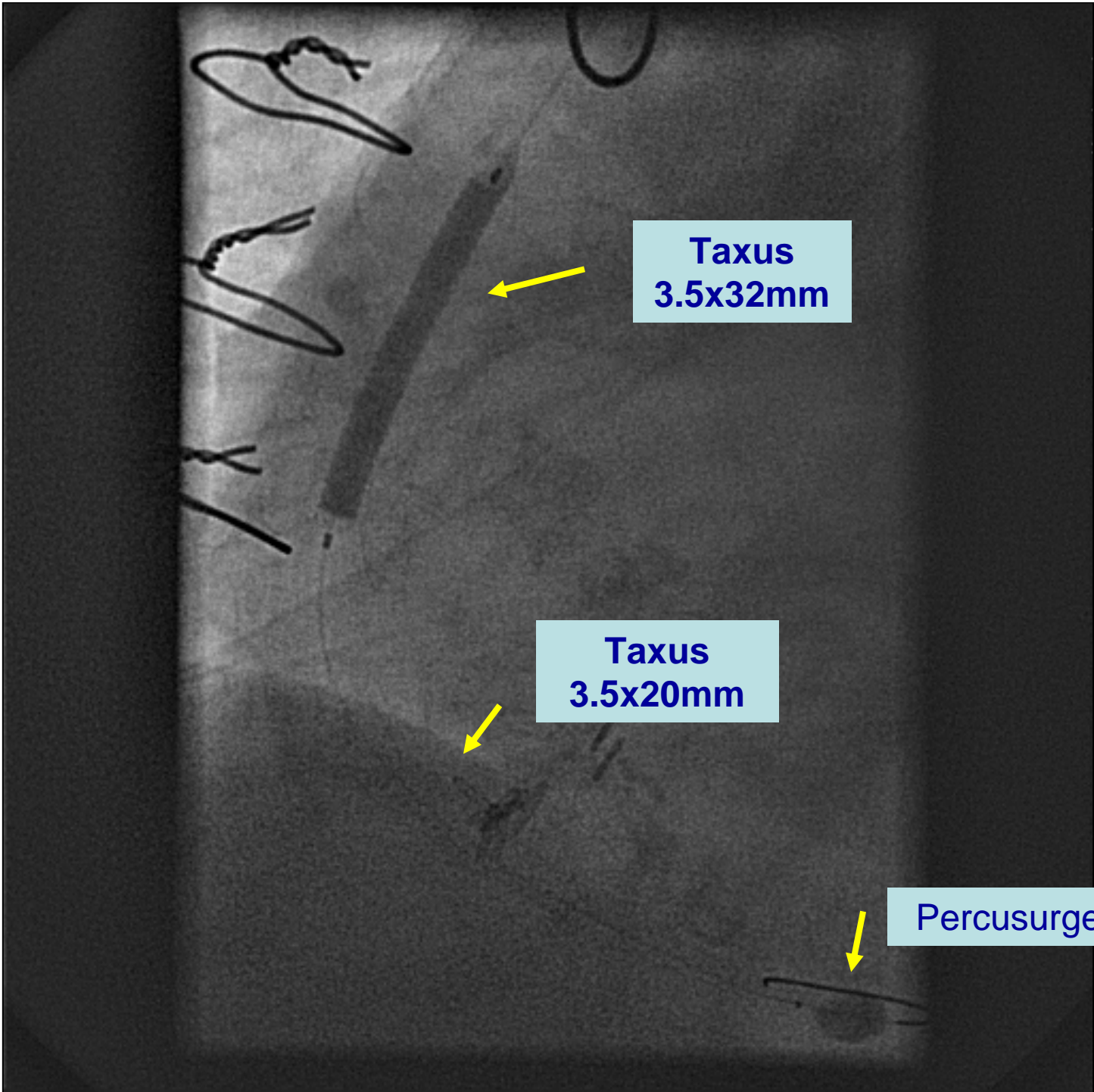


69



Dist: -7.50 / 47.73 mm Frame: 225 / 1432

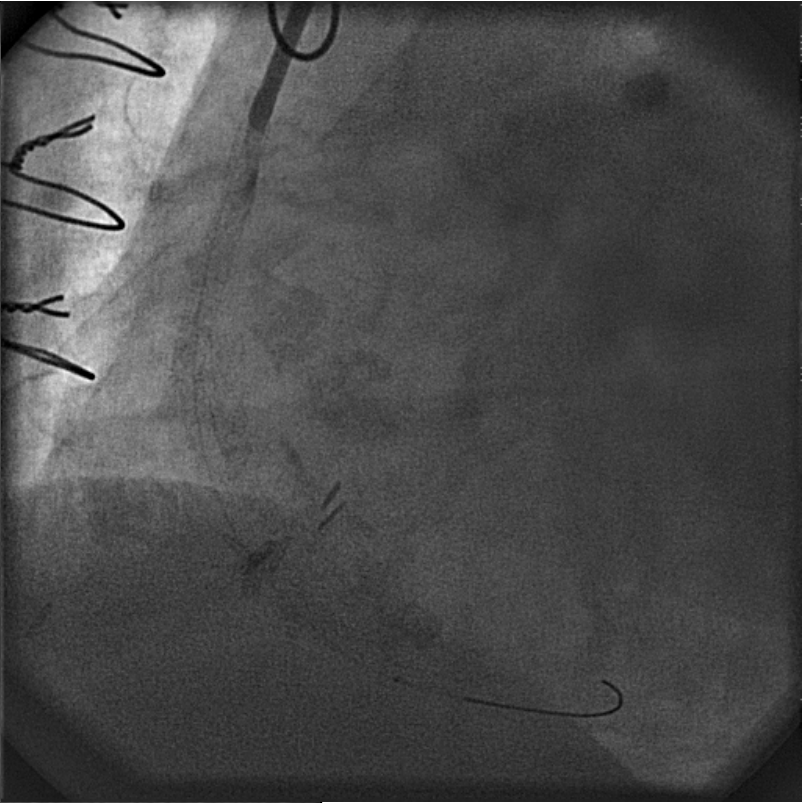
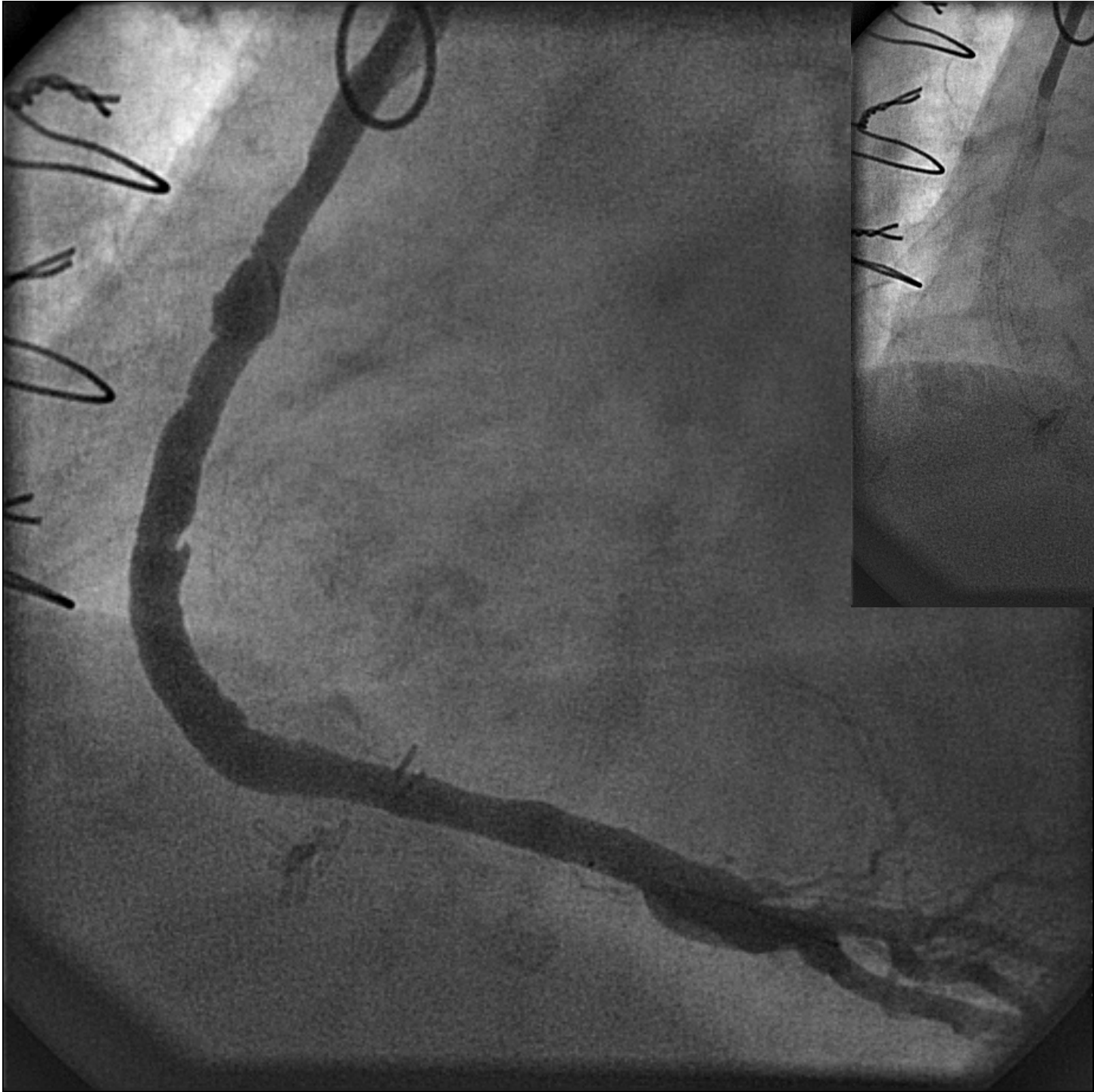


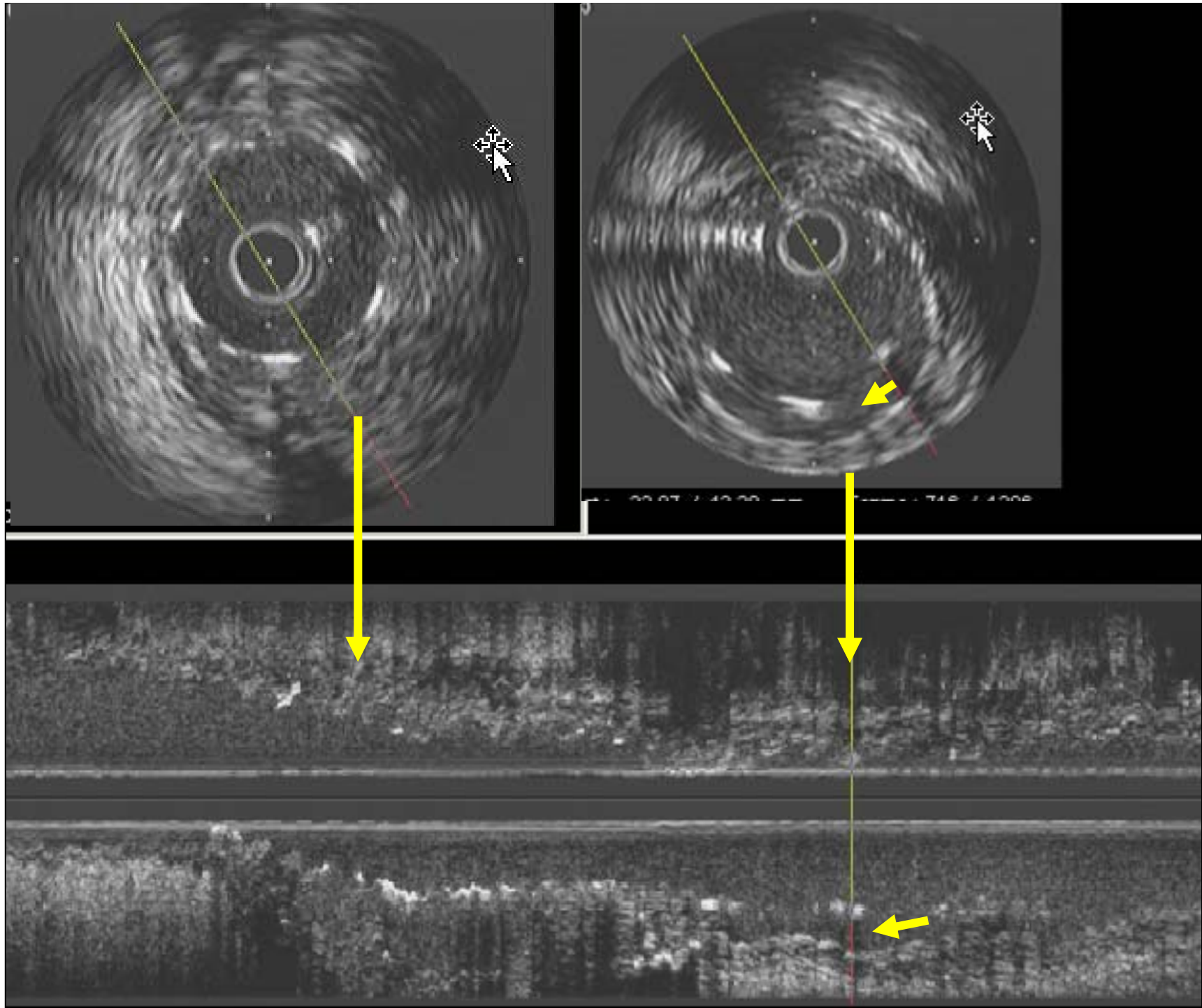


**Taxus
3.5x32mm**

**Taxus
3.5x20mm**

Percusurge



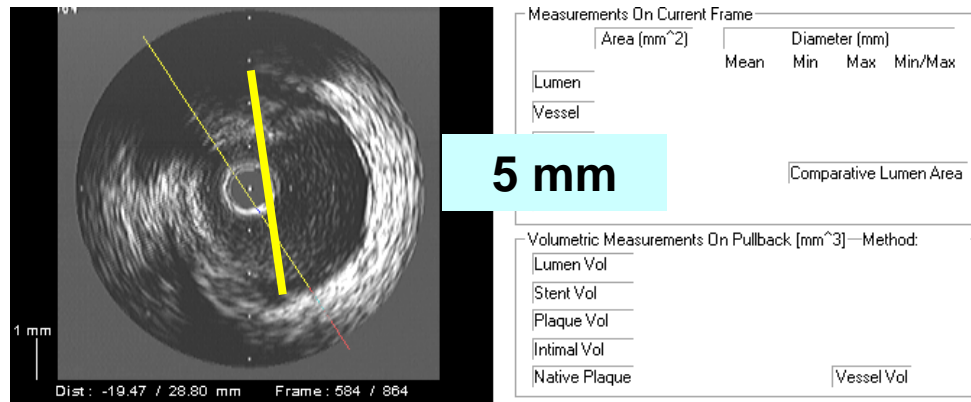


SVG to LAD with Soft Plaque

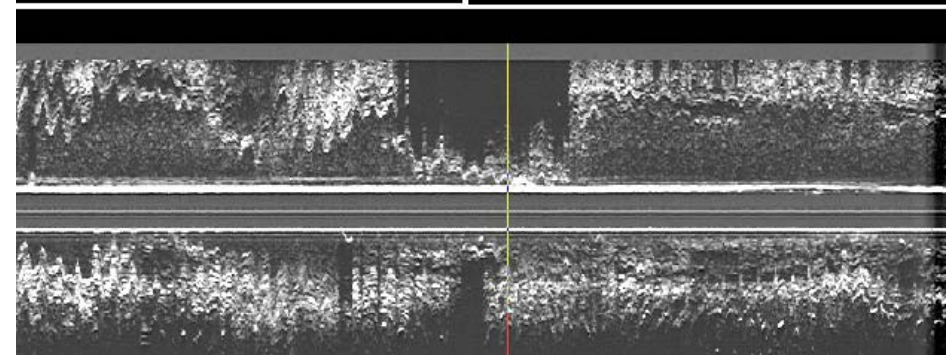
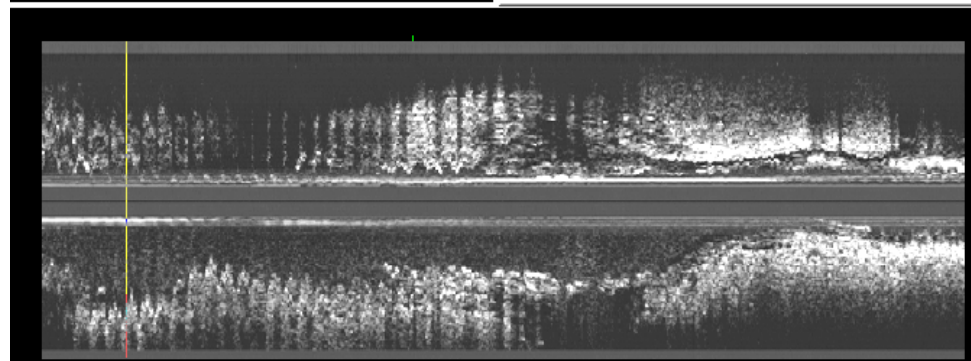
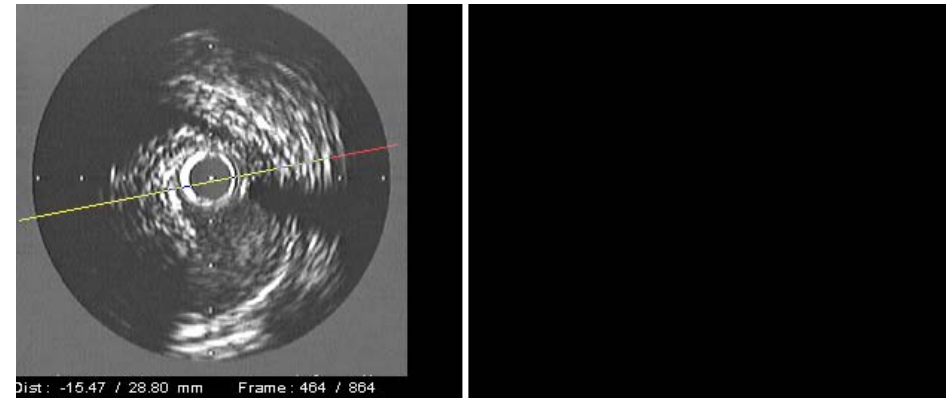


SVG to LAD.

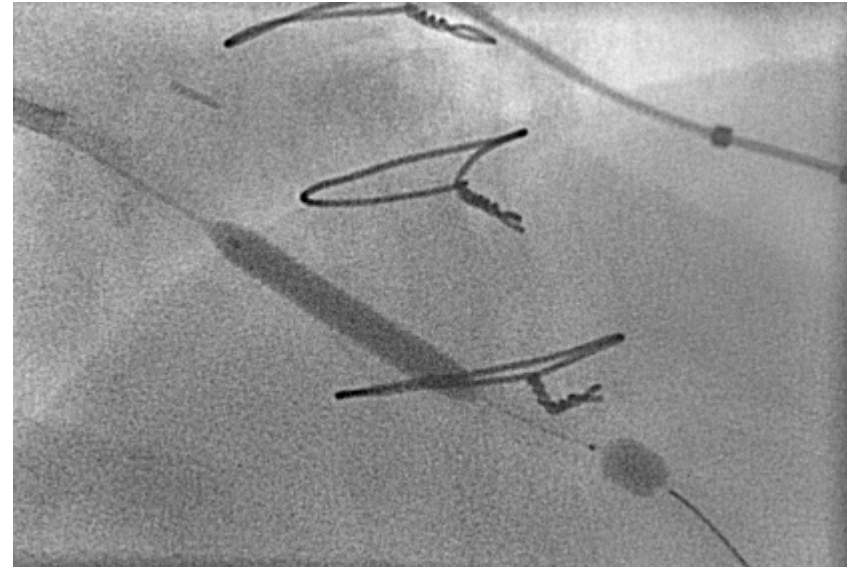
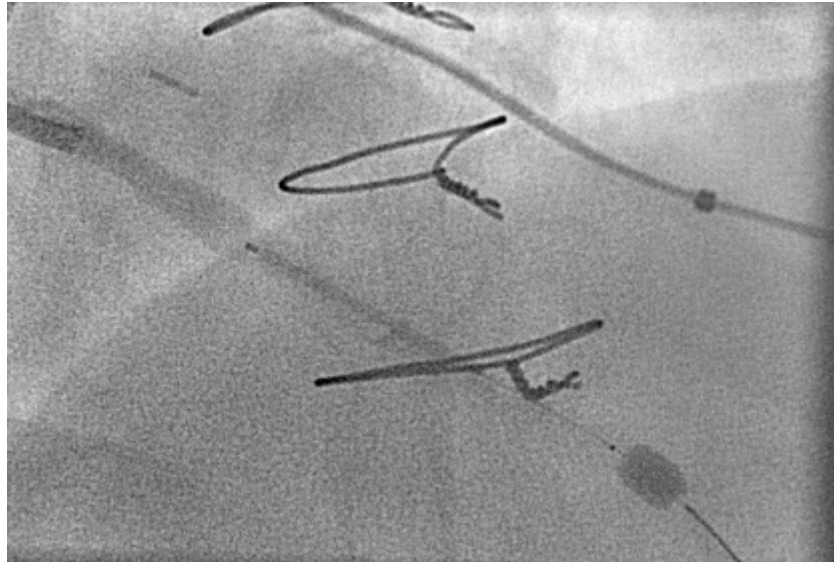
Reference Vessel

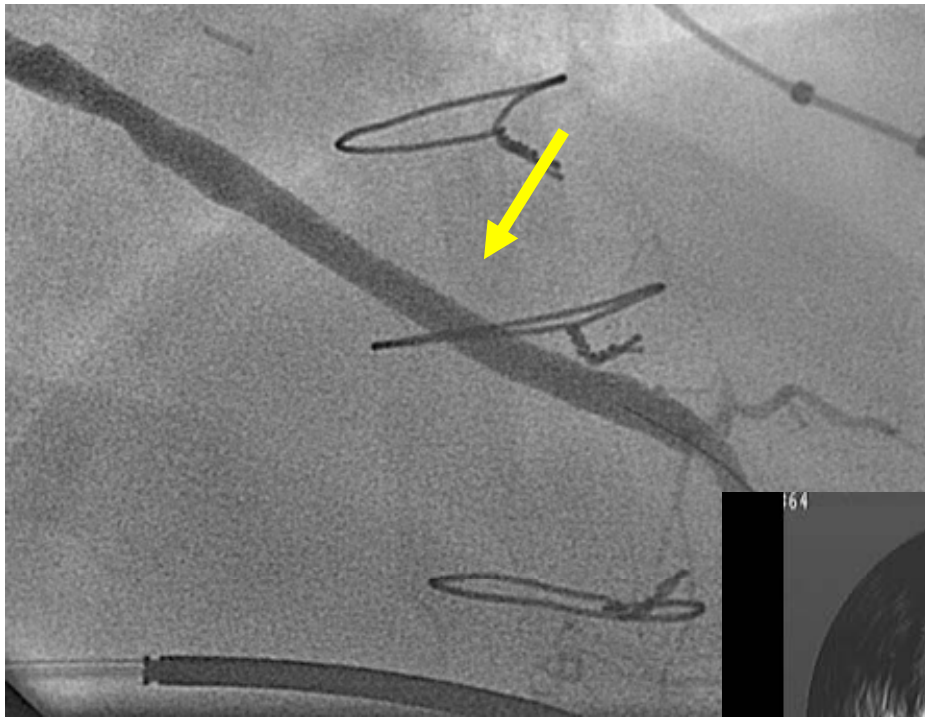


Soft Plaque

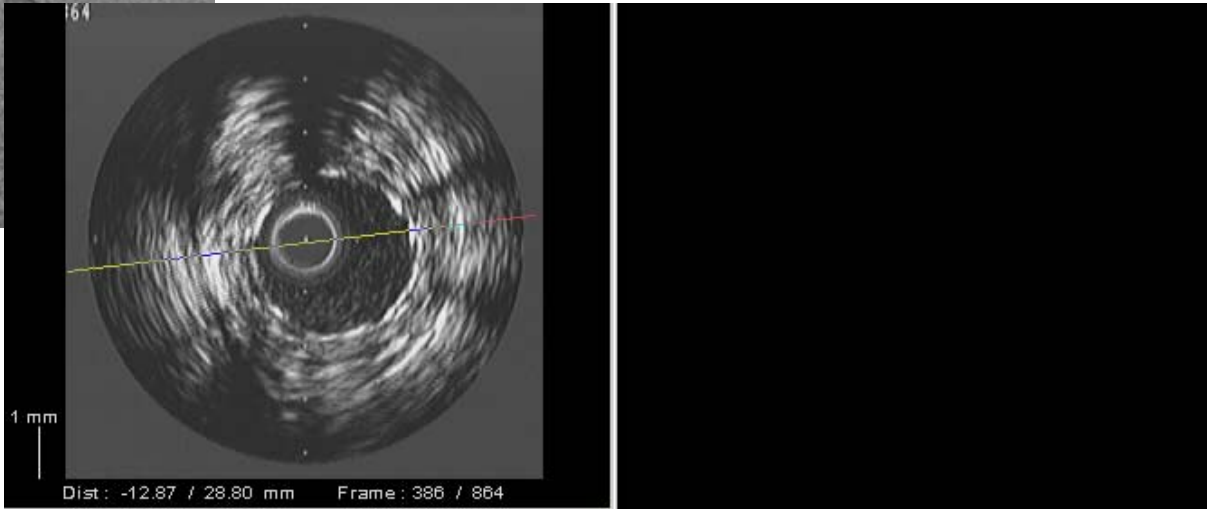


3.5mm drug eluting stent and Percusurge distal protection

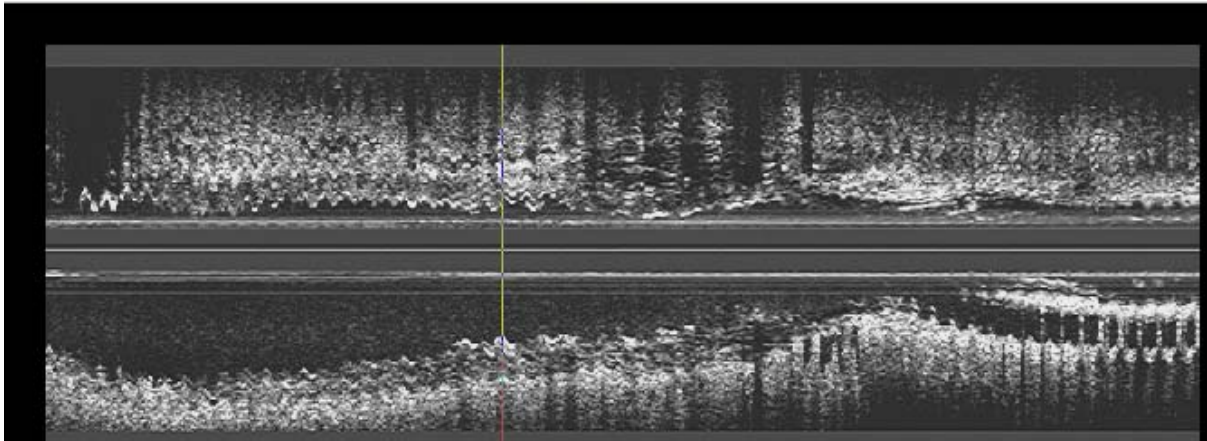


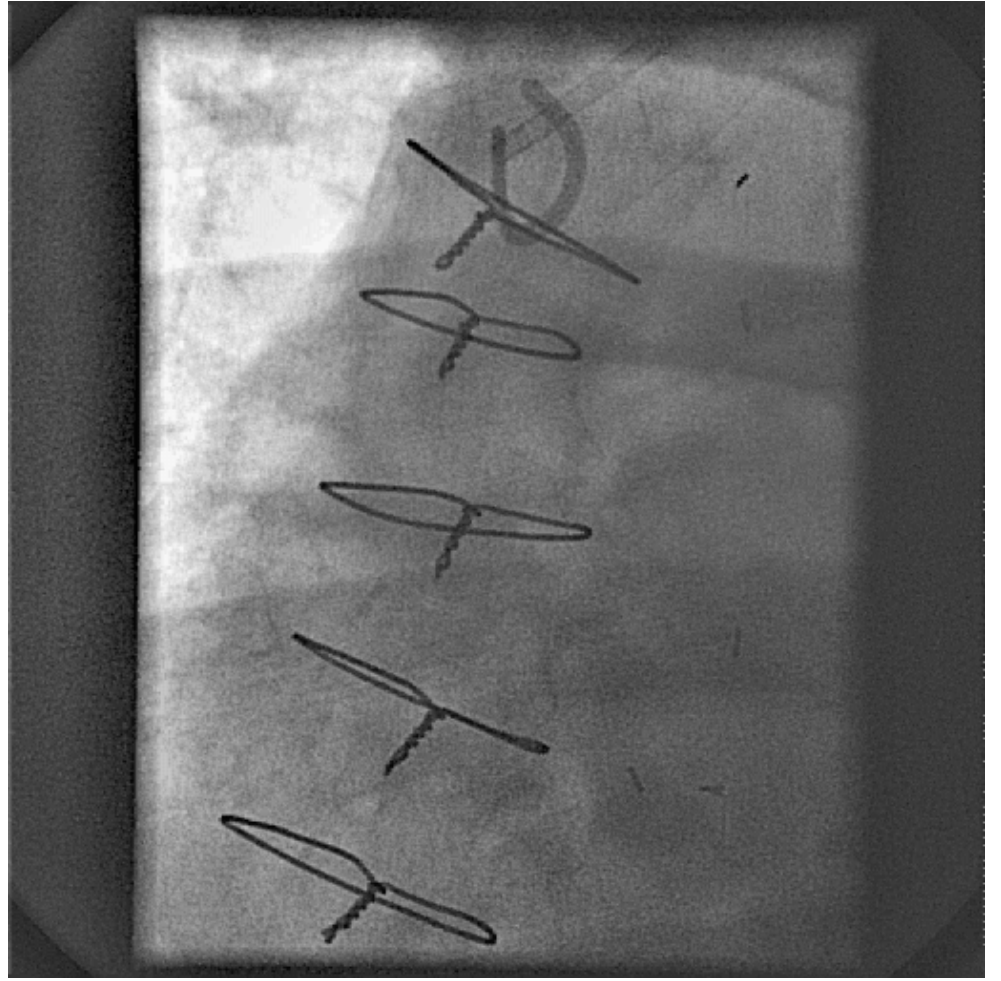
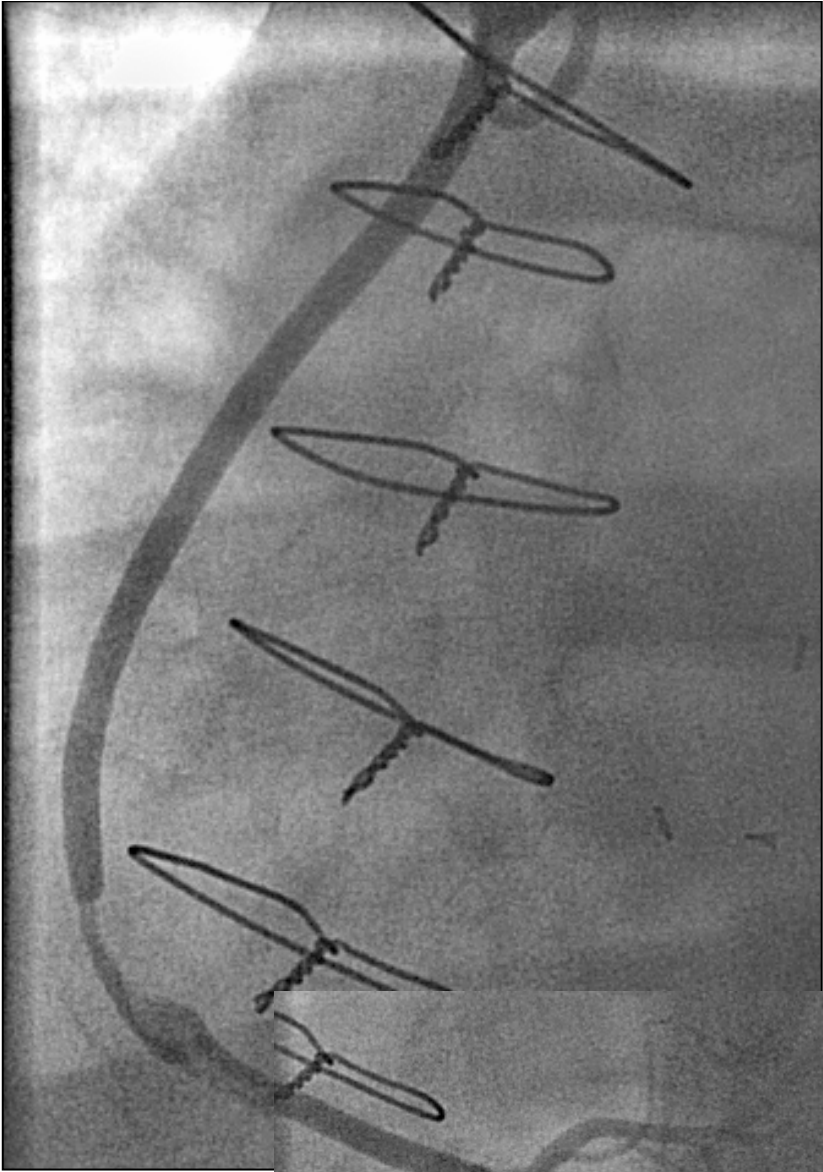


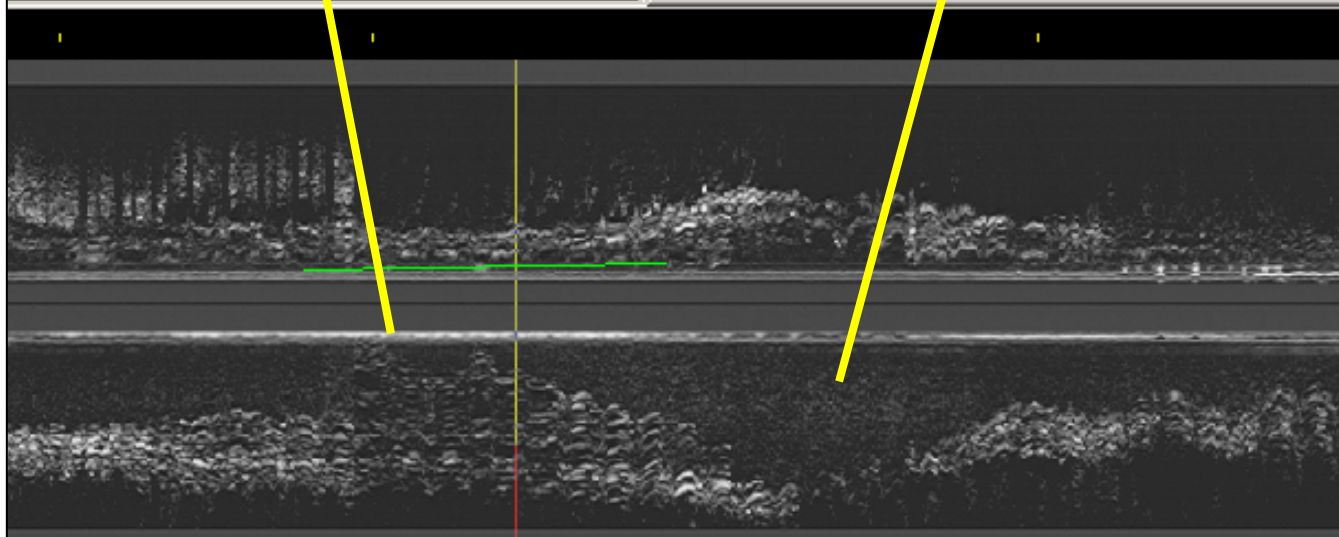
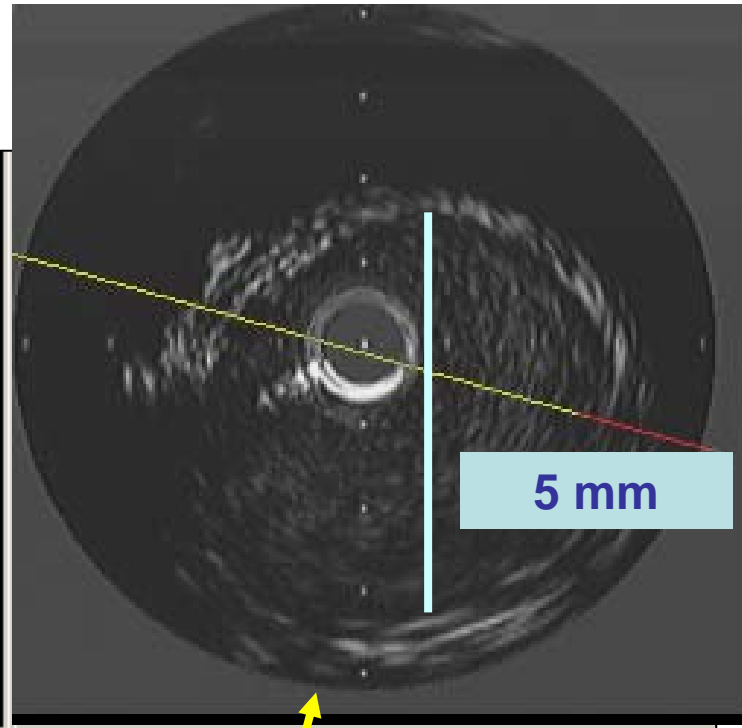
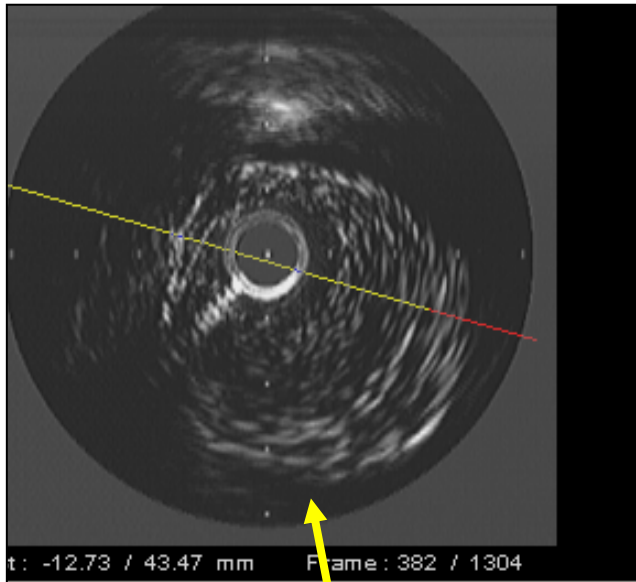
Final Result

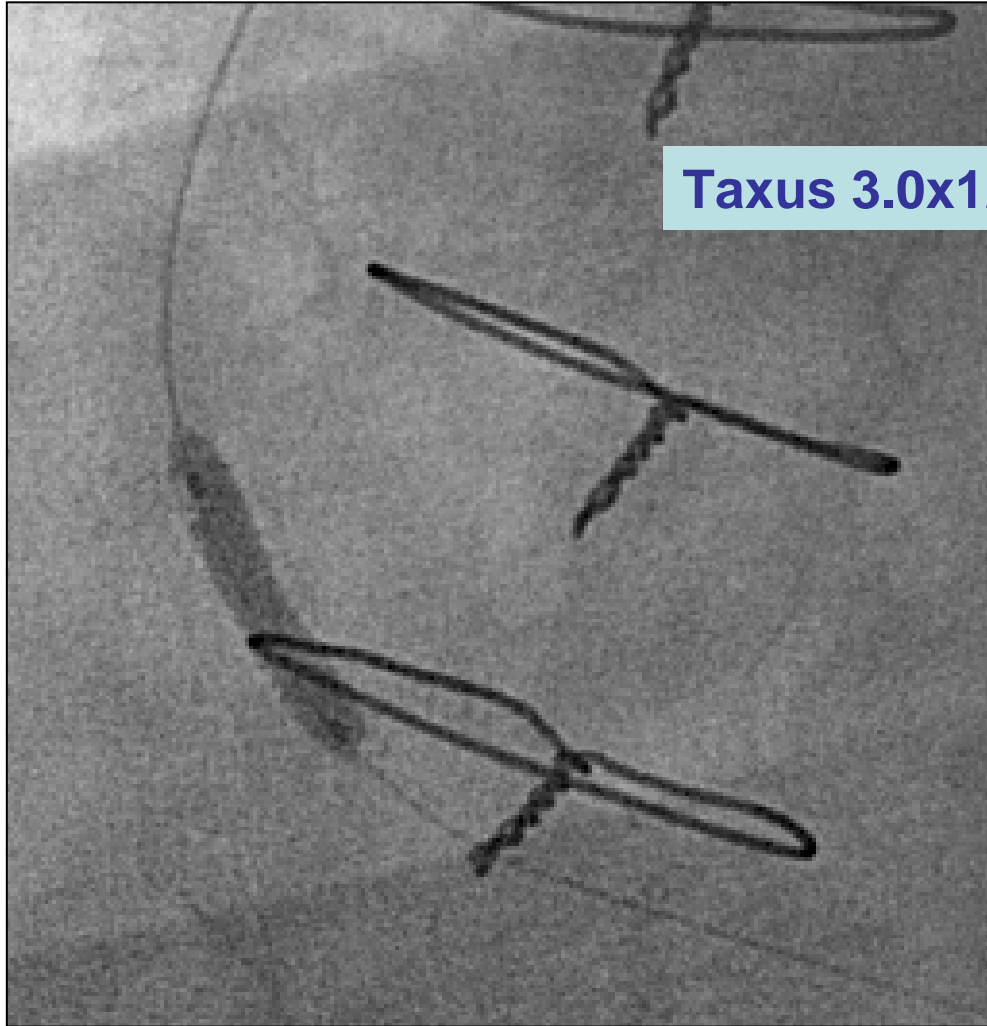


No material retrieved in aspirated blood

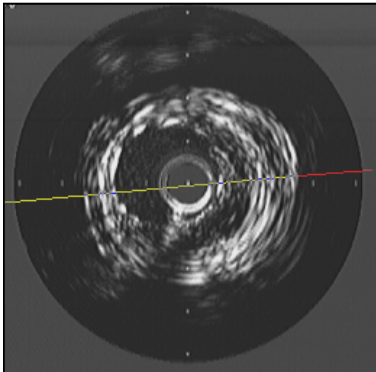
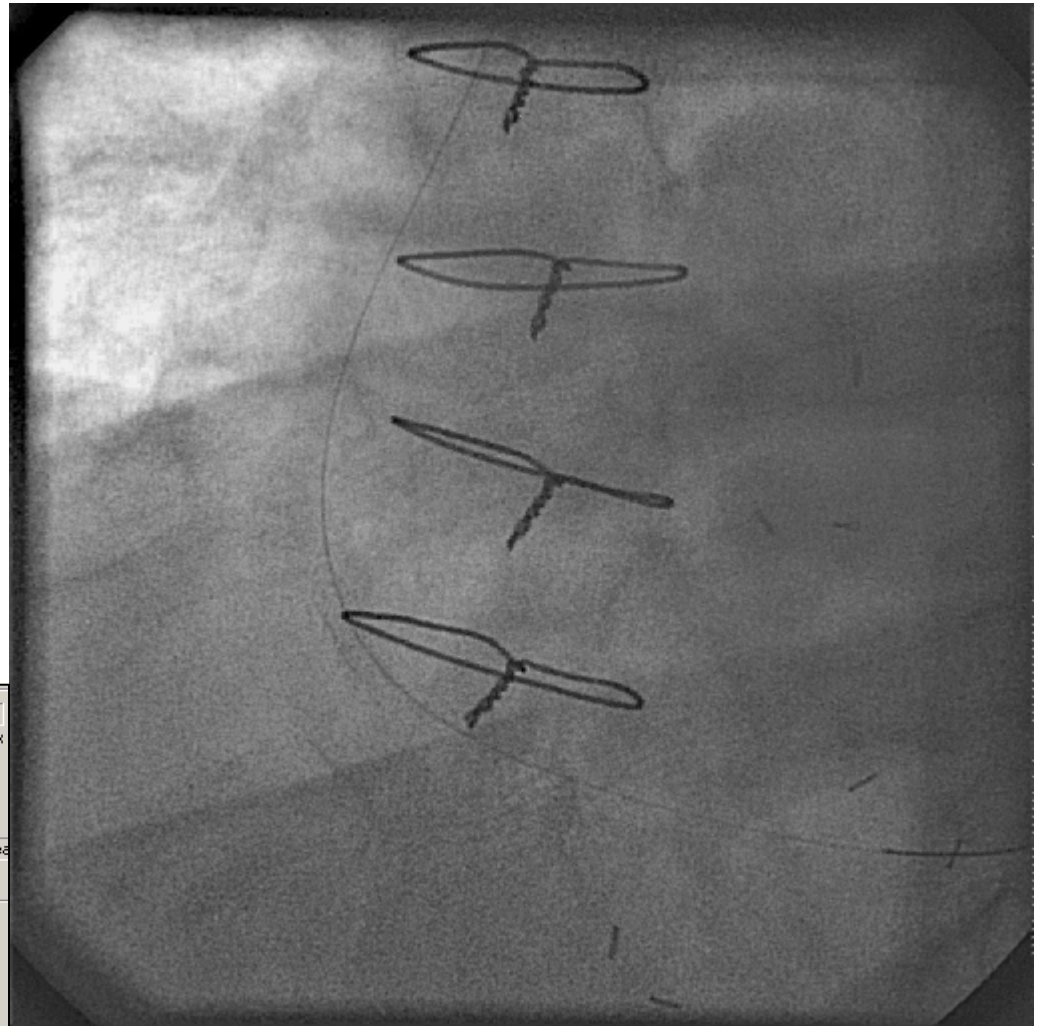
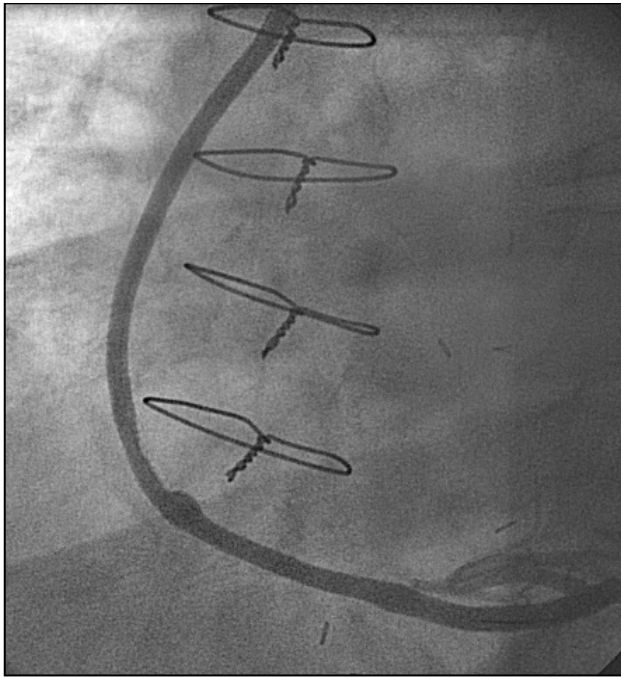








Taxus 3.0x12 mm



ist : -8.80 / 22.93 mm Frame : 264 / 688

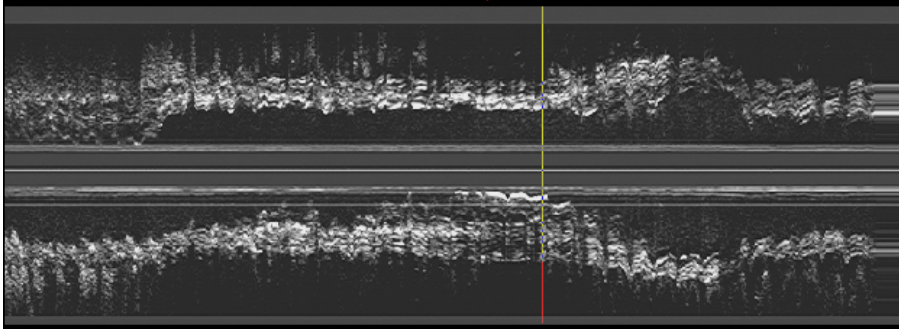
Measurements On Current Frame

Area (mm ²)	Diameter (mm)			
	Mean	Min	Max	Min/Max
Lumen				
Vessel				
Stent				
Plaque				
NIH				

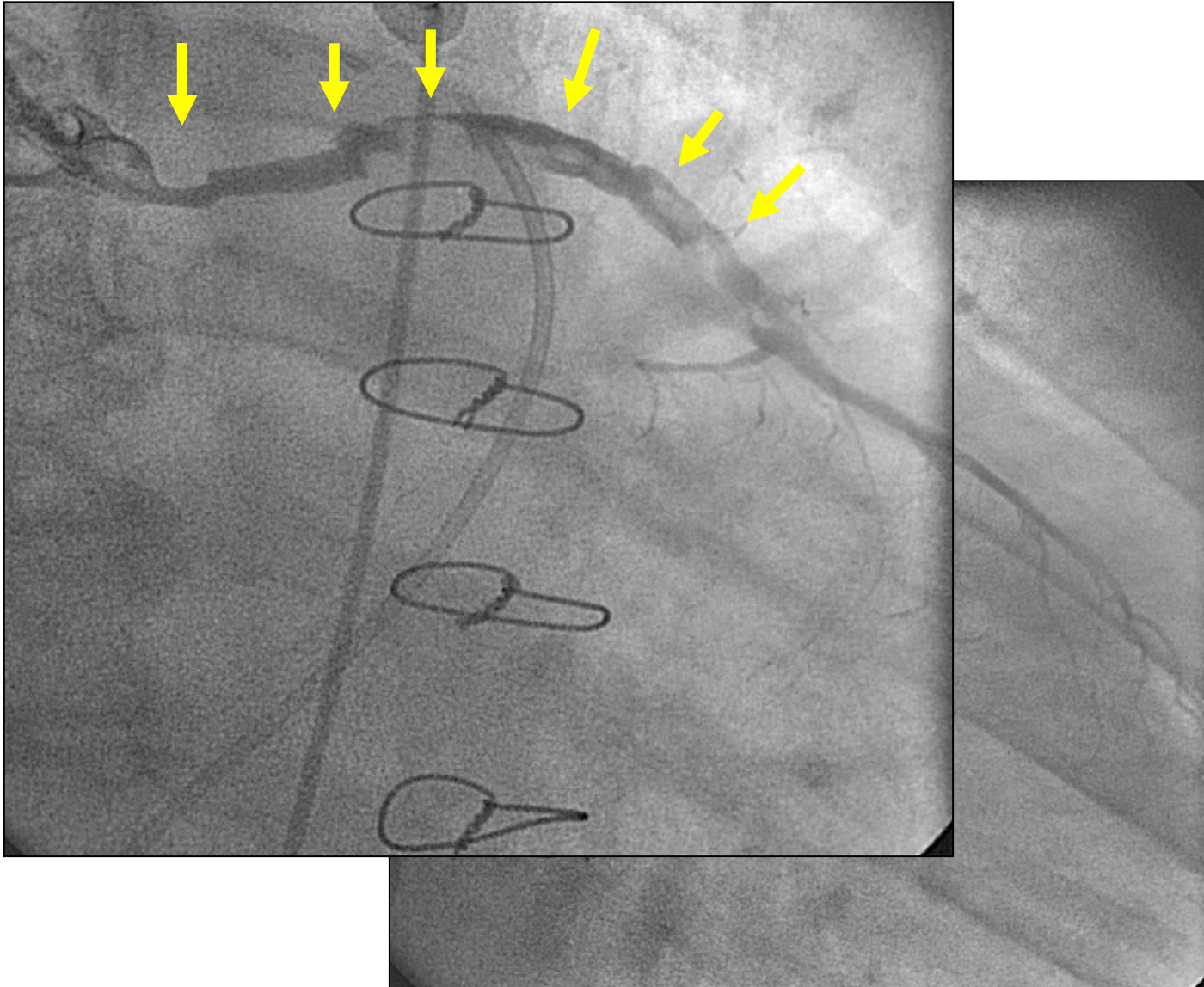
Comparative Lumen Area

Volumetric Measurements On Pullback [mm³]—Method:

Lumen Vol	
Stent Vol	
Plaque Vol	
Intimal Vol	
Native Plaque	
Vessel Vol	

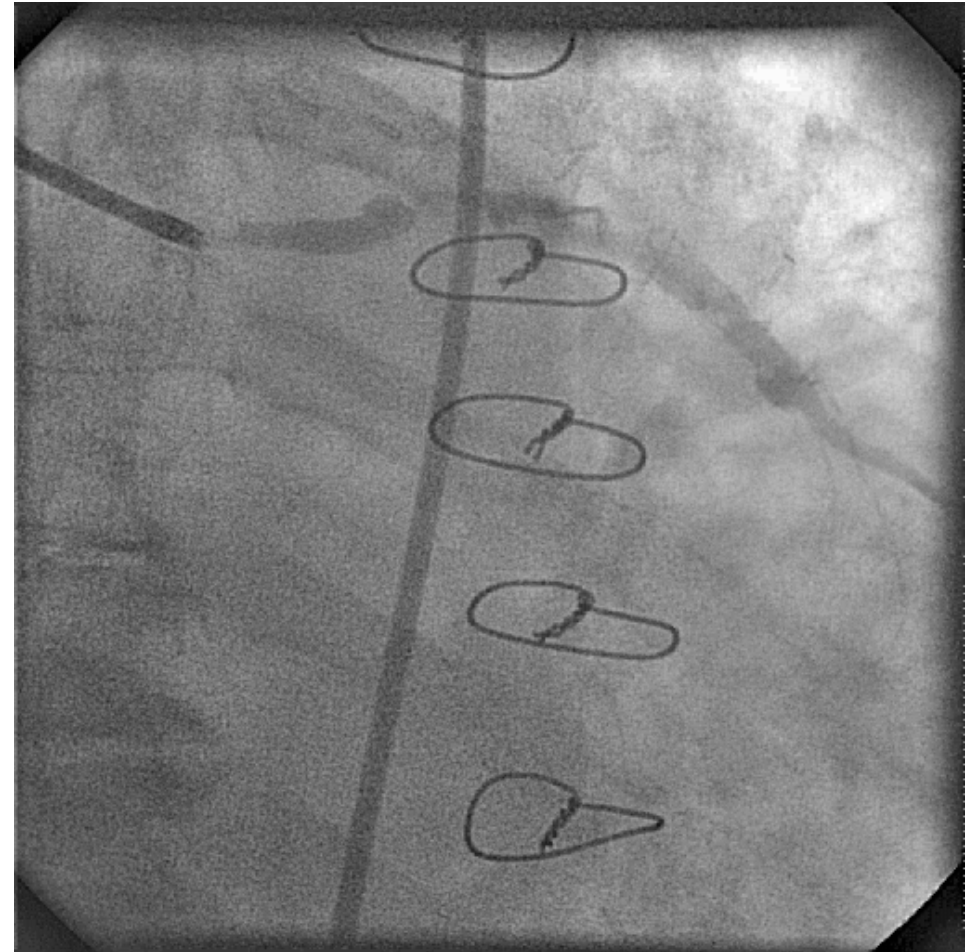
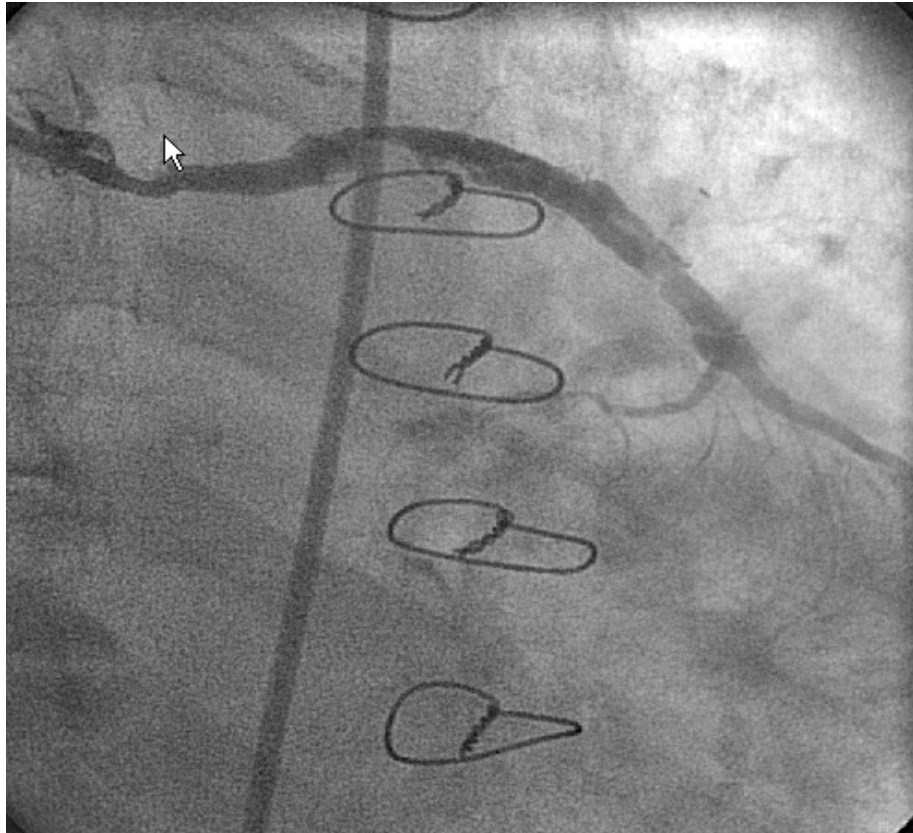


10 y.o. SVG to Diagonal



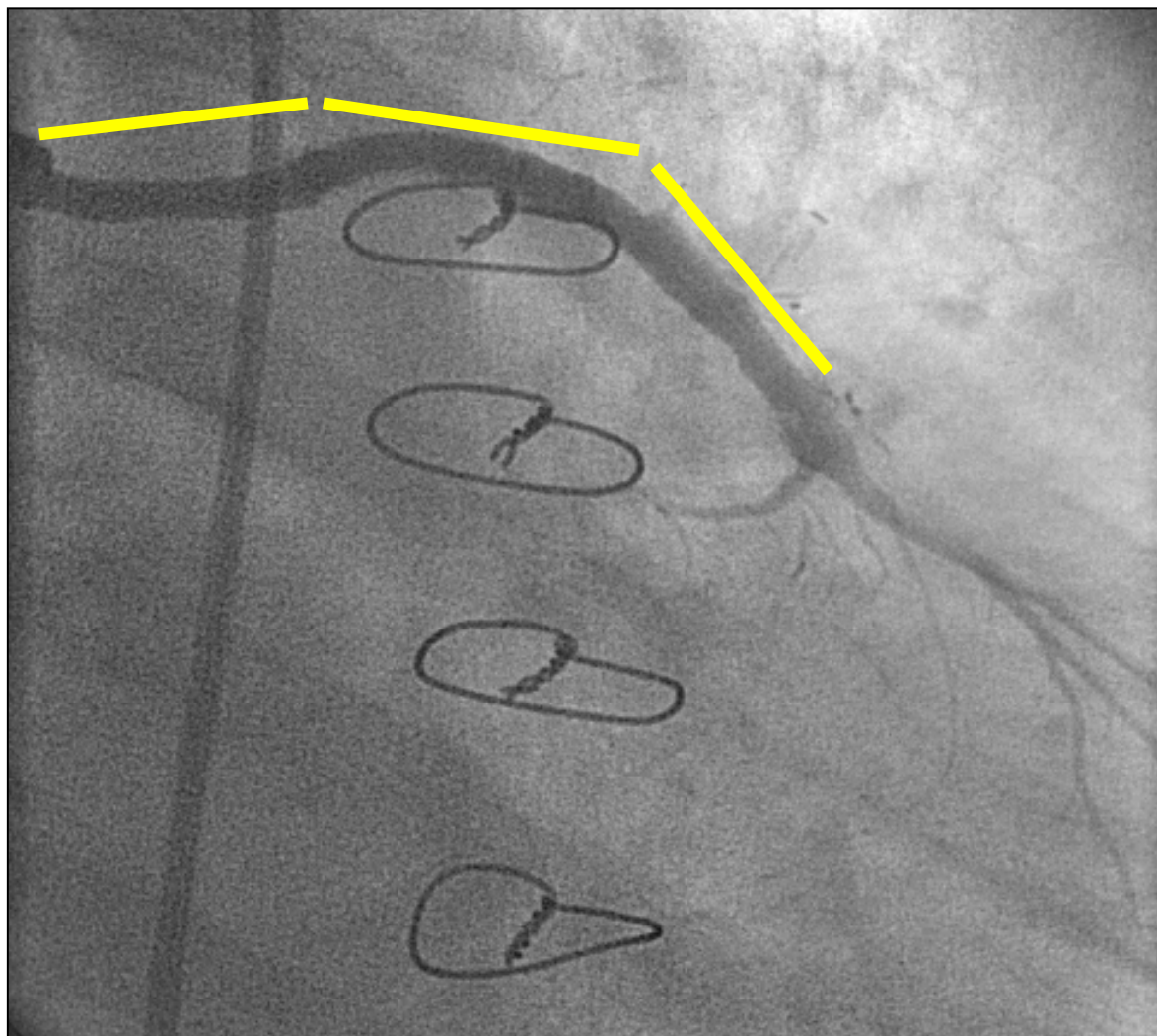
ACS with +Troponins.

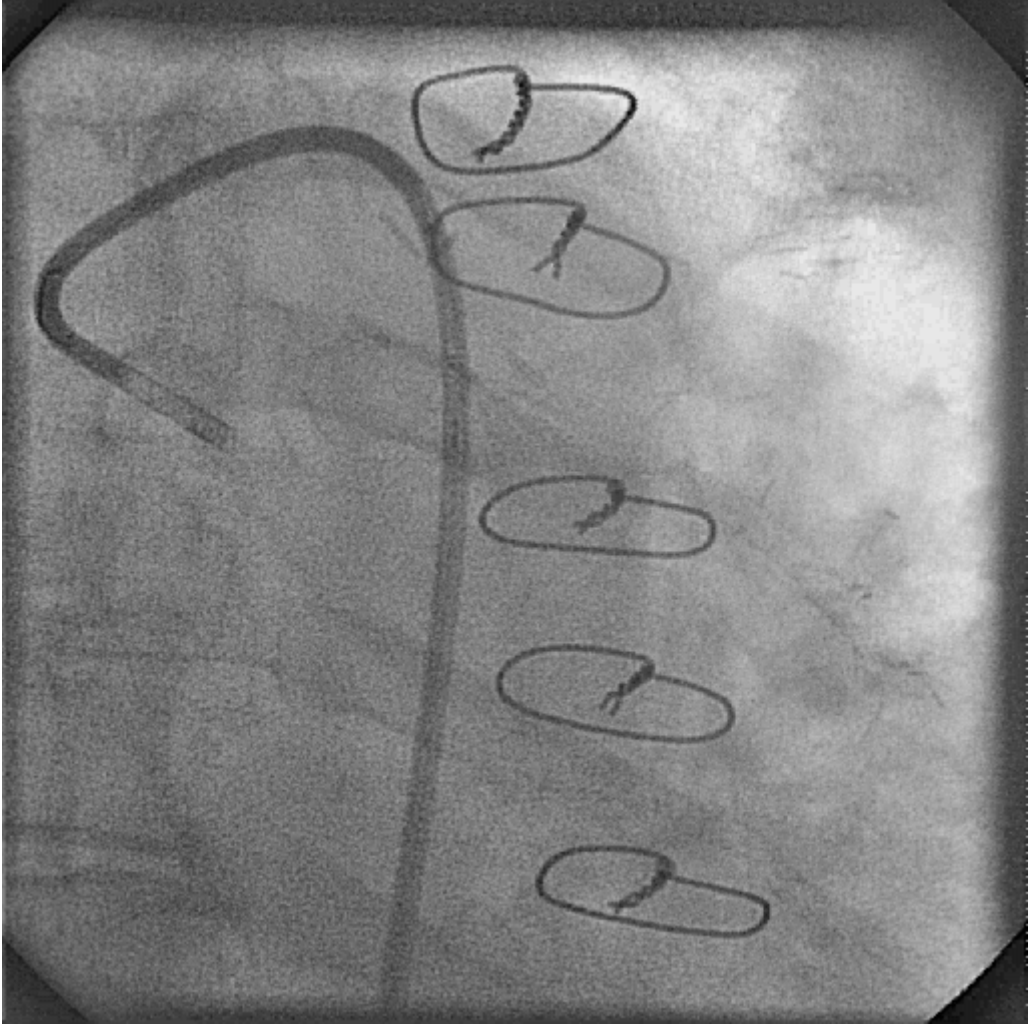
After 3 days of Lovenox, 2B3A and Plavix

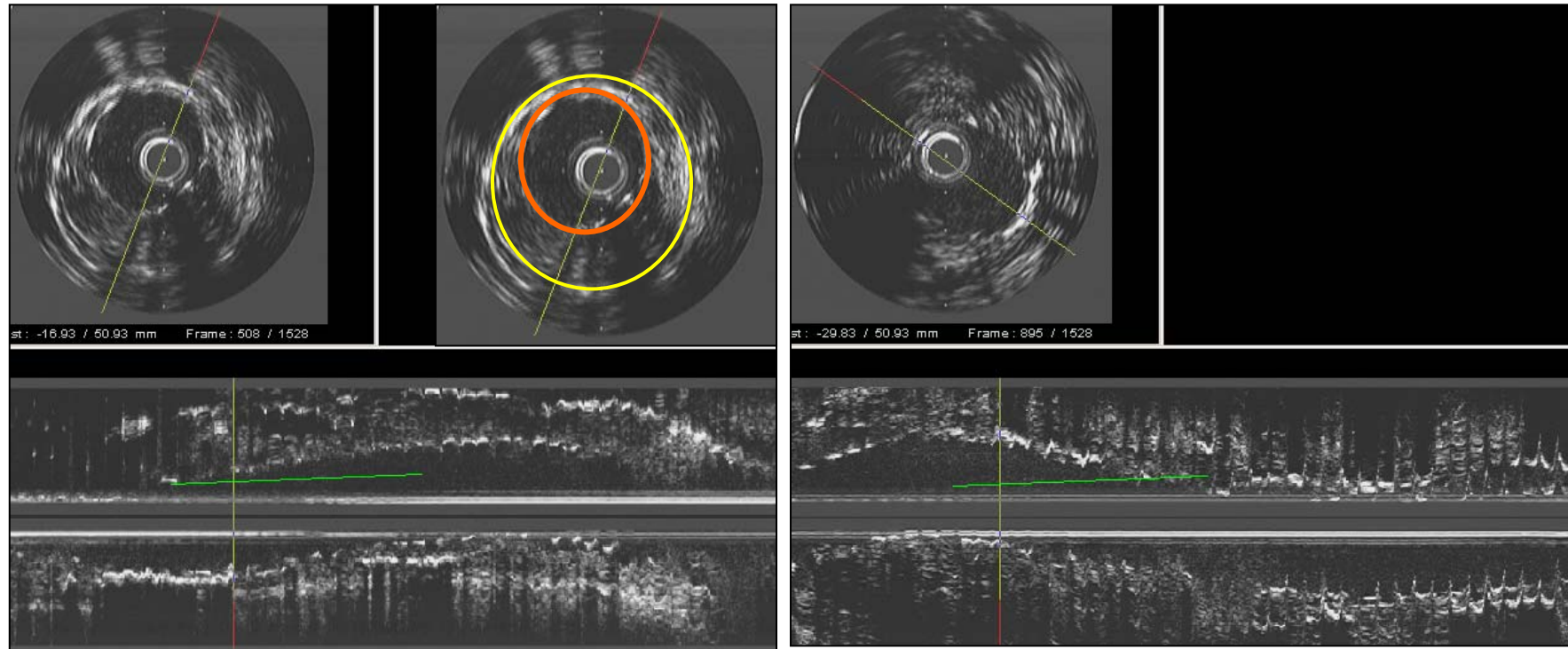


Troponins remained positive all three days

Three long 3 mm stents



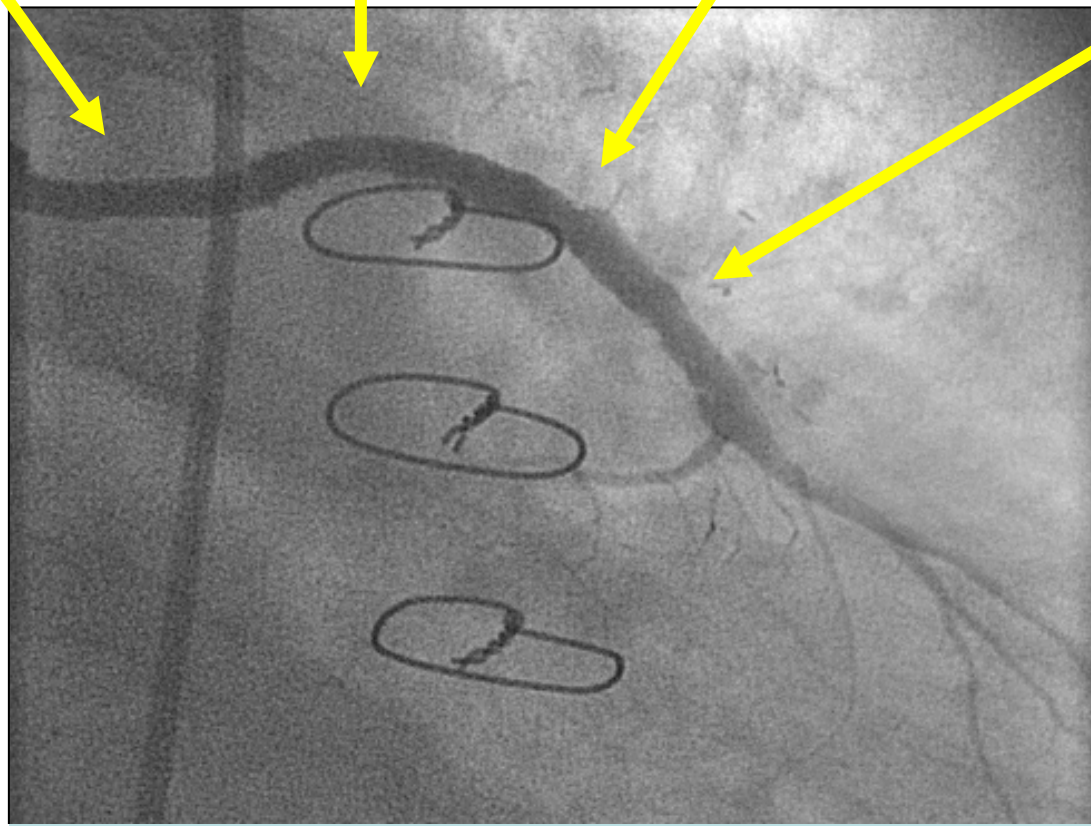
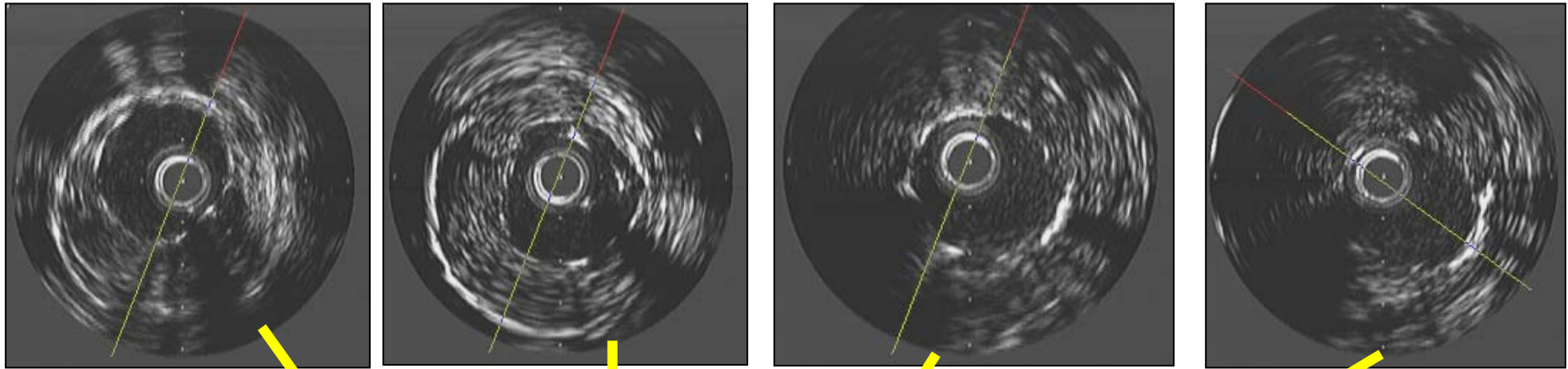




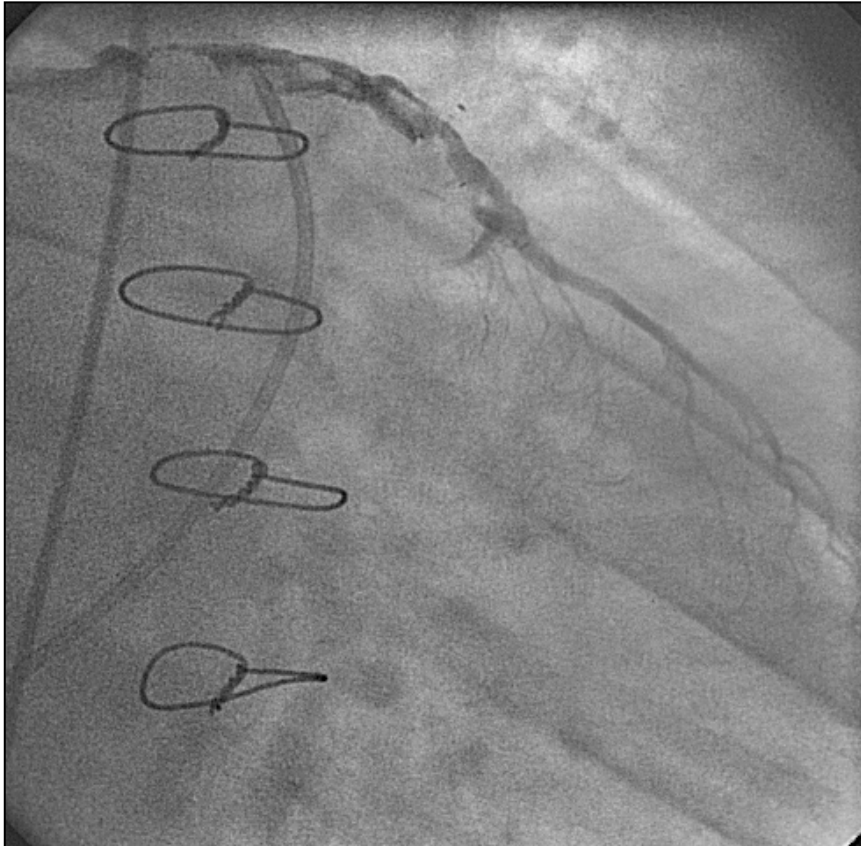
Uniform 3x3 mm stent lumen.

No plaque prolapse.

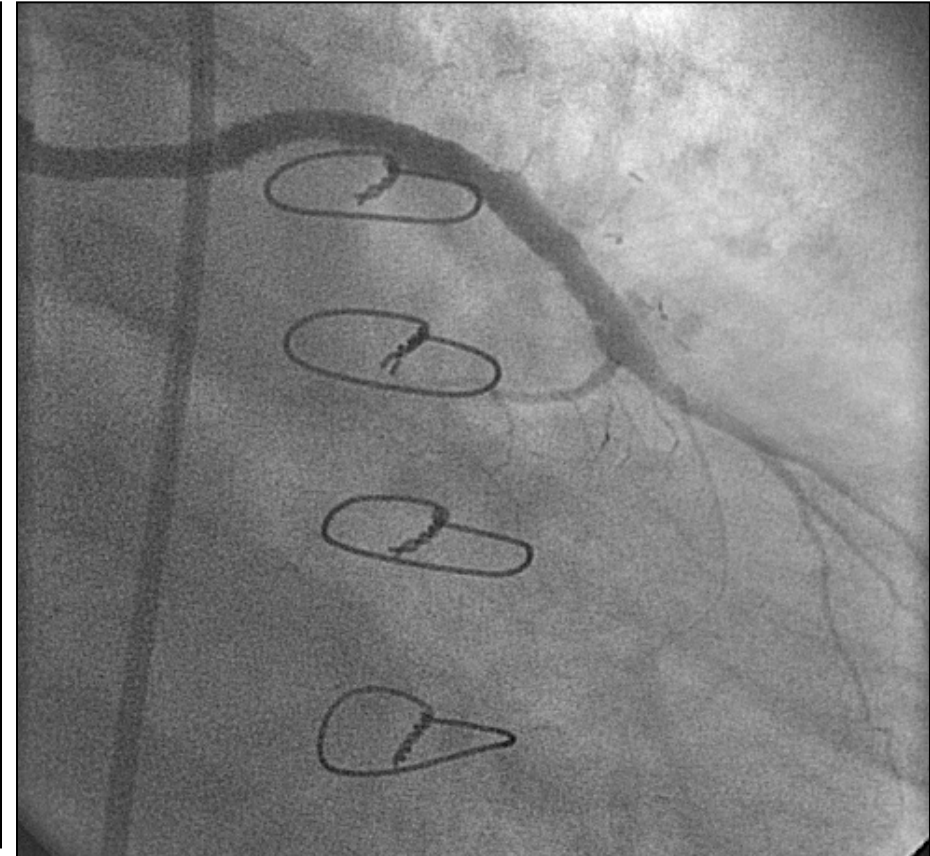
All plaque material behind struts



Before PCI



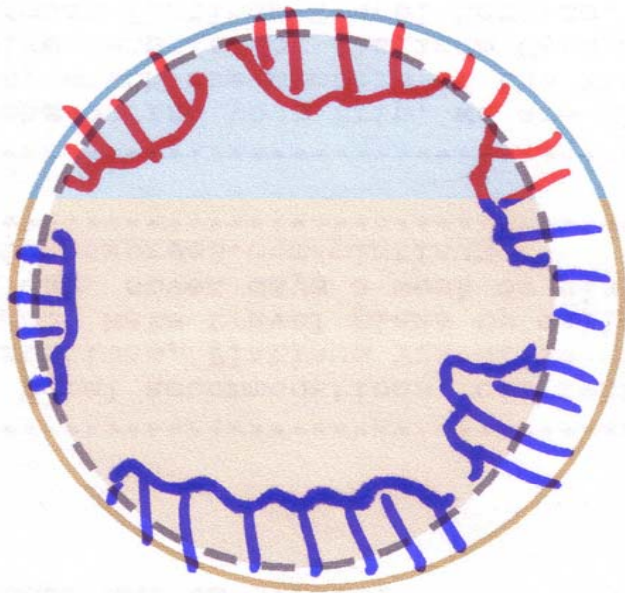
After PCI



**No embolization, no troponin rise.
Discharged on triple antiplatelet agents: ASA,
Plavix, and Cilostazol**

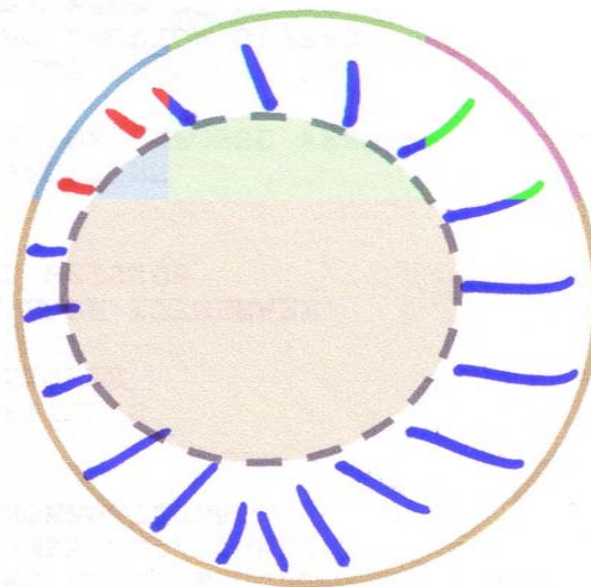
Use Stent with area adequate for distal vessel perfusion,
often much smaller than the SVG Diameter.

Large Stent
in Large Vein



Tissue Prolapse
and embolization

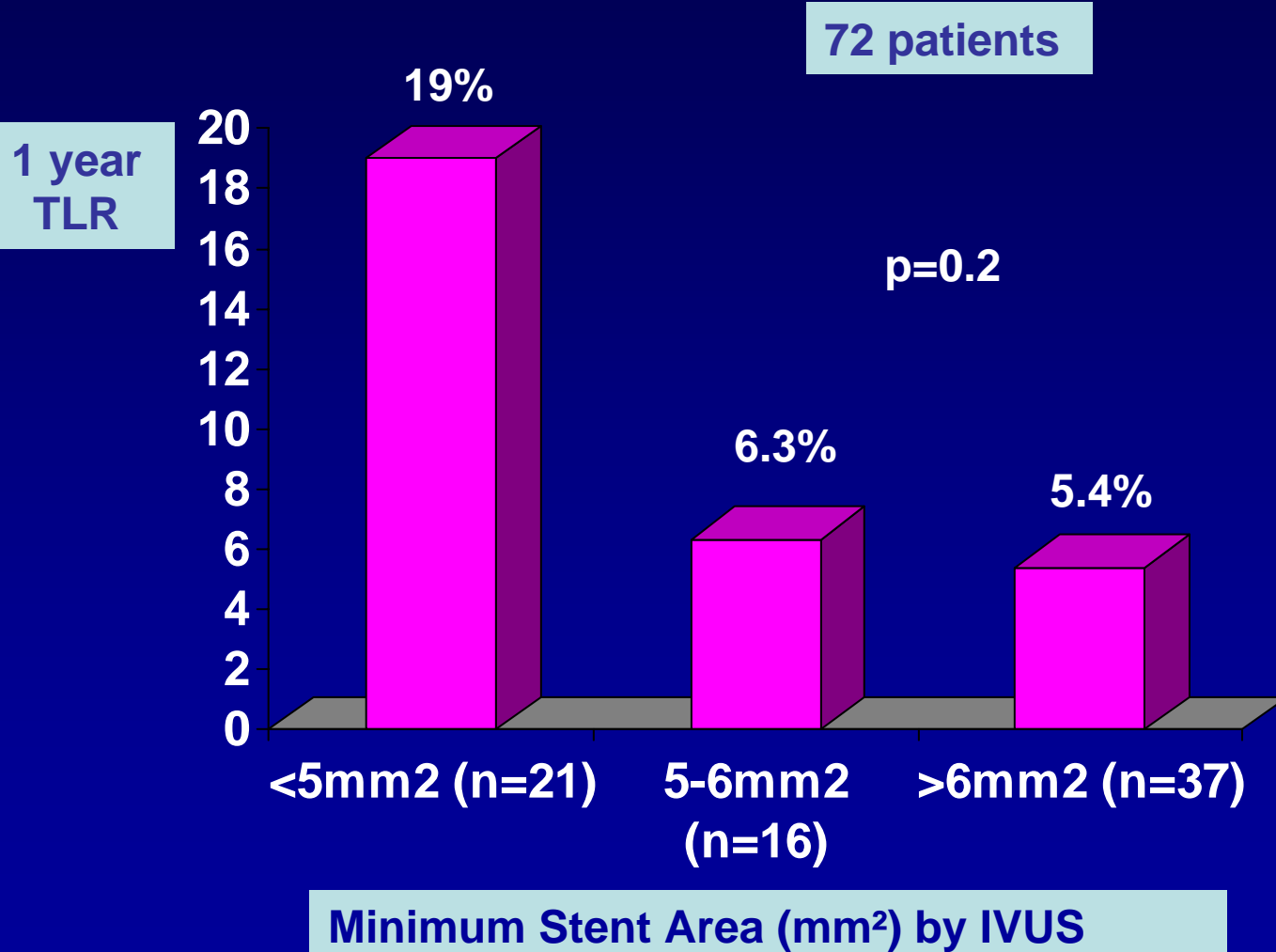
Small Stent
in Large Vein



No tissue
prolapse or
embolization

Small Stents in Large SVG's.

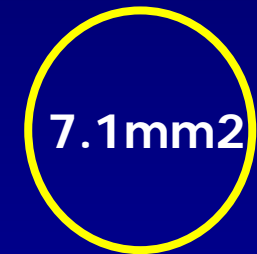
Washington Hospital Center. Salah et al. TCT 06



2.5x2.5 mm



3x3 mm



3.5x3.5 mm

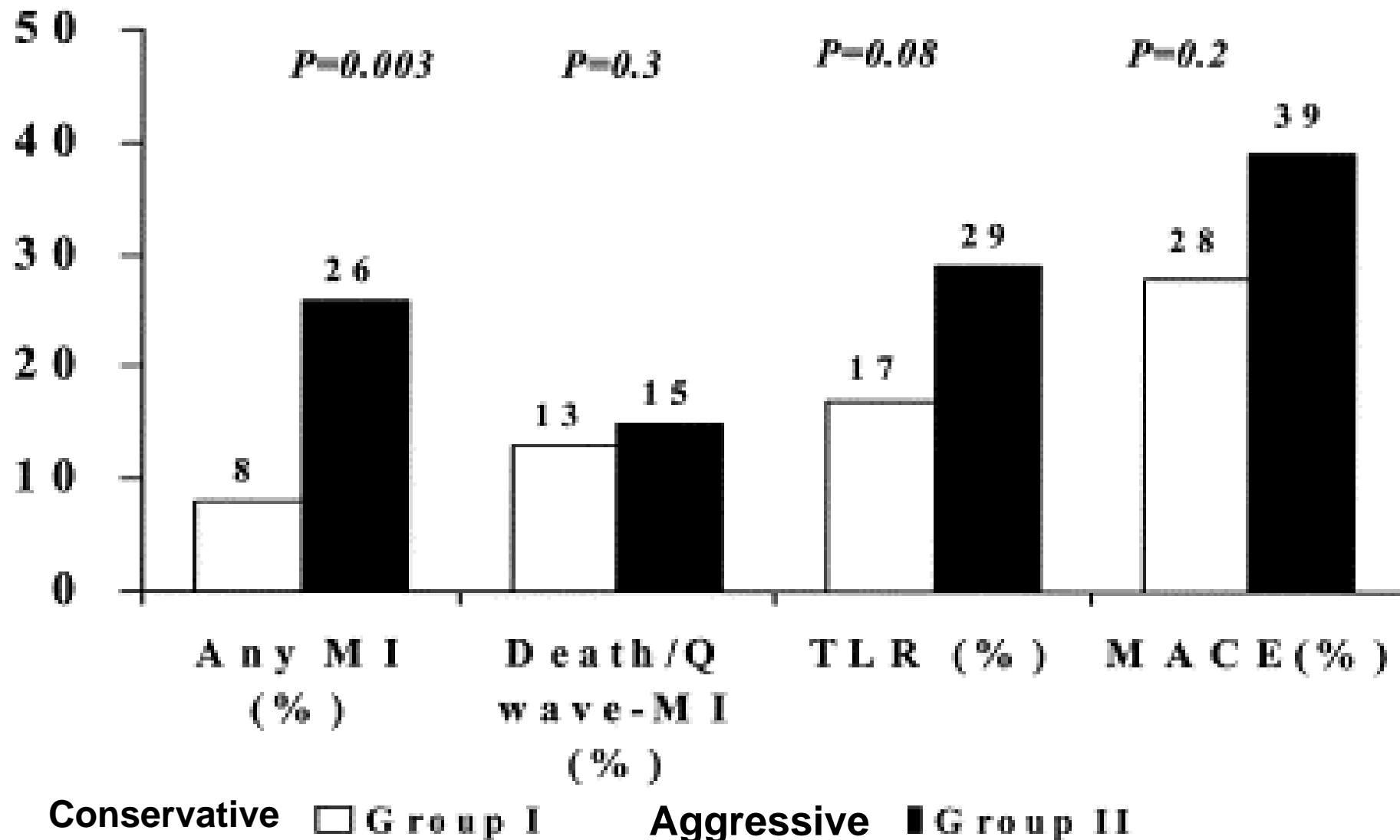


Aggressive Treatment of SVG

Am J of Cardiol 2004;93:963-968

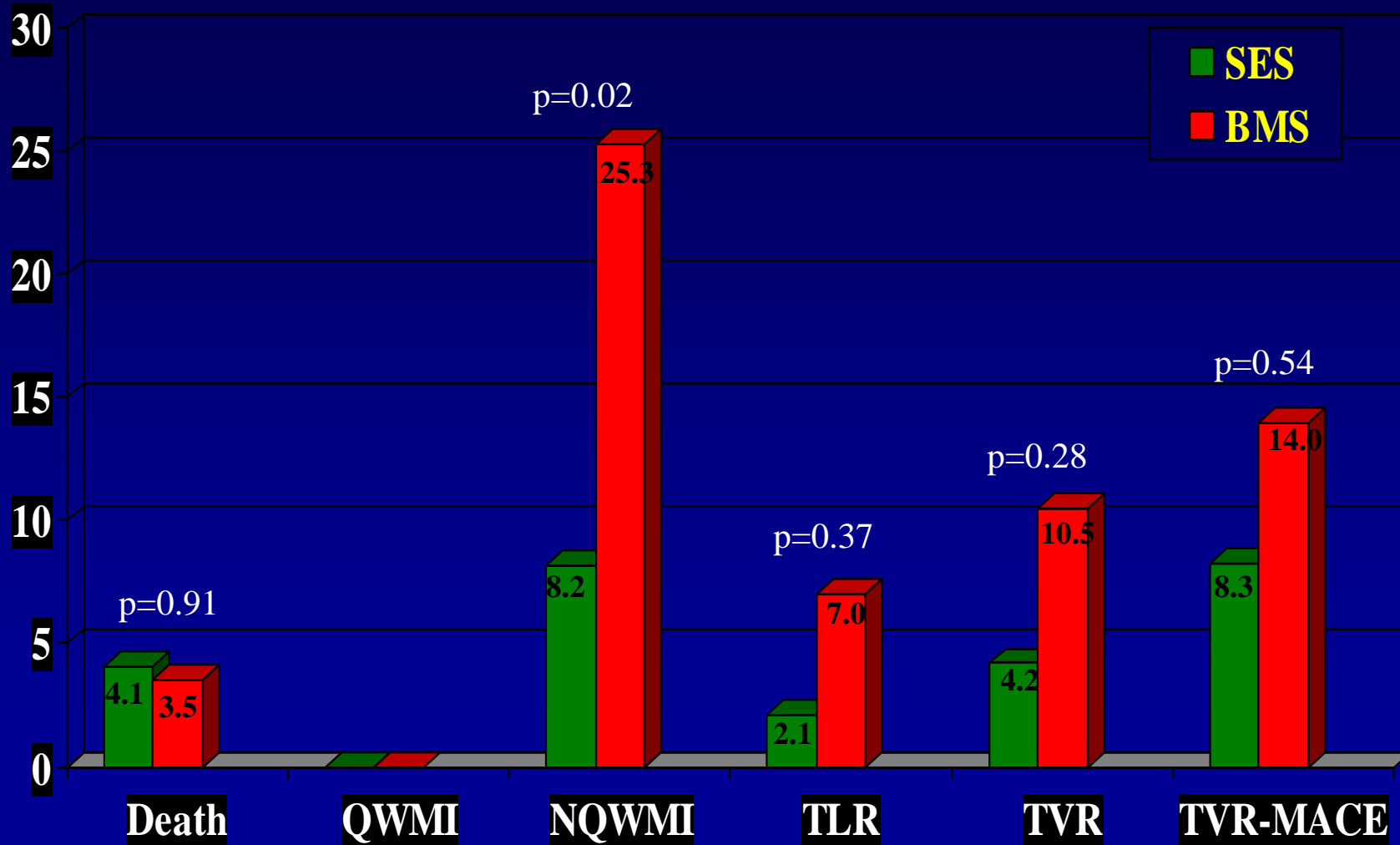
226 patients with IVUS guided PCI of SVG

176 pts. stent area < than Reference Vessel Diameter and 50 pts. stent > than RVD.



DES for SVG. 6 months outcome.

Washington Hospital Center Chu et al. AJC 2006;97:34-37



Conclusion

- **The strategy of a small diameter stent to treat a large vein graft:**
 - is a simple procedure.
 - appears safe and effective.
 - has minimal or no distal embolization.
 - has no increased TLR.
- **A randomized trial is needed for to prove the above concepts.**