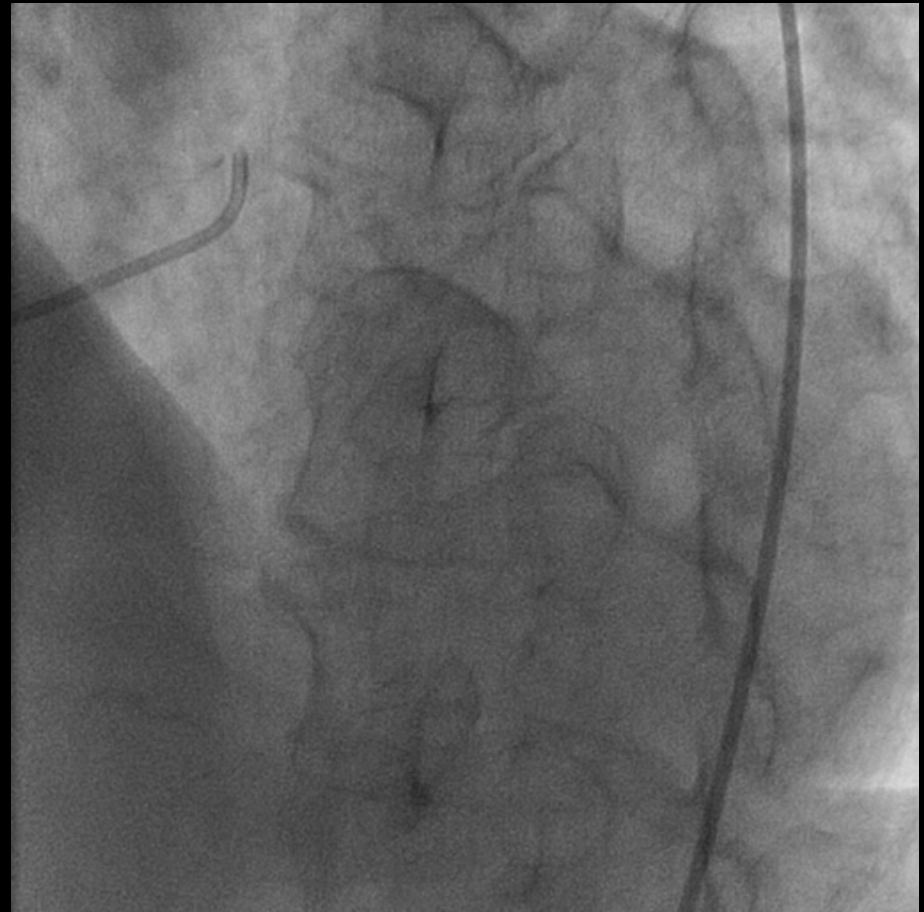
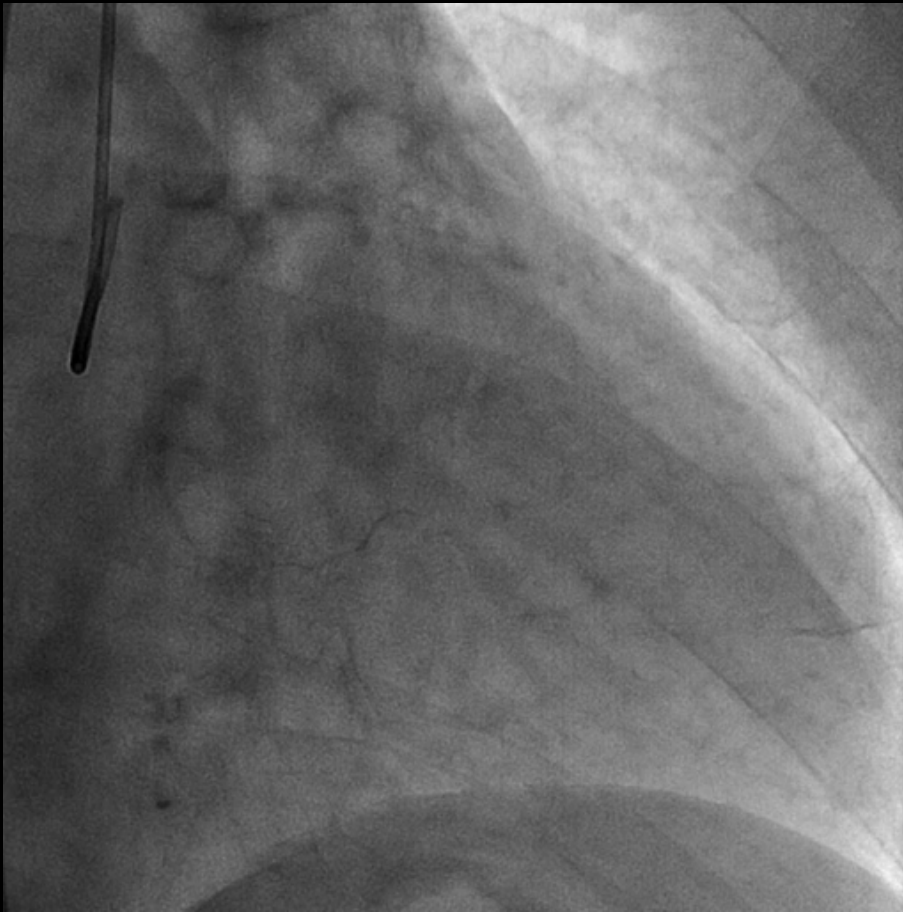


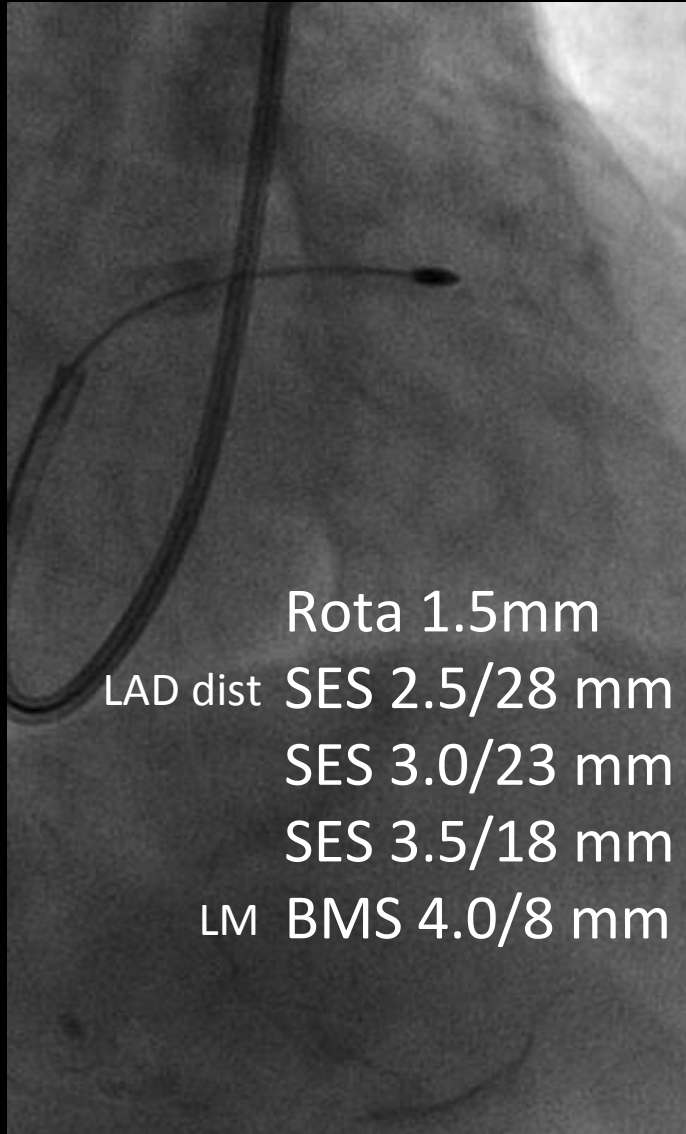
# Stent Evaluation Using Three Dimensional Optical Coherence Tomography

Takayuki Okamura, MD  
Yamaguchi University Hospital  
Ube, Japan

Case 1 : 73 y.o. Male, Stable AP CCS3  
[Risk factor: DM, HT, dyslipidemia]



*Baseline CAG*



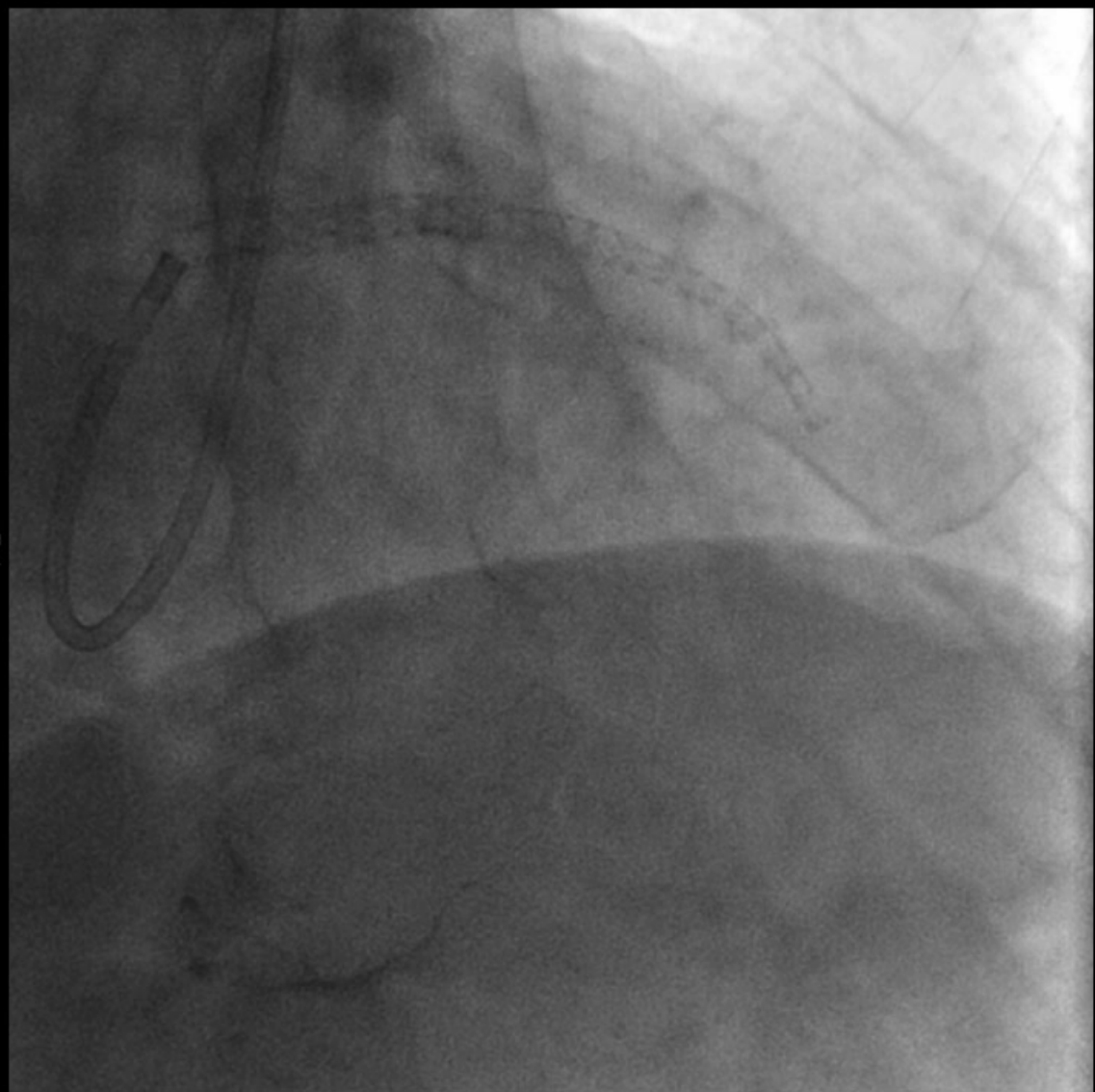
Rota 1.5mm

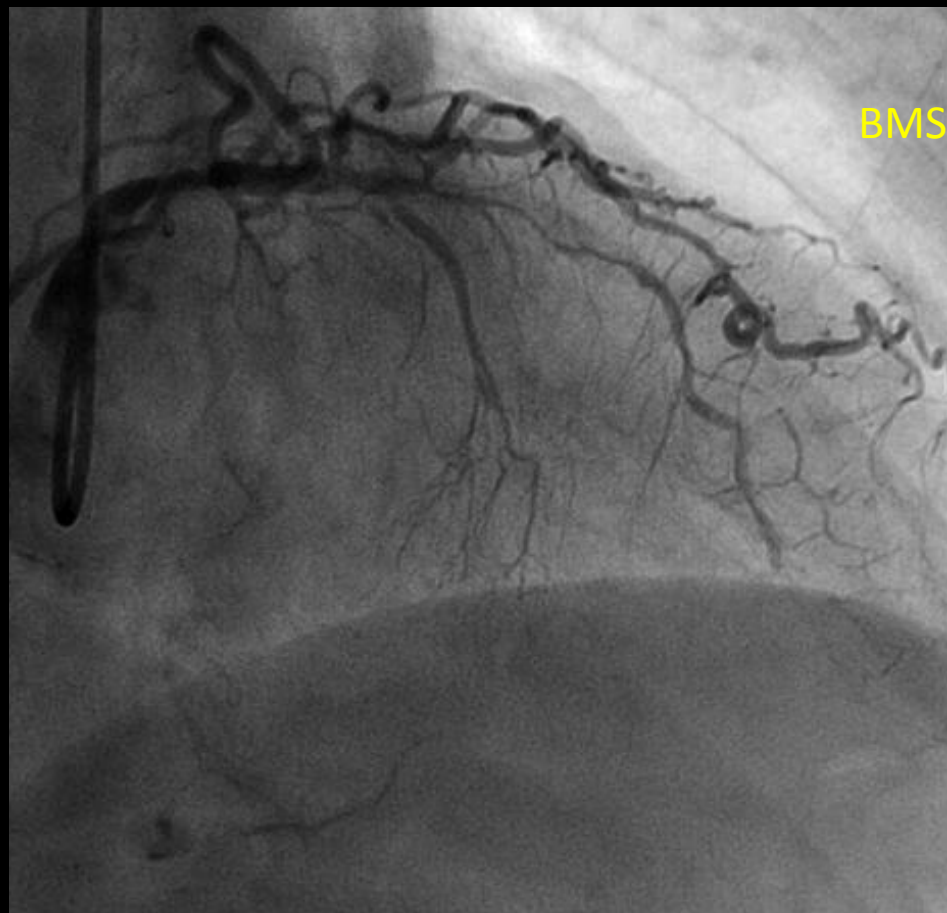
LAD dist SES 2.5/28 mm

SES 3.0/23 mm

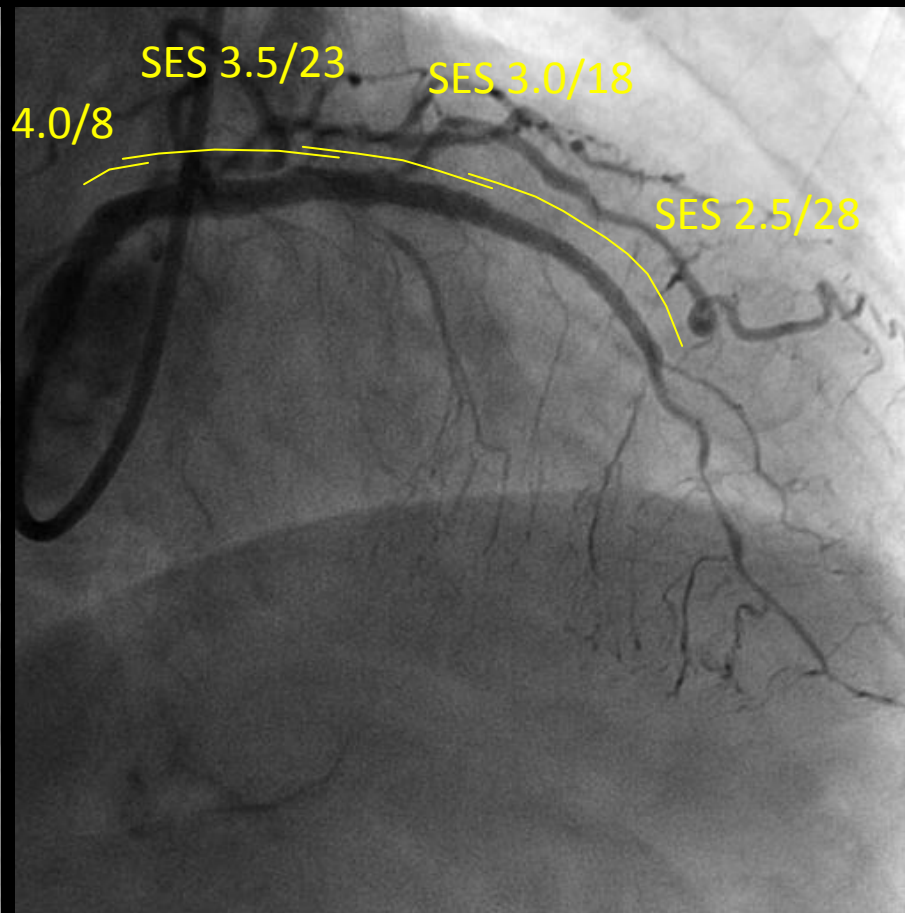
SES 3.5/18 mm

LM BMS 4.0/8 mm

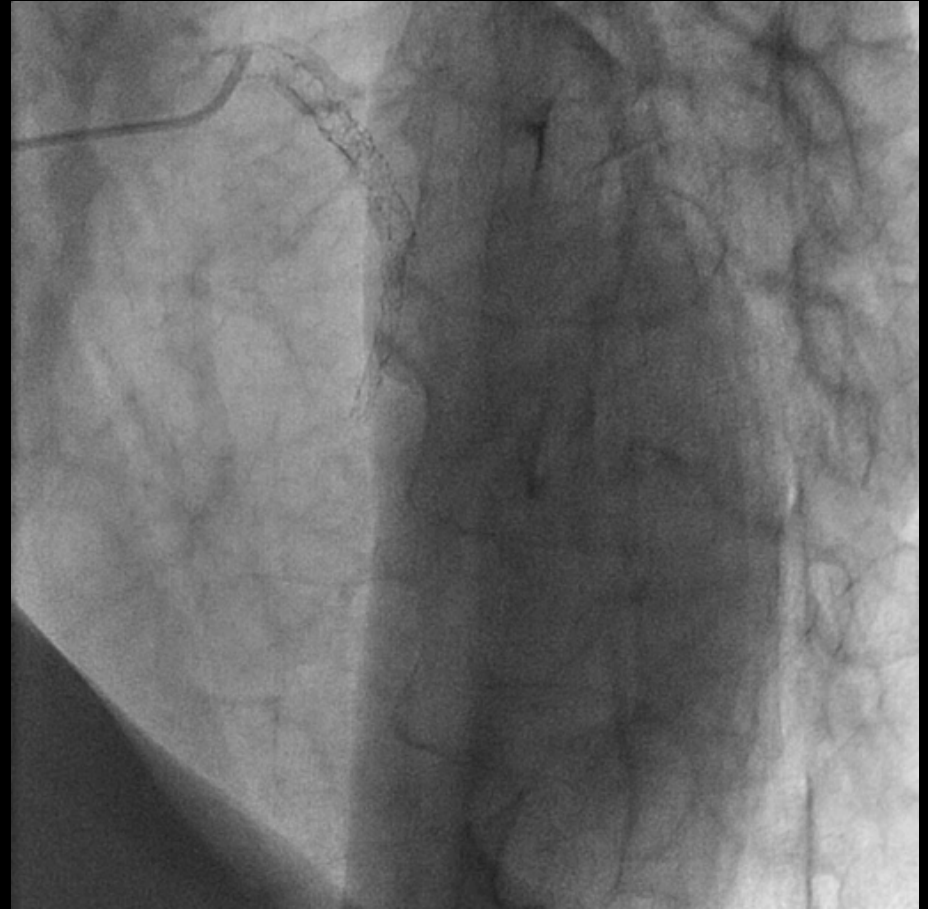
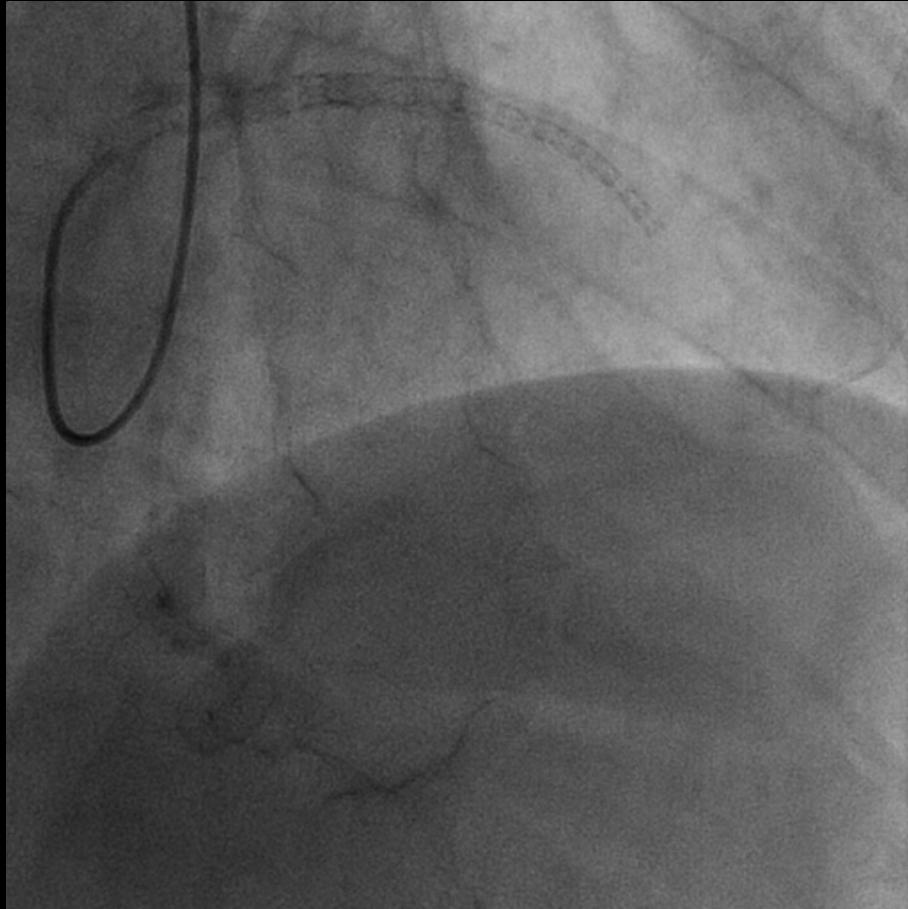




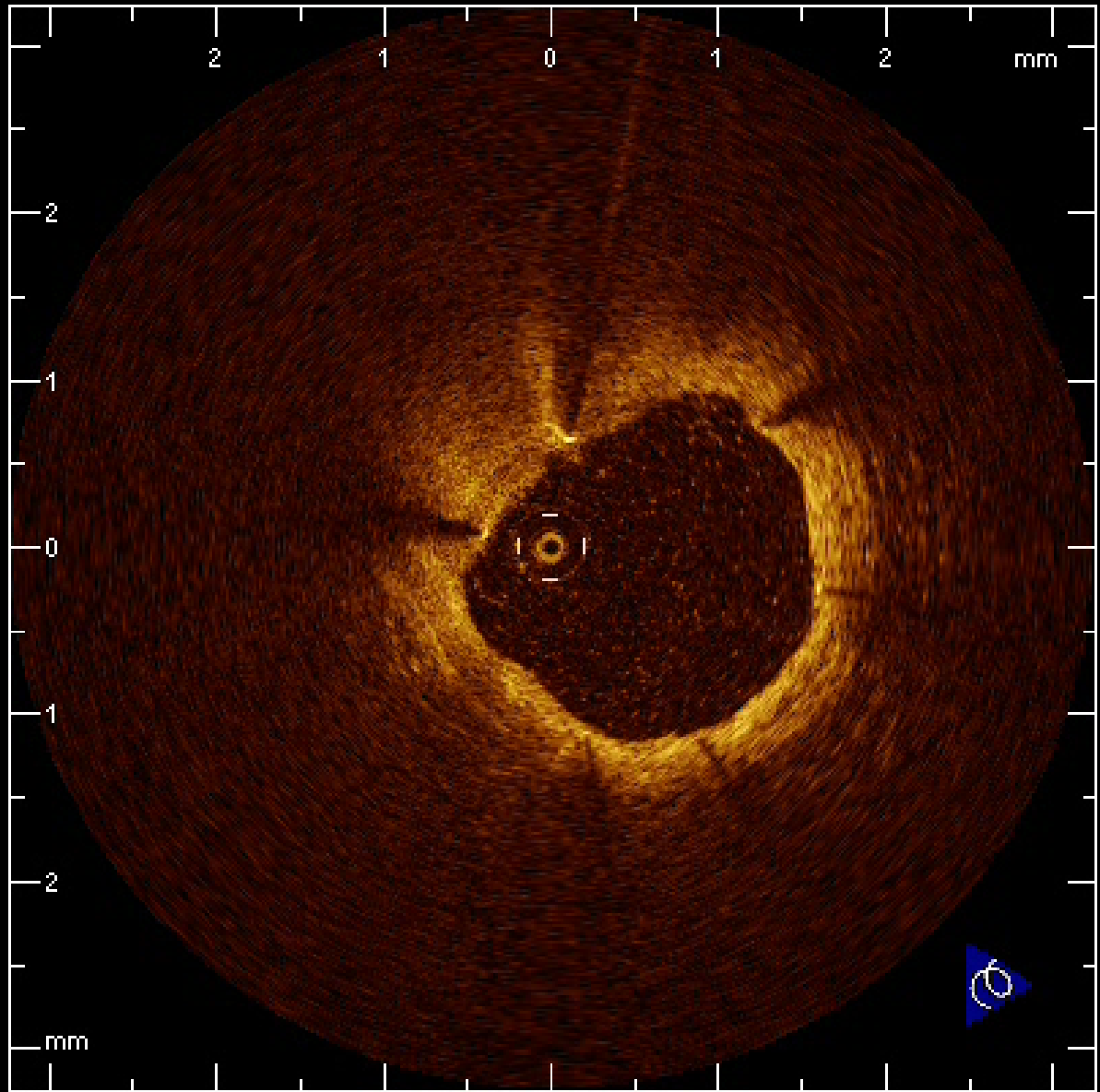
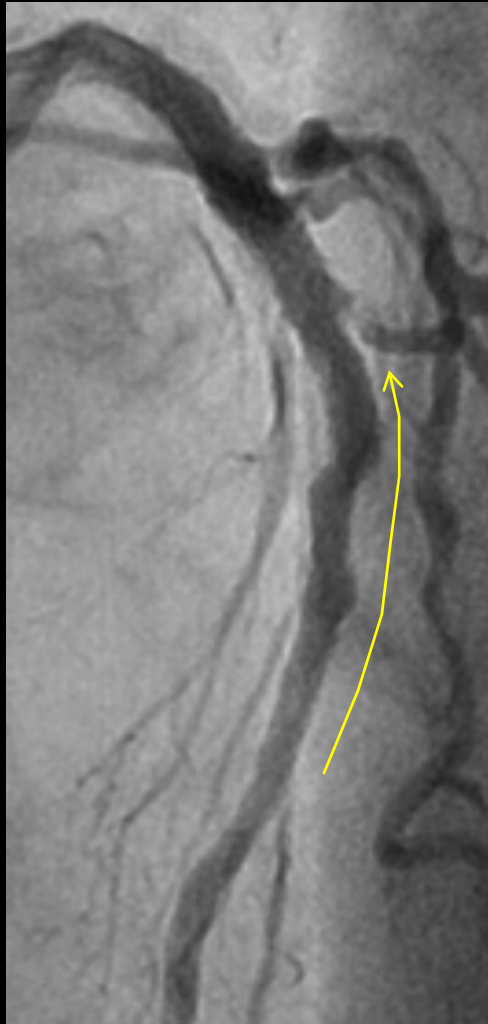
*Baseline*

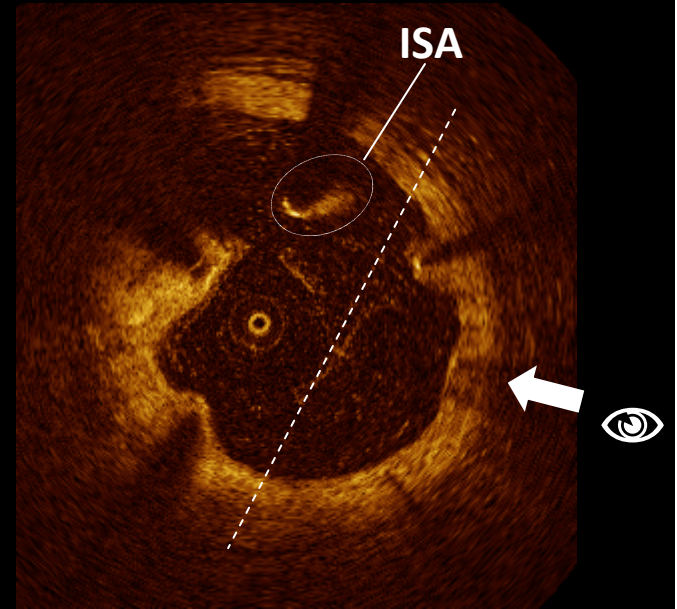
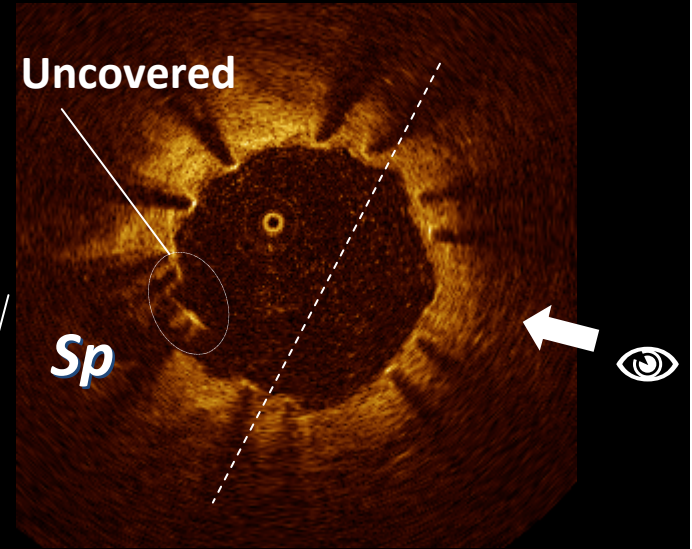
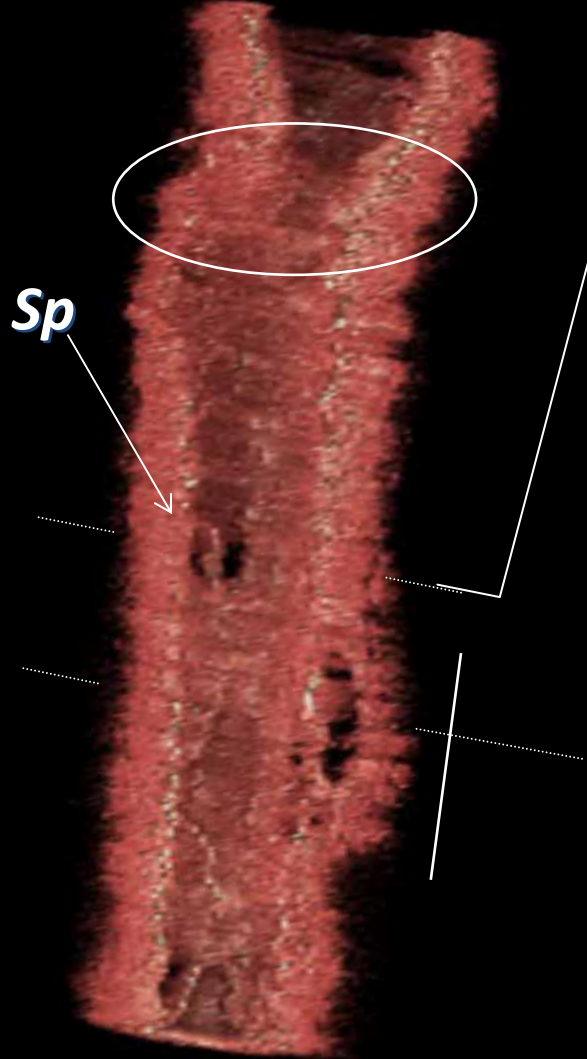
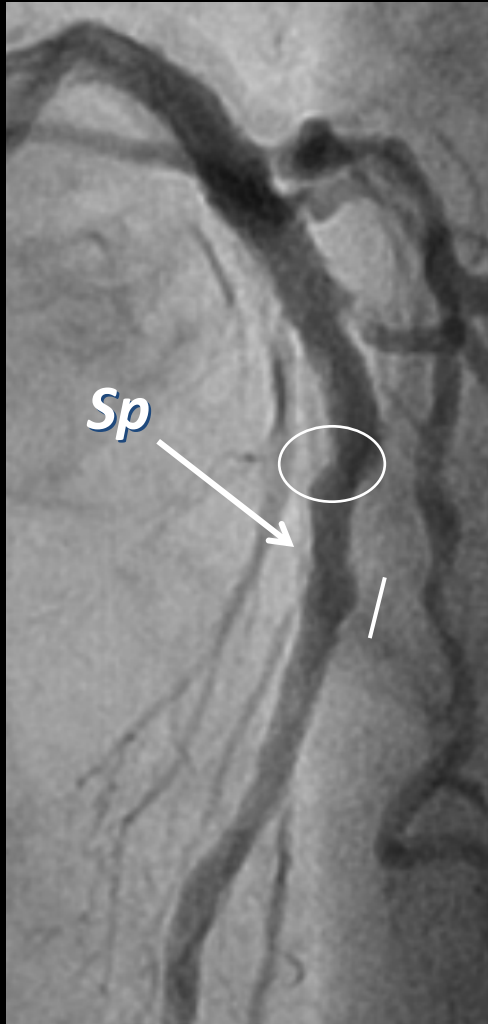


*Post PCI*



***1 Year Follow-up***





*Proximal*

*Distal*

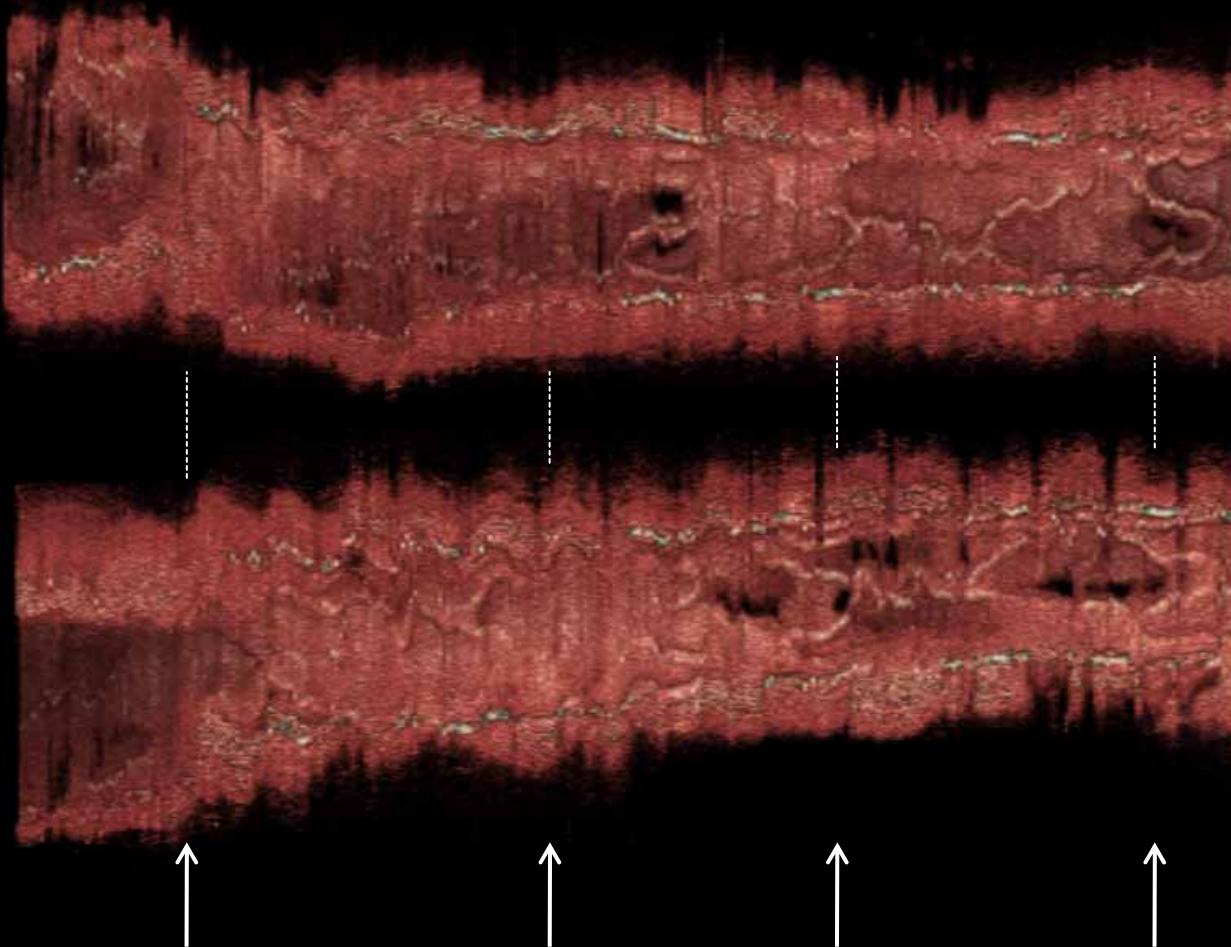
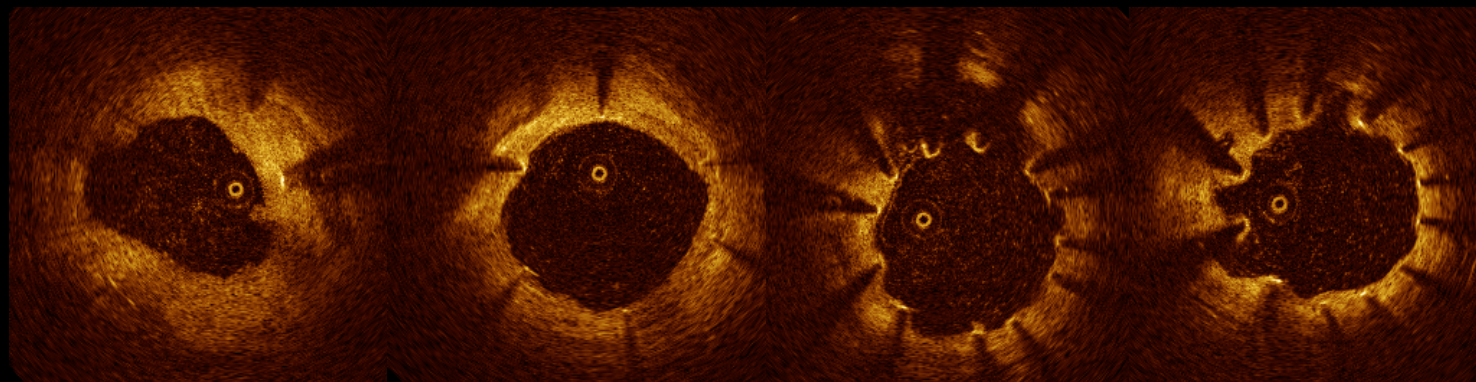
A

B

1mm interval  
N of strut : 151  
% uncovered strut :  
29.8%(45/151)  
Coverage thickness :  
 $68 \pm 119\mu\text{m}$

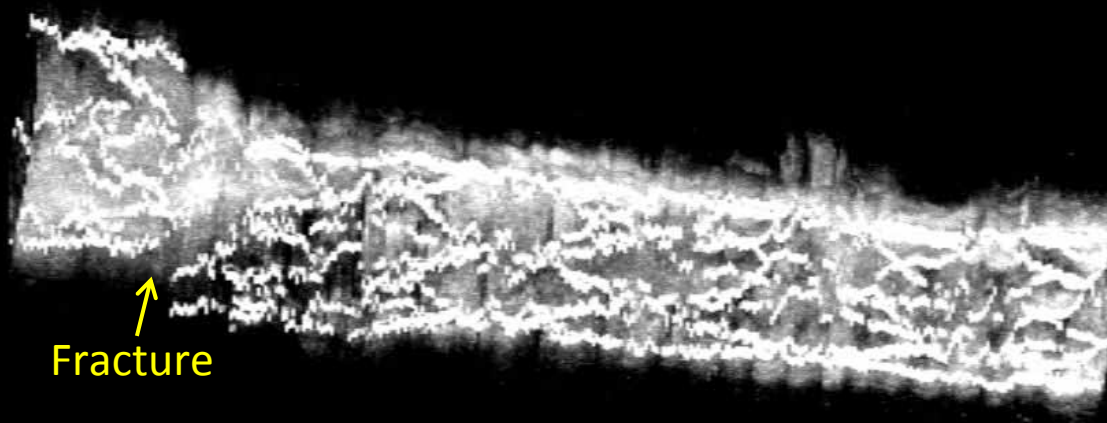
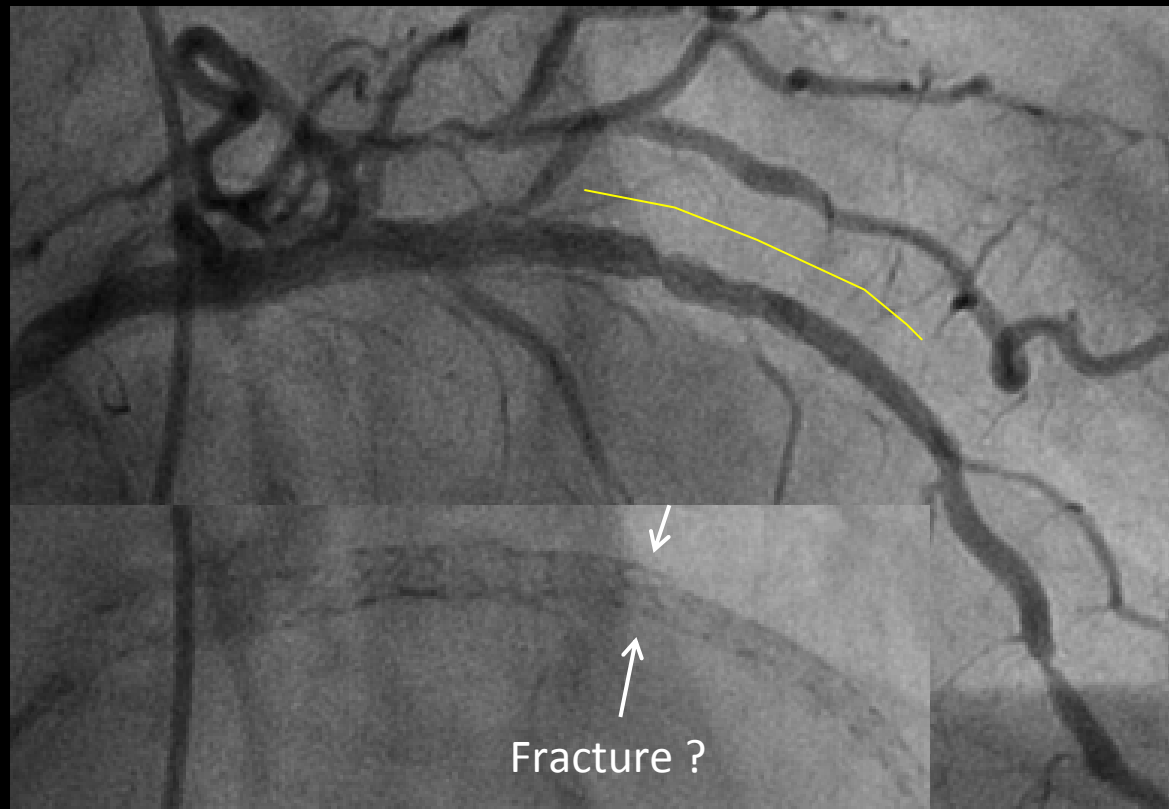
**↑**  
B

**←** A





SES 1 Year



FilmNo 10084, ID2662265

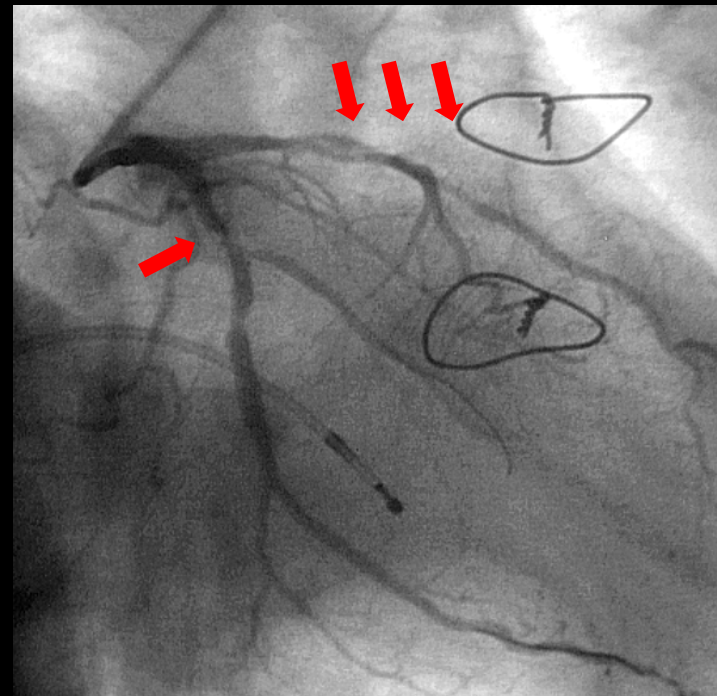
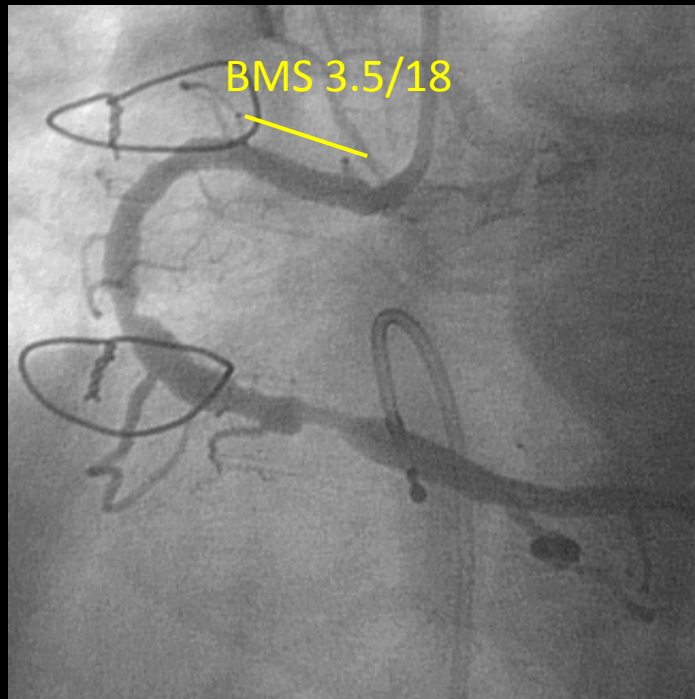
# Case 2 : 74 y.o. Male, Unstable AP

[DM, HT, dyslipidemia, Smoking, Renal failure]

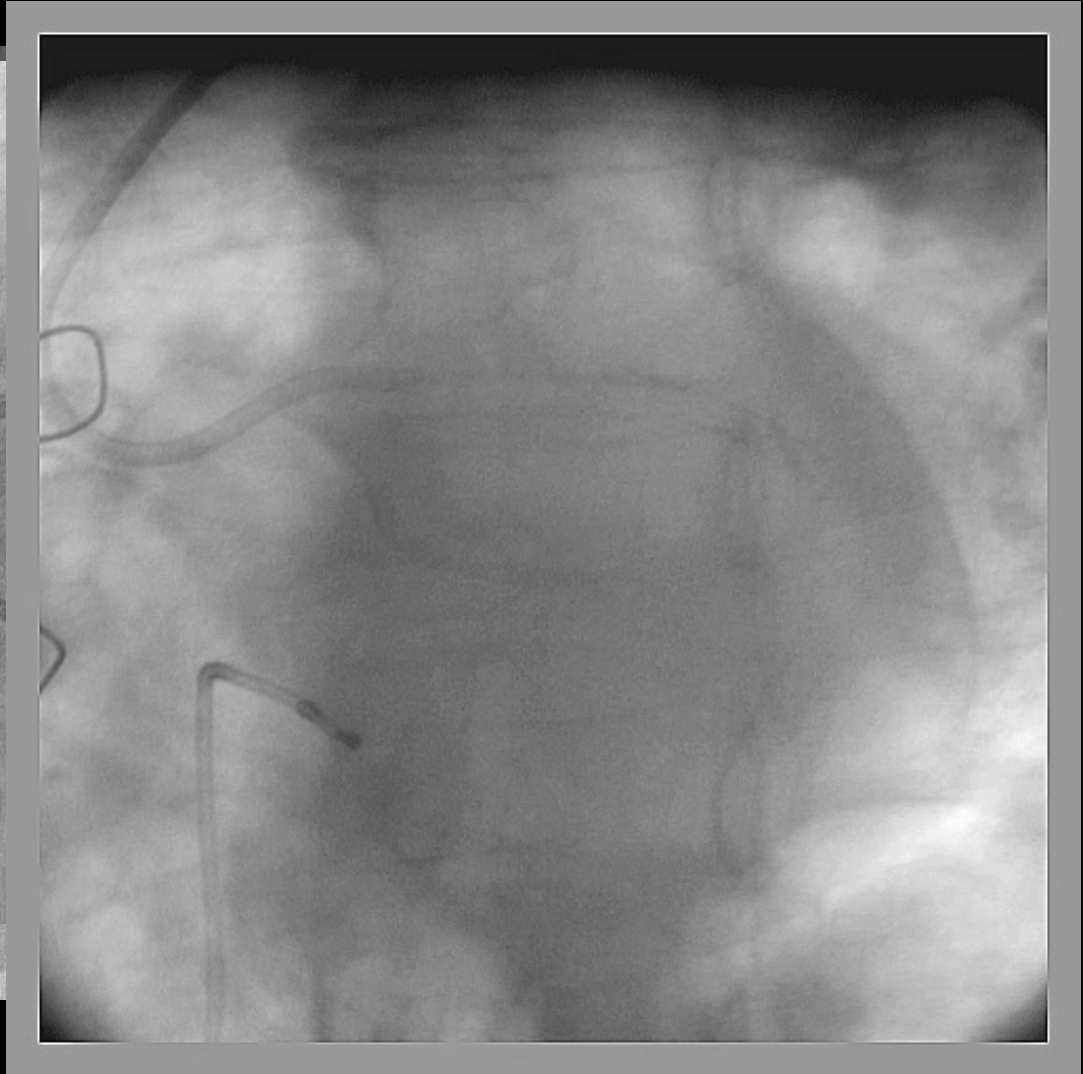
1982 CABG (Ao-LAD, Ao-RCA)

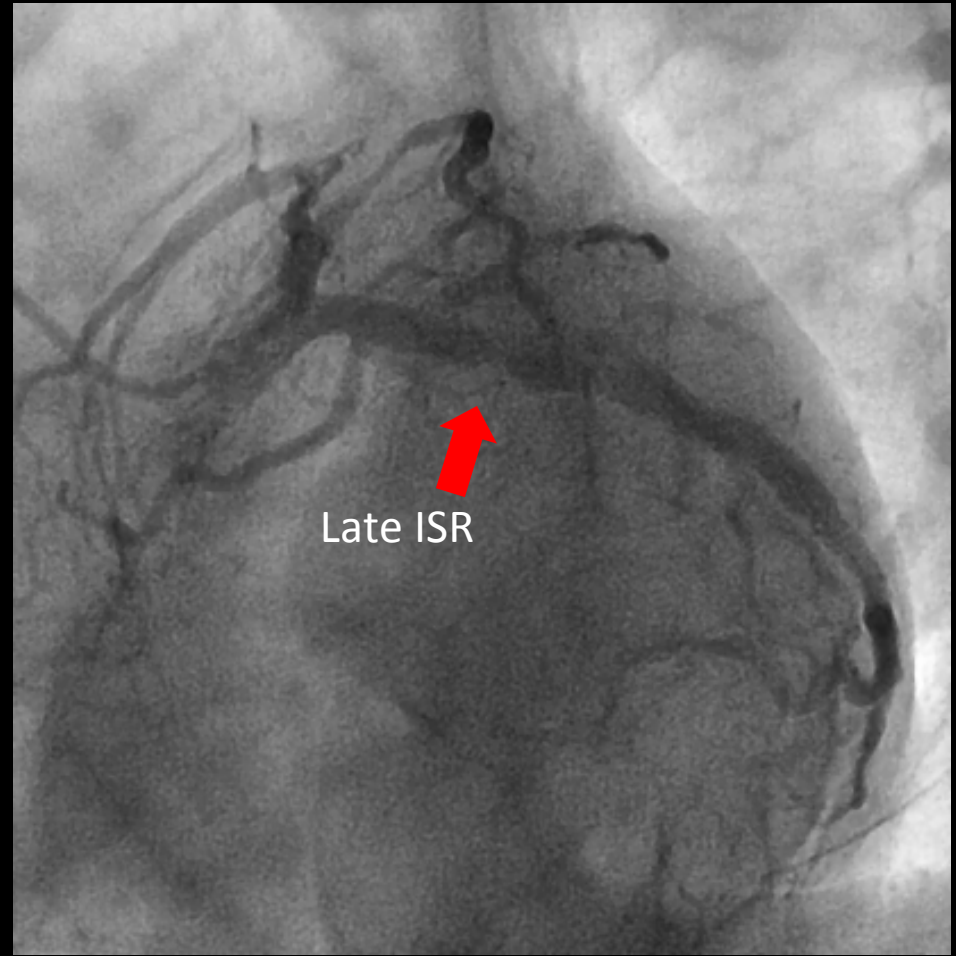
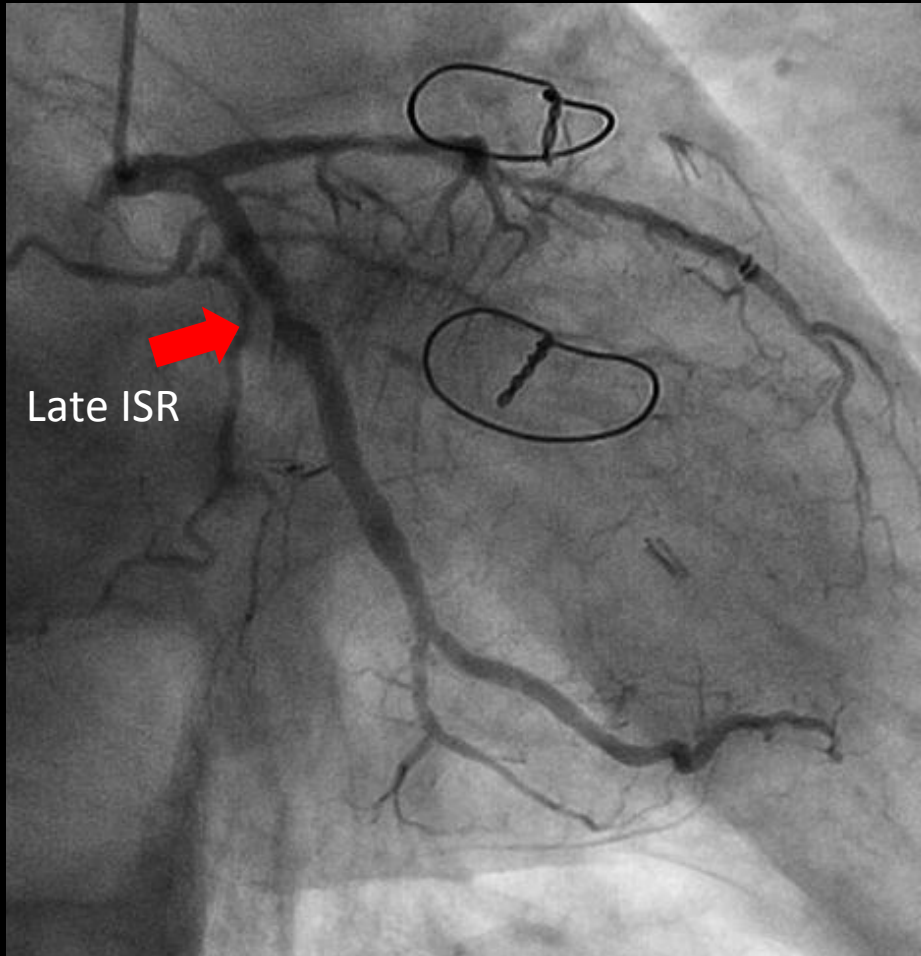
2005 Nov, worsening AP

CAG: Ao-LAD, Ao-RCA occluded, RCA #1 90%, LCx #13 90%, LAD #7 100%,  
LAD to LAD, LCx to LAD, RCA to LAD collateral flow

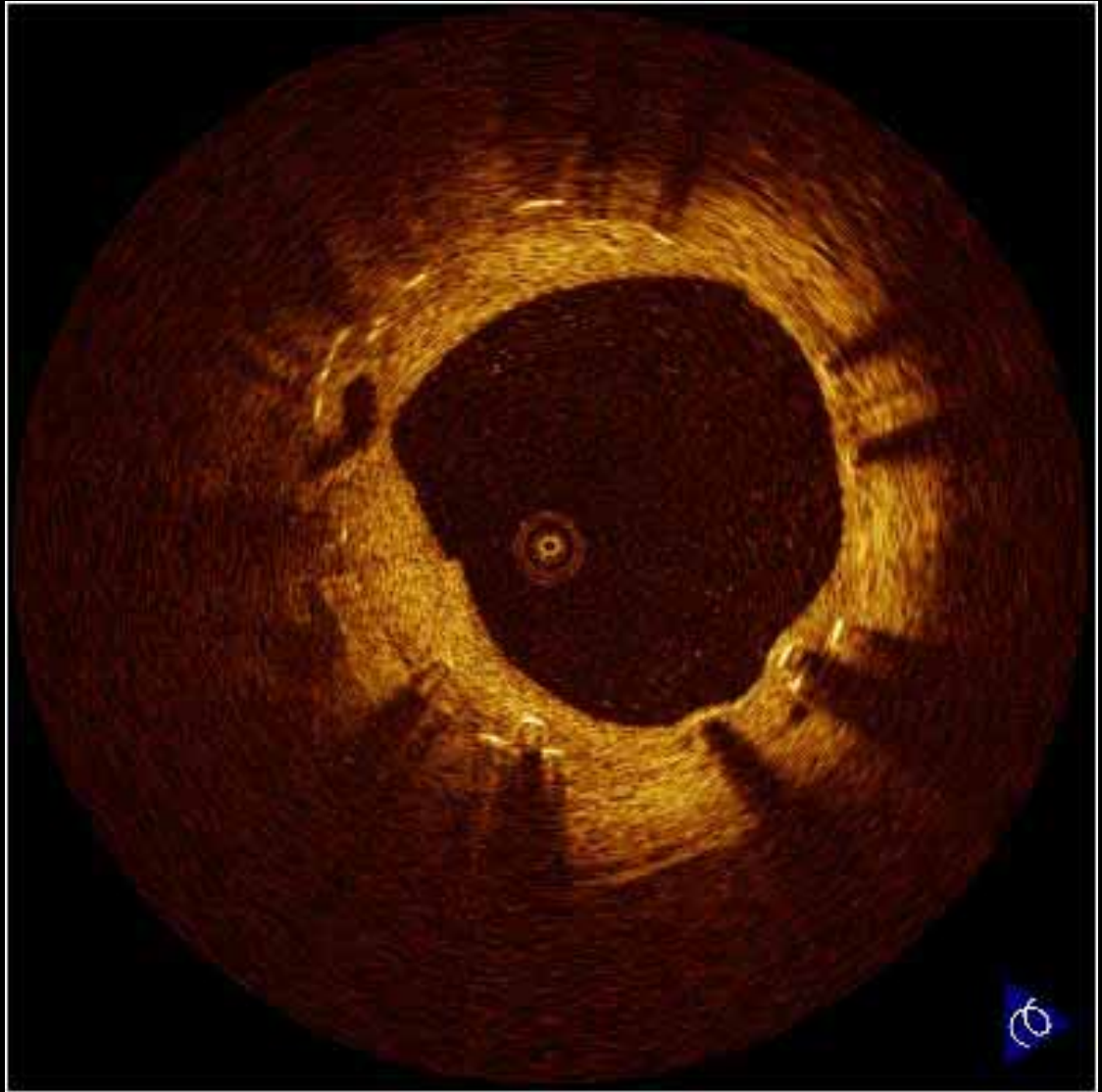
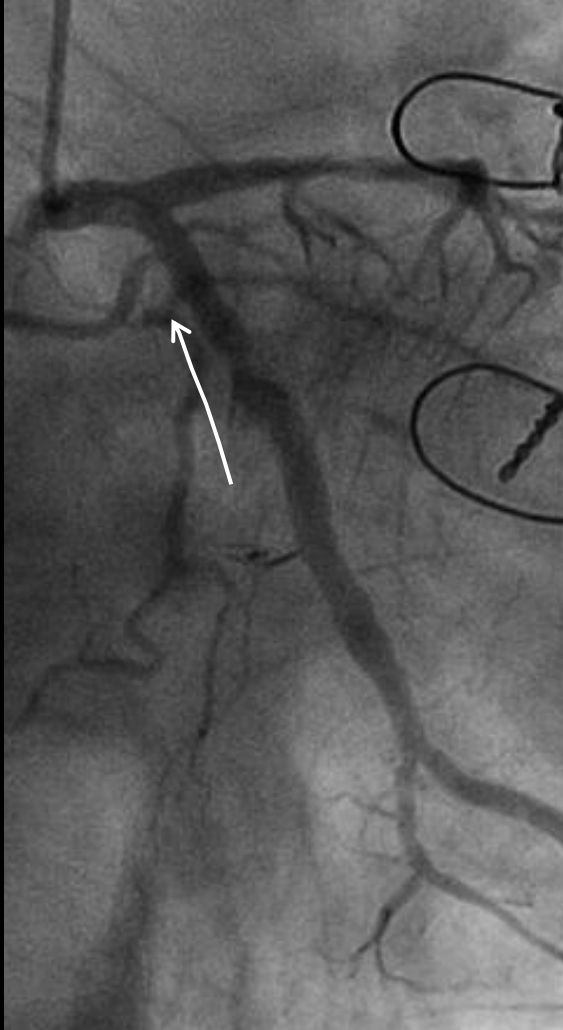


# *LCx-PCI*

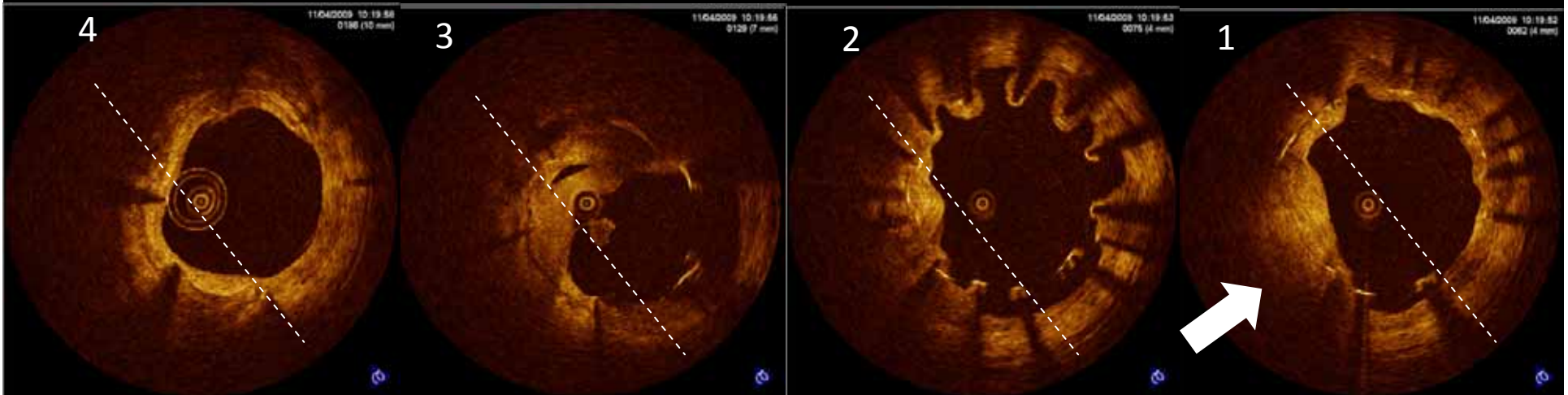
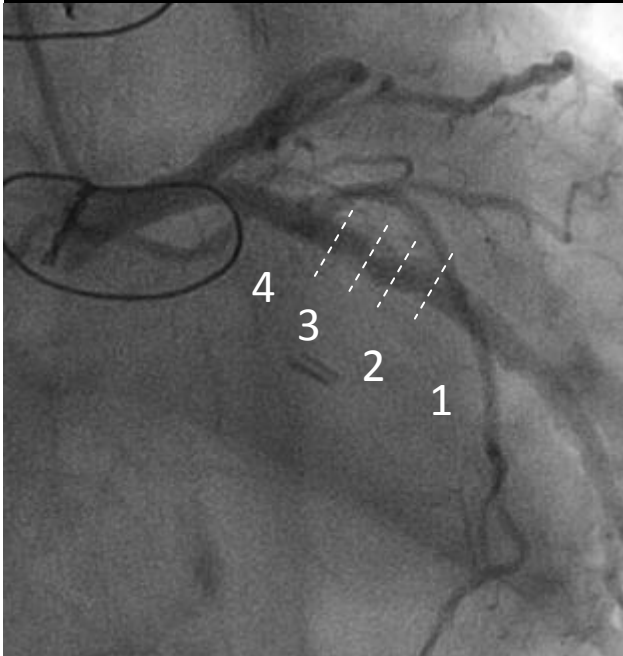


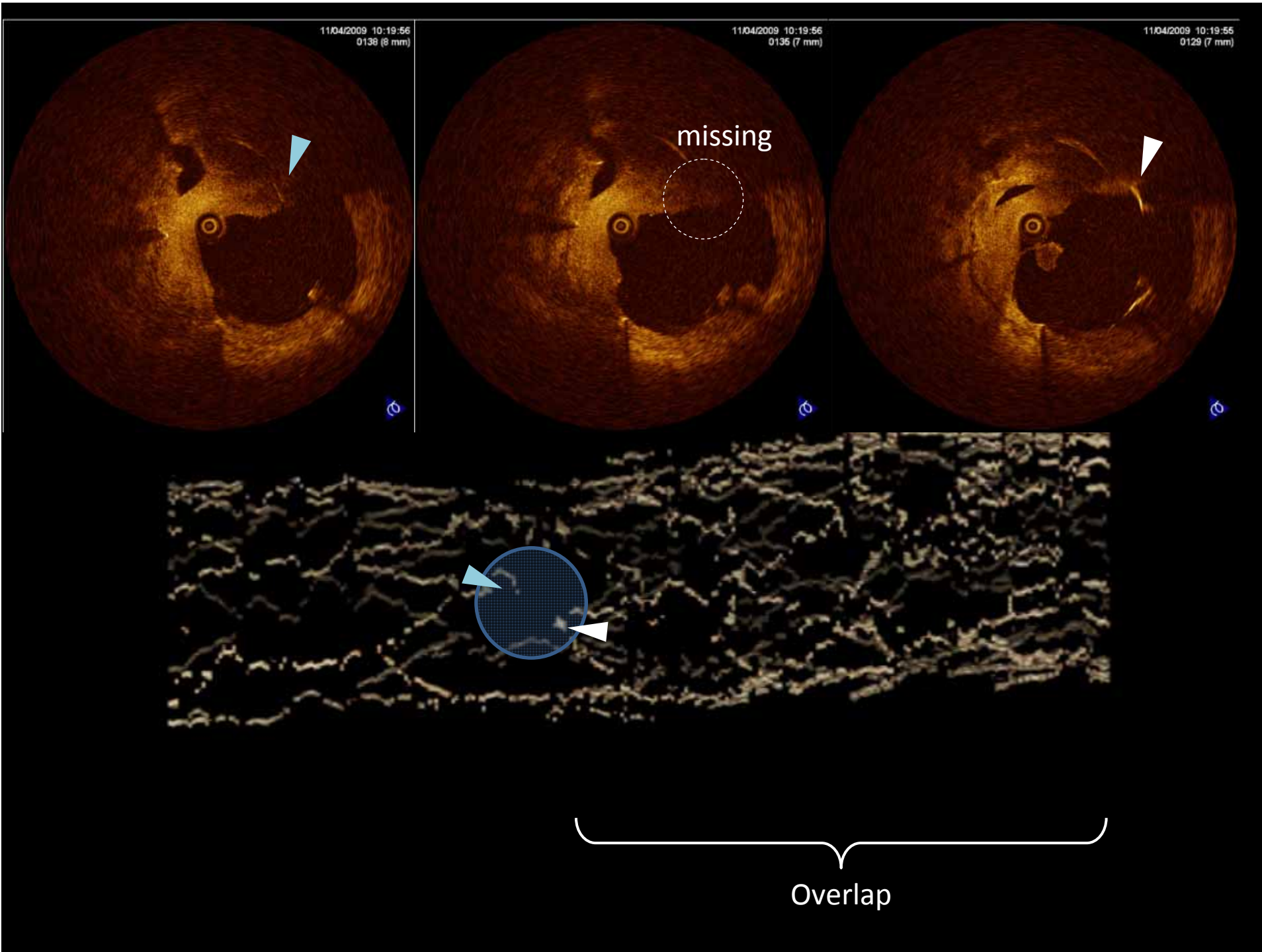


4 Year



# Cypher stent : 4 year





# Summary

- 3D reconstruction of OCT images can facilitate understanding of the spatial relationship between stents and vessel wall.
- Tissue coverage of stents and incomplete stent apposition after DES implantation and stent fracture can be evaluated with 3D OCT.

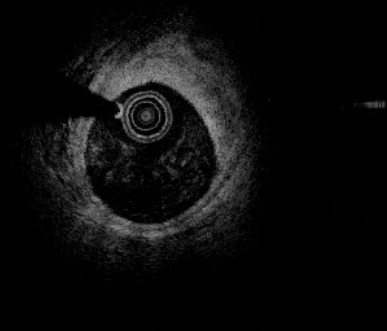


Thank you for attention.

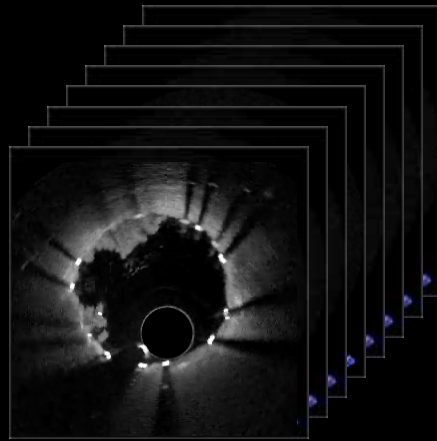
ご清聴ありがとうございました。

# How to make

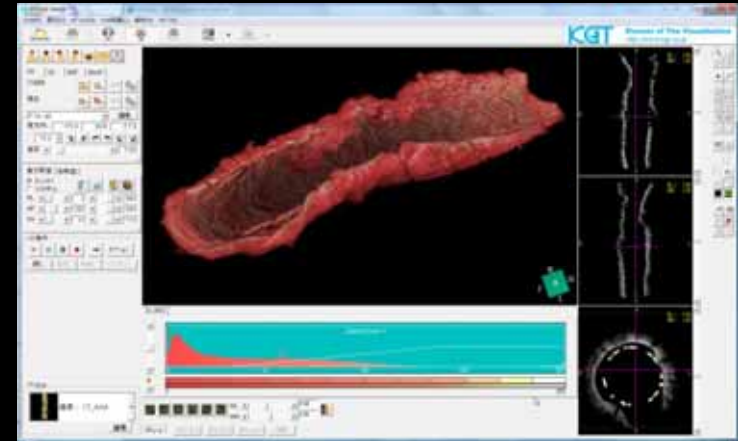
1mm



OCT pullback (DICOM/AVI)



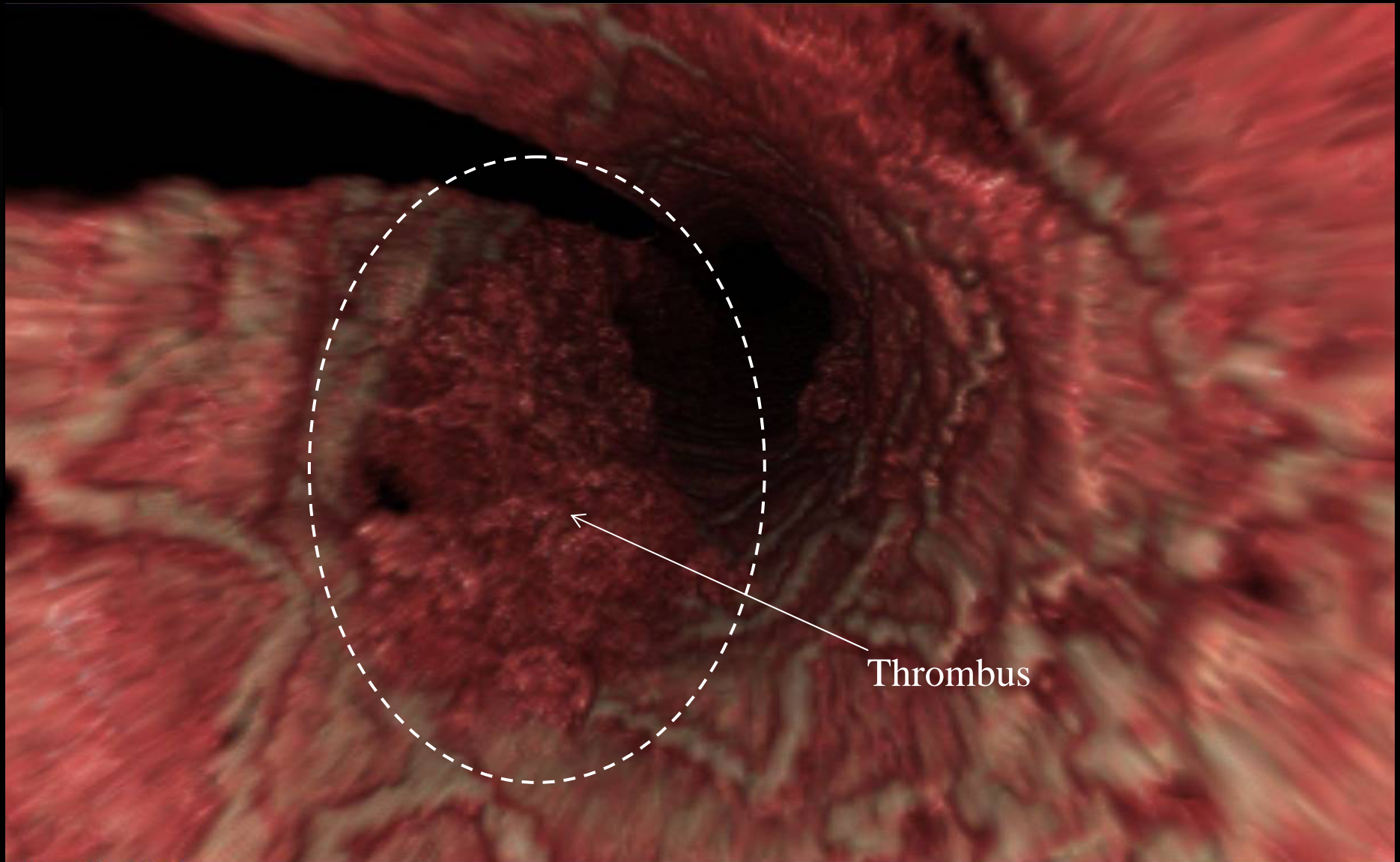
Strut detection  
(frame by frame)



3-D rendering  
(INTAGE Realia, Cybernet, Japan)

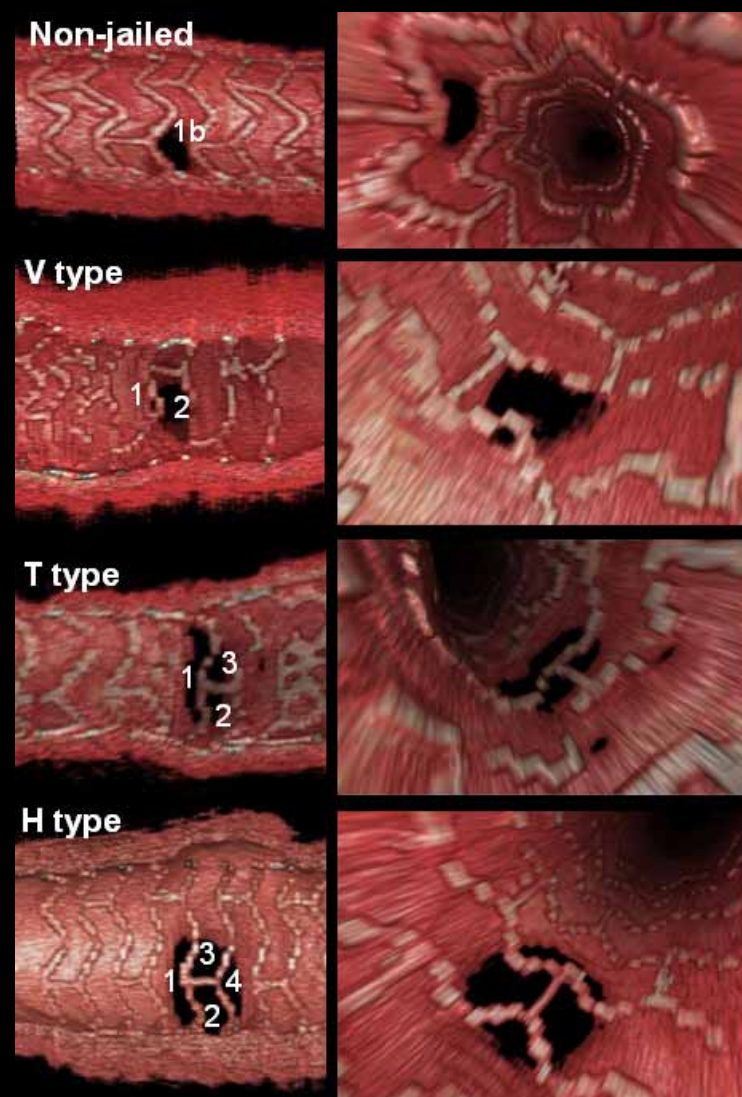
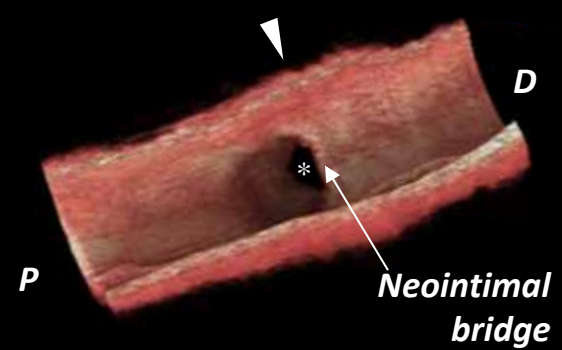
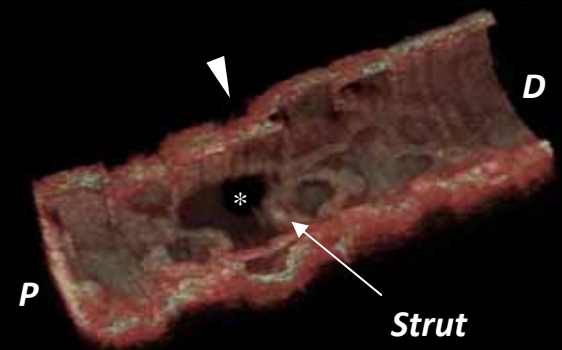
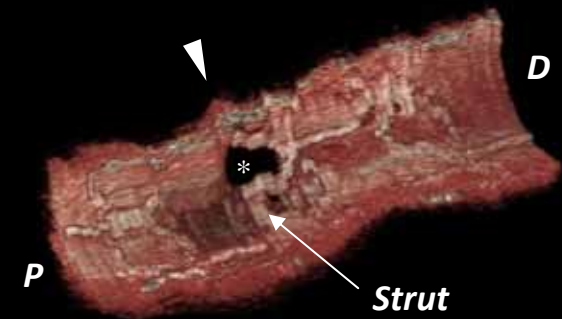
2 – 3 hours / stent

# How to make



Fly through : Prox Dist

# Assessment of side branch orifice

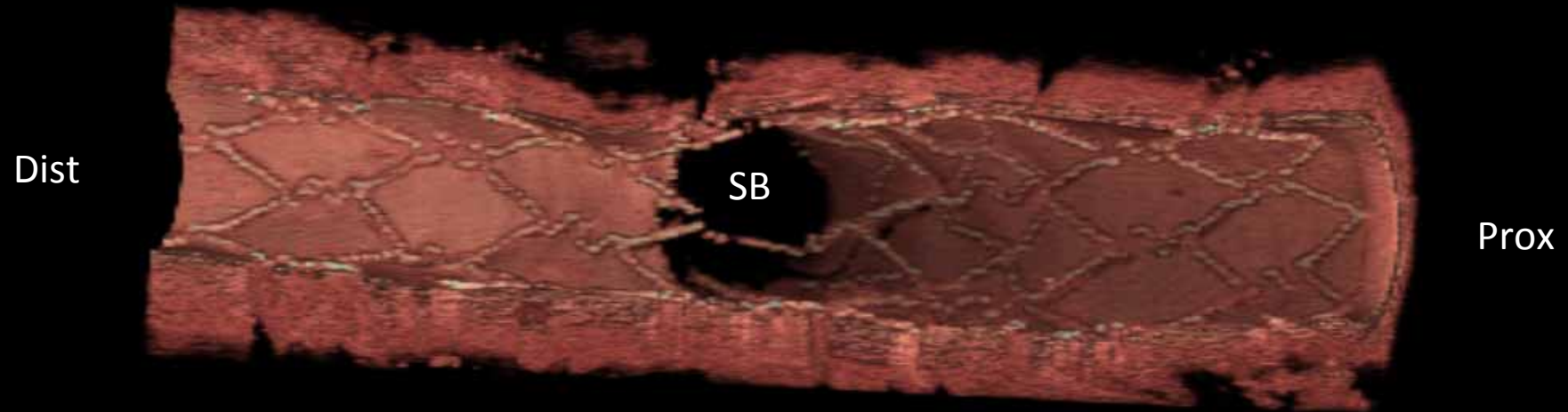


BVS 1.0 – Serial change of side branch orifice (EHJ)

BVS 1.1 – Classification of jailing pattern

## Assessment of bifurcation stenting

Culotte stenting (pig) : MV Cypher select+, SB Nobori



# Summary

- 3D reconstruction of OCT images can facilitate understanding of the spatial relationship between stents and vessel wall.
- Tissue coverage of stents and incomplete stent apposition after DES implantation and stent fracture can be evaluated with 3D OCT.
- 3D reconstruction may be useful for evaluation of side branch/bifurcation stenting.

Thank you for attention.

ご清聴ありがとうございました。

