

An In-Stent Restenosis Case of an Under Expanded Stent due to Heavy Calcification Treated by Rotational Atherectomy and Wire Cracking

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COI

The authors have no financial conflicts of interest.

Case; 70-year-old male

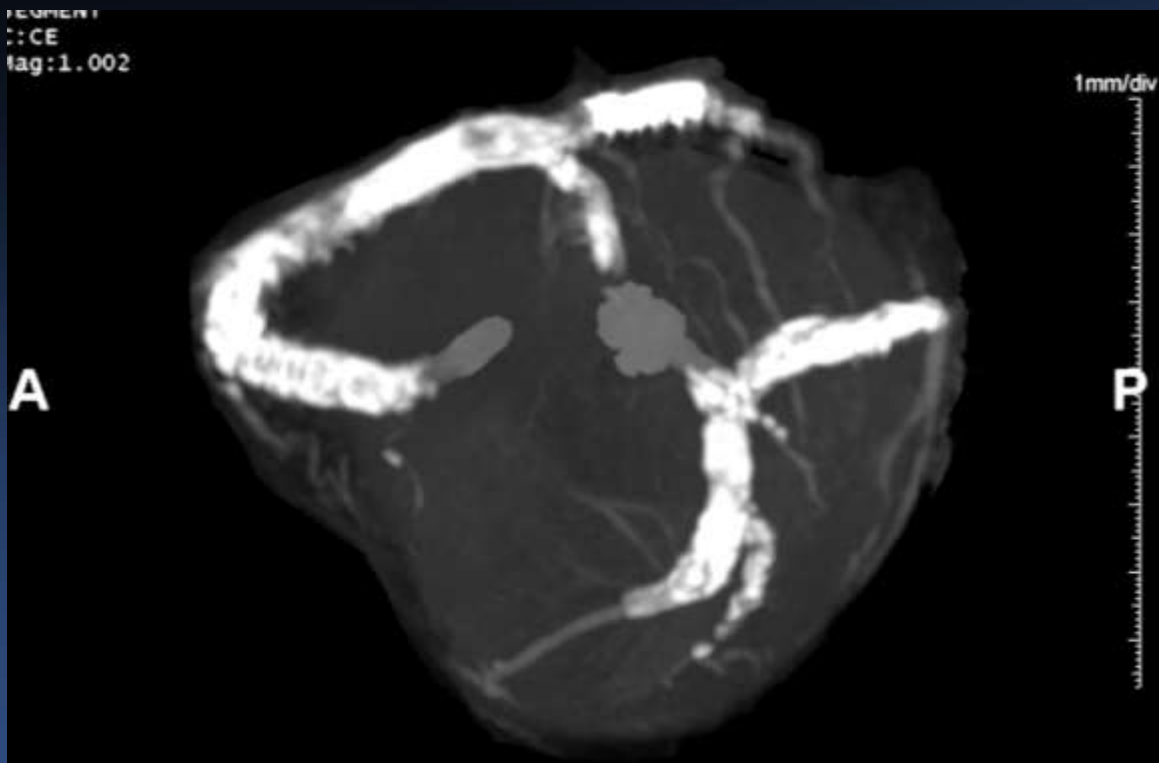
Diagnosis: Angina Pectoris (CCS1)

Present illness:

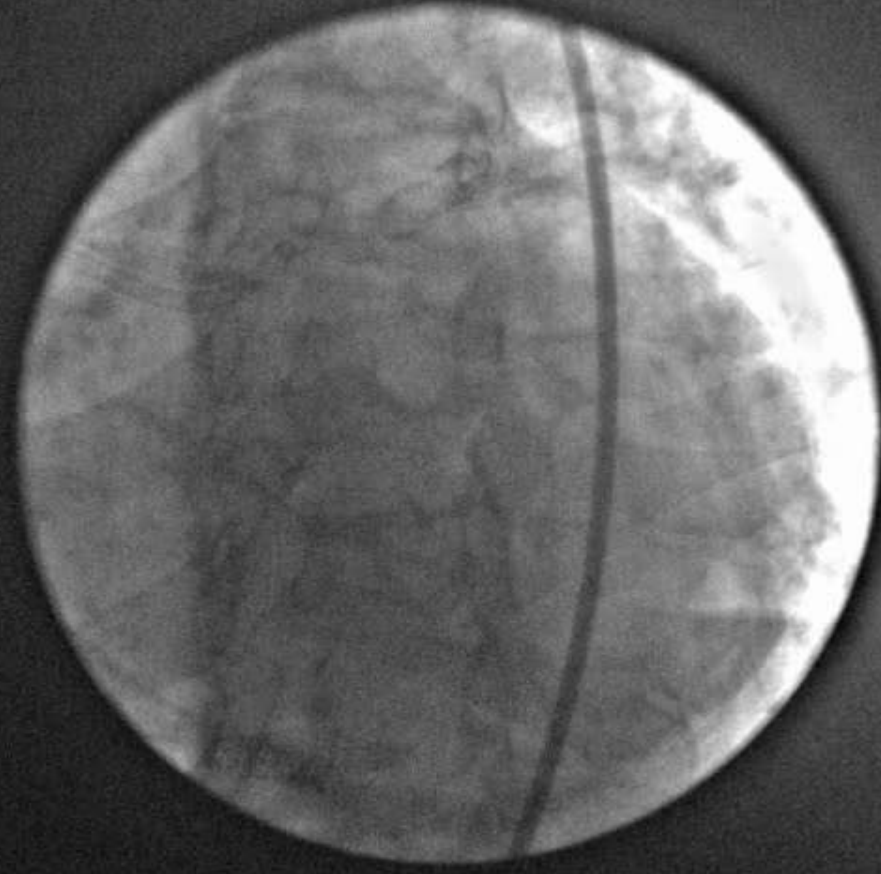
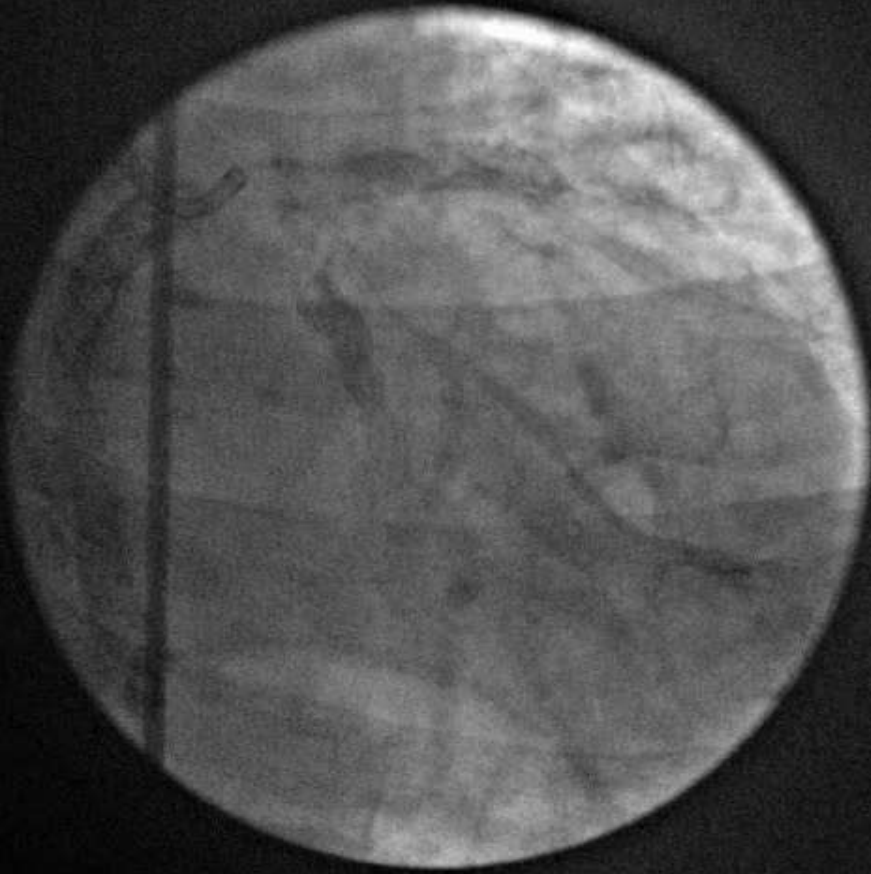
- **PCI for acute antero-septal STEMI about 20 years ago**
- **Repeat revascularization to LAD and RCA.**
- **PCI for LCX 3years ago.**
- **Chest symptom on effort.**
- **An in-stent restenosis lesion was suspected in the LCX with CT angiography.**

Coronary risk factors: Hypertension, Diabetes

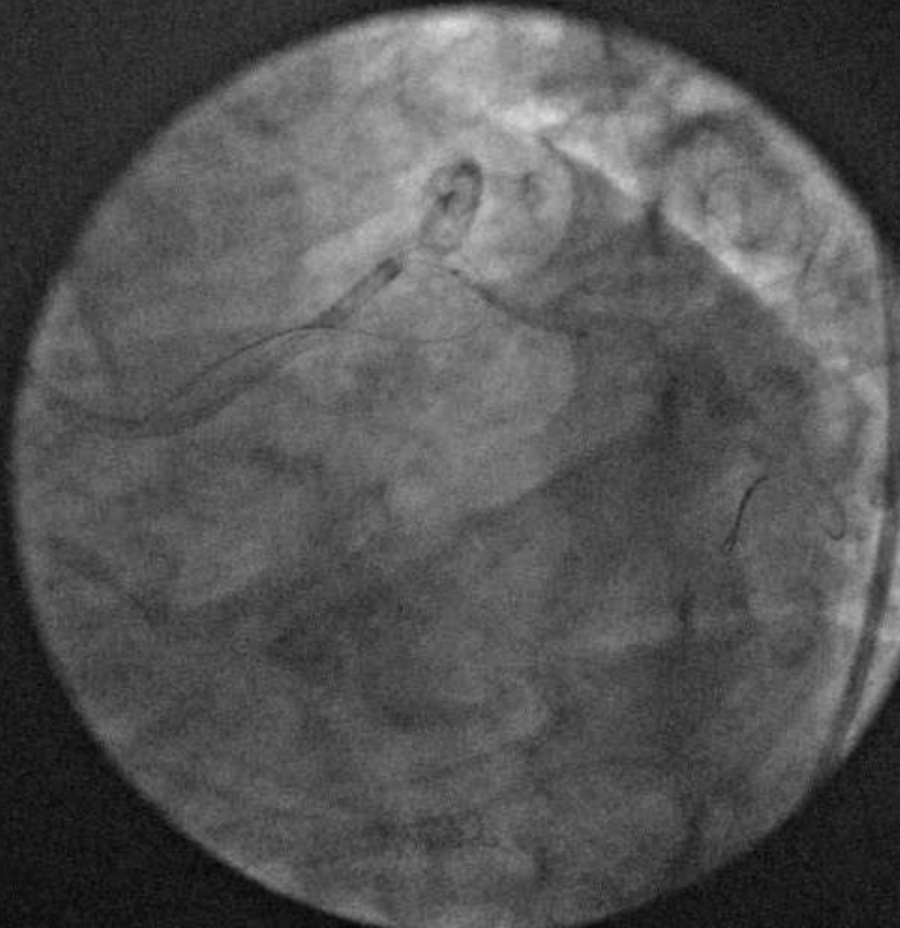
Coronary CT angiography



Previous PCI

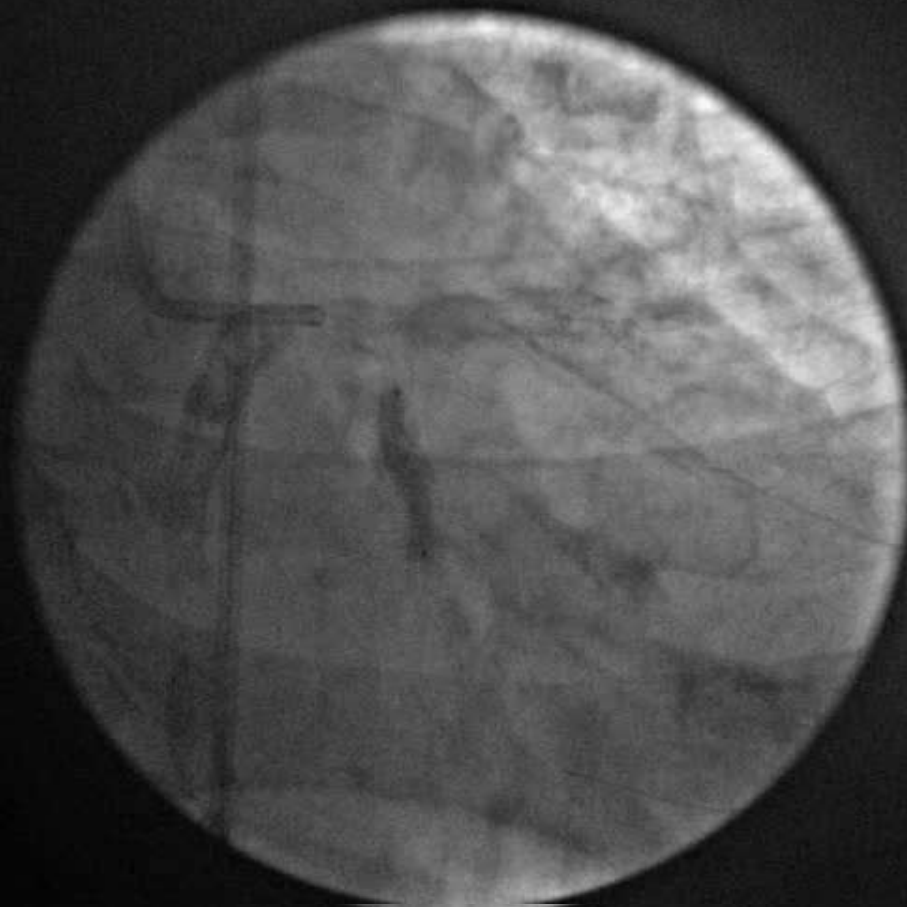


Previous PCI



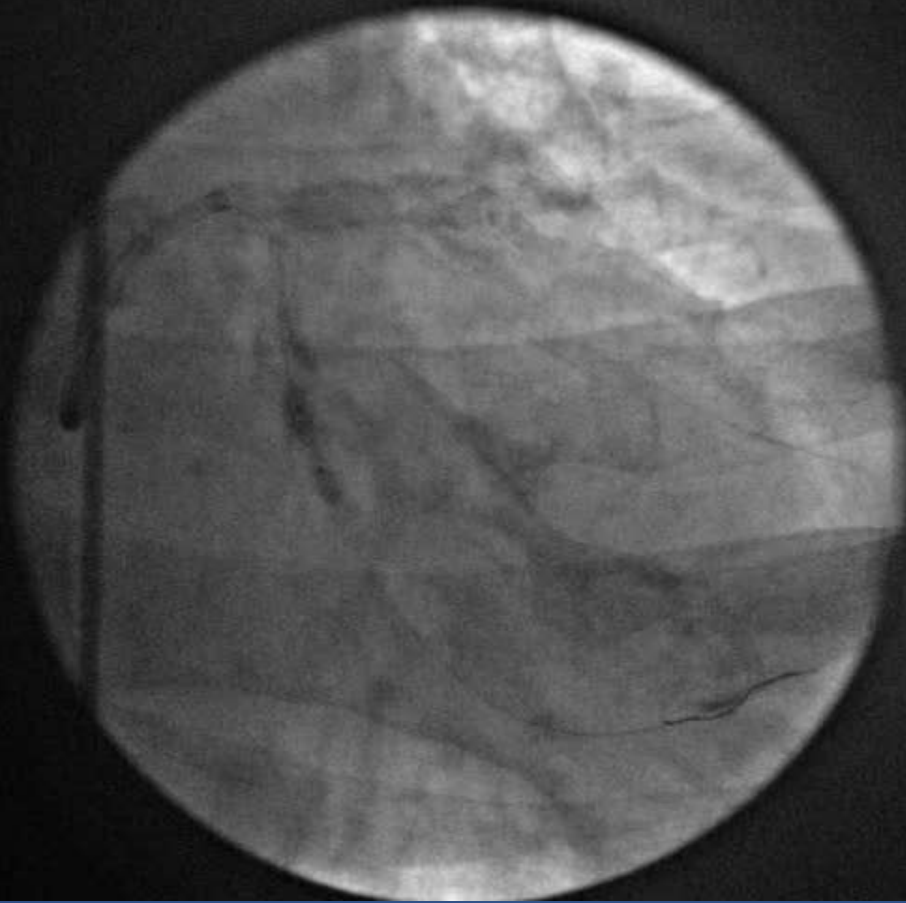
#11os→Xience PRIME 3.5x18mm

COMPLEX PCI 2018



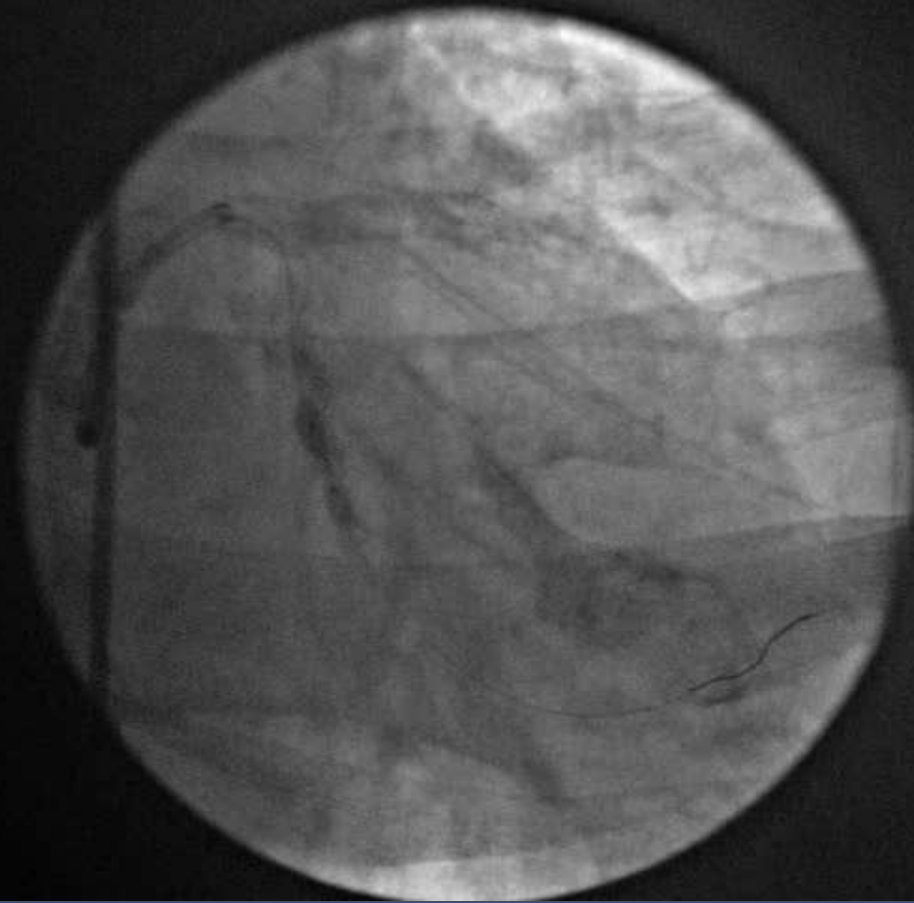
#13→Xience PRIME 3.0x28mm

Previous PCI



NC Sprinter 2.75x12mm, 28atm

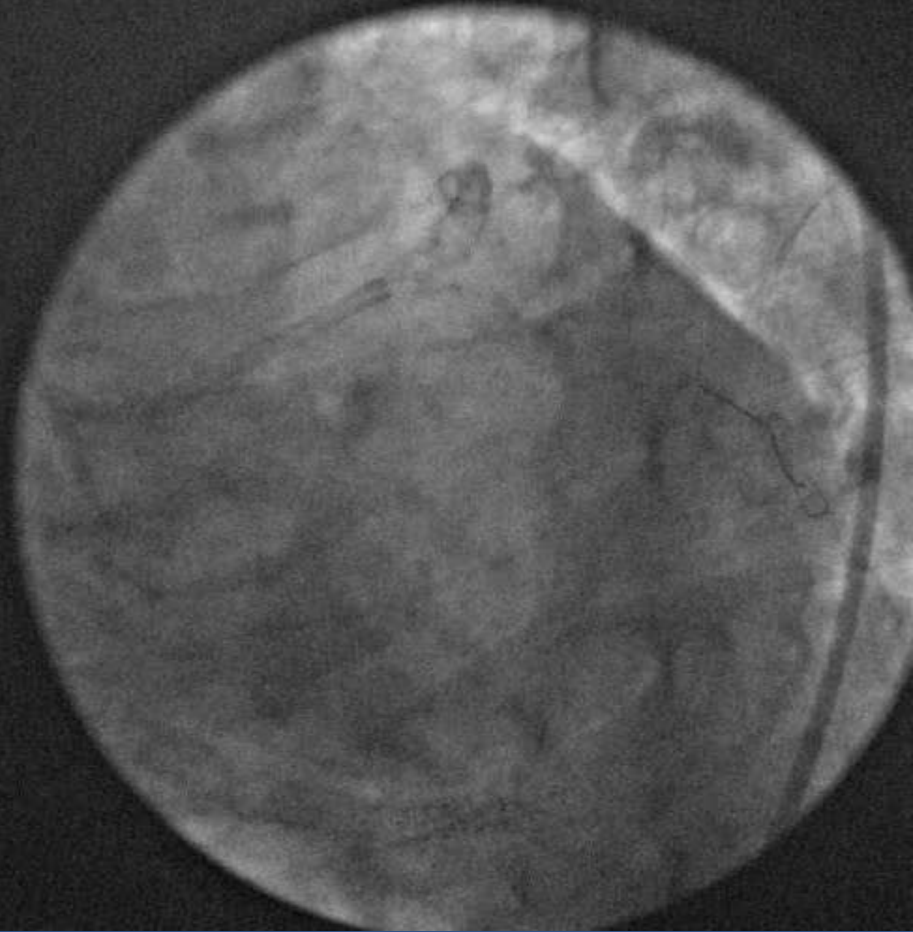
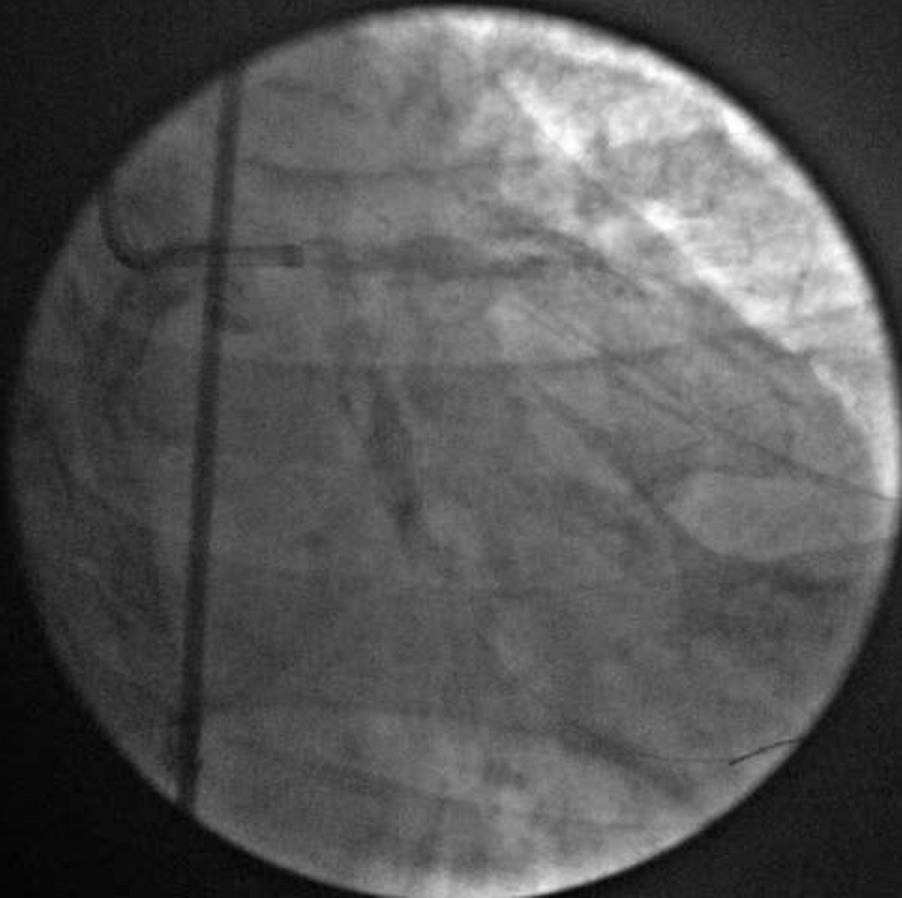
COMPLEX PCI 2018



Cyclone HP 3.25x10mm, 30atm

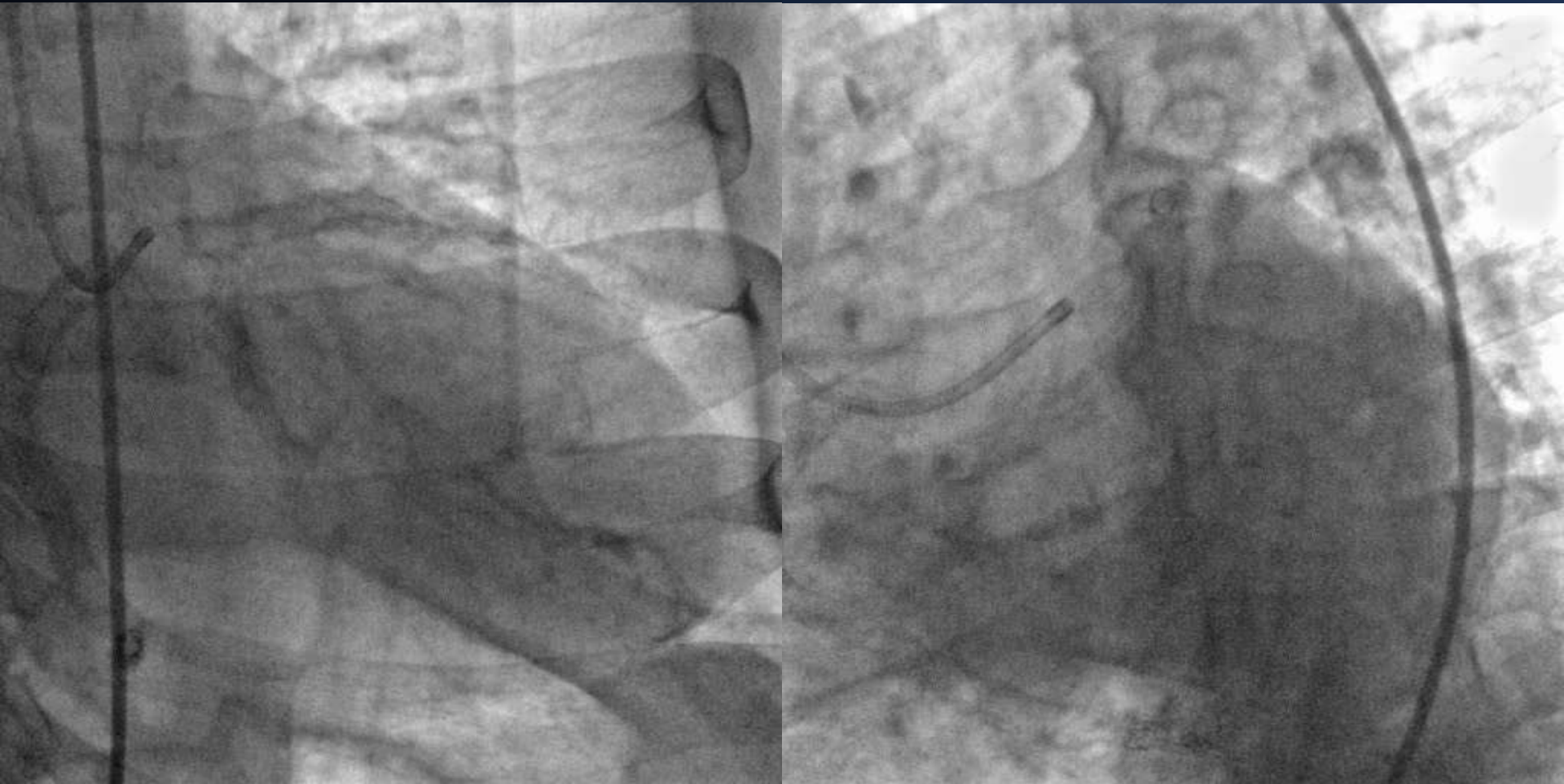
 CVRF

Previous PCI



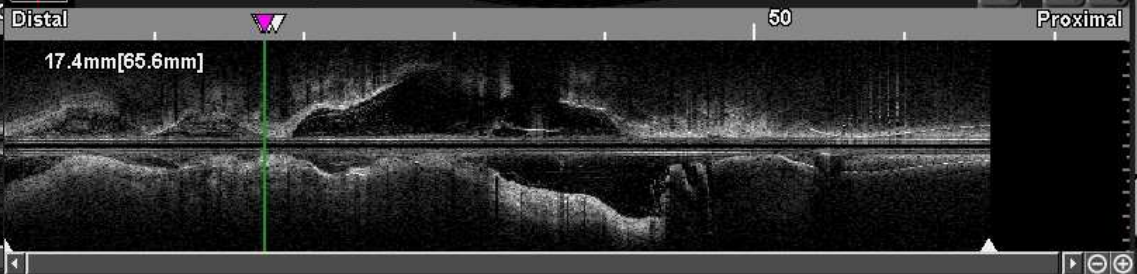
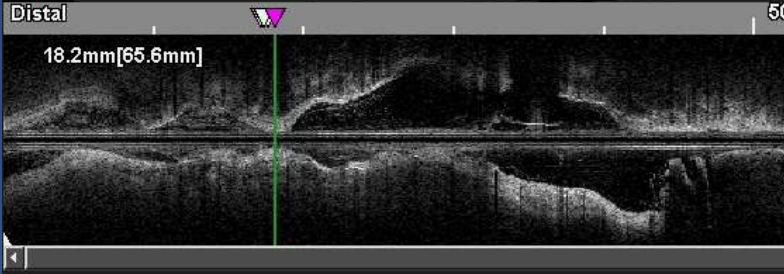
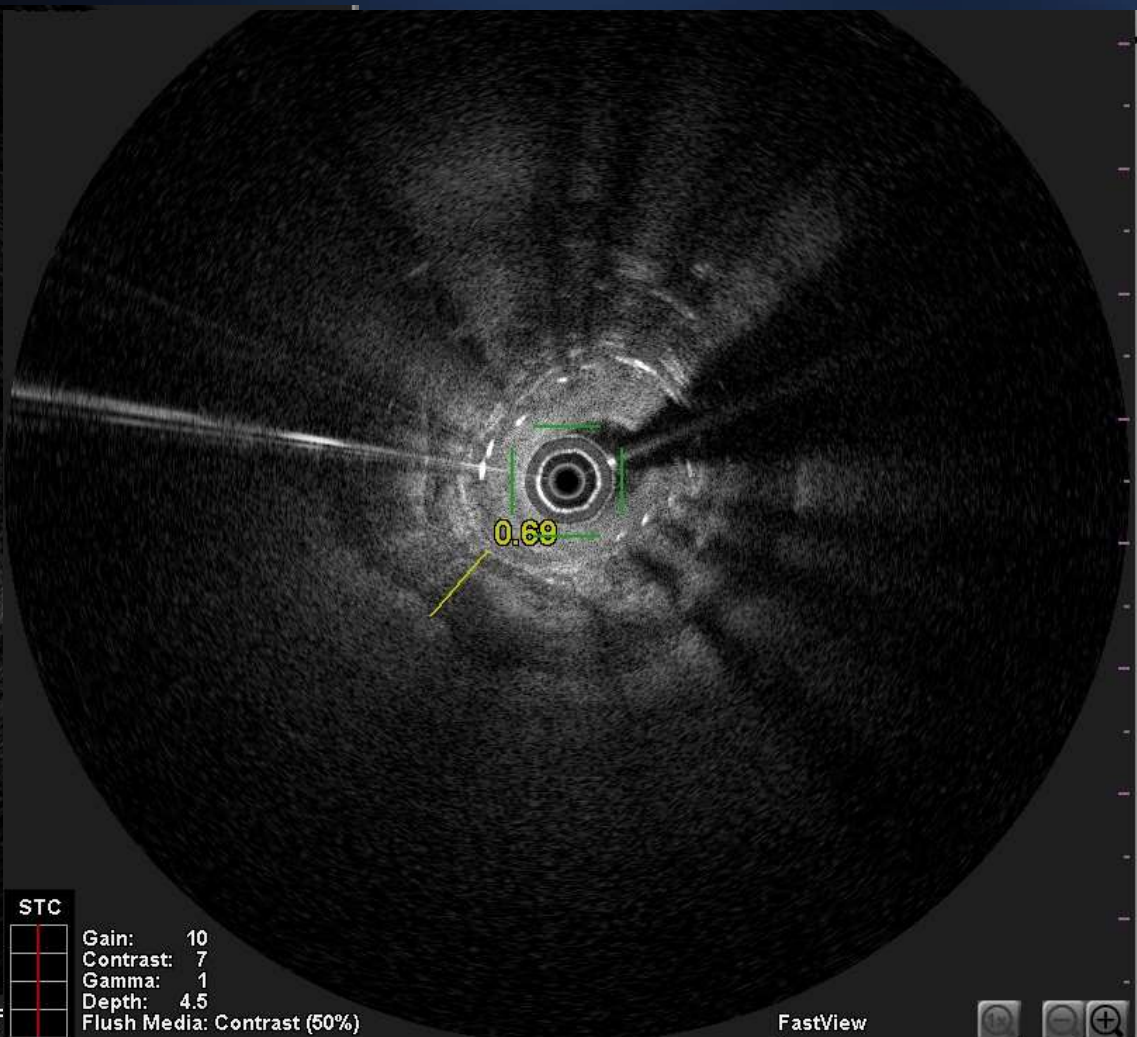
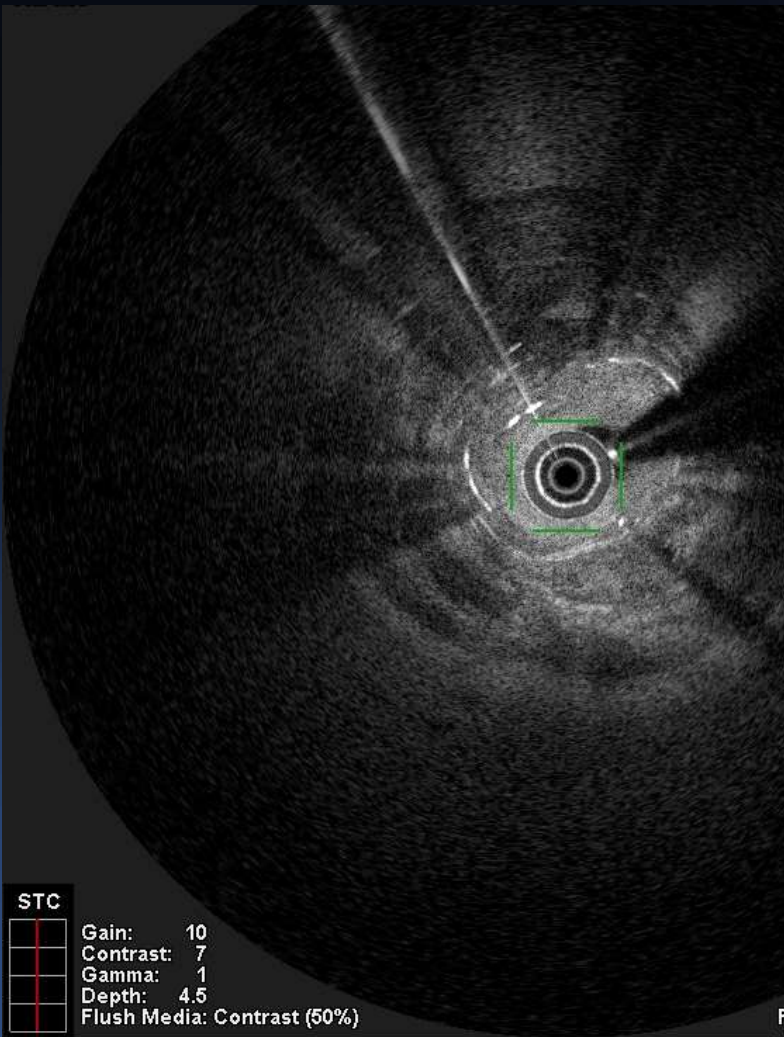
Control CAG

Lt.Femoral 7Fr approach
G.C; Hyperion SPB375SH 7Fr



OFDI



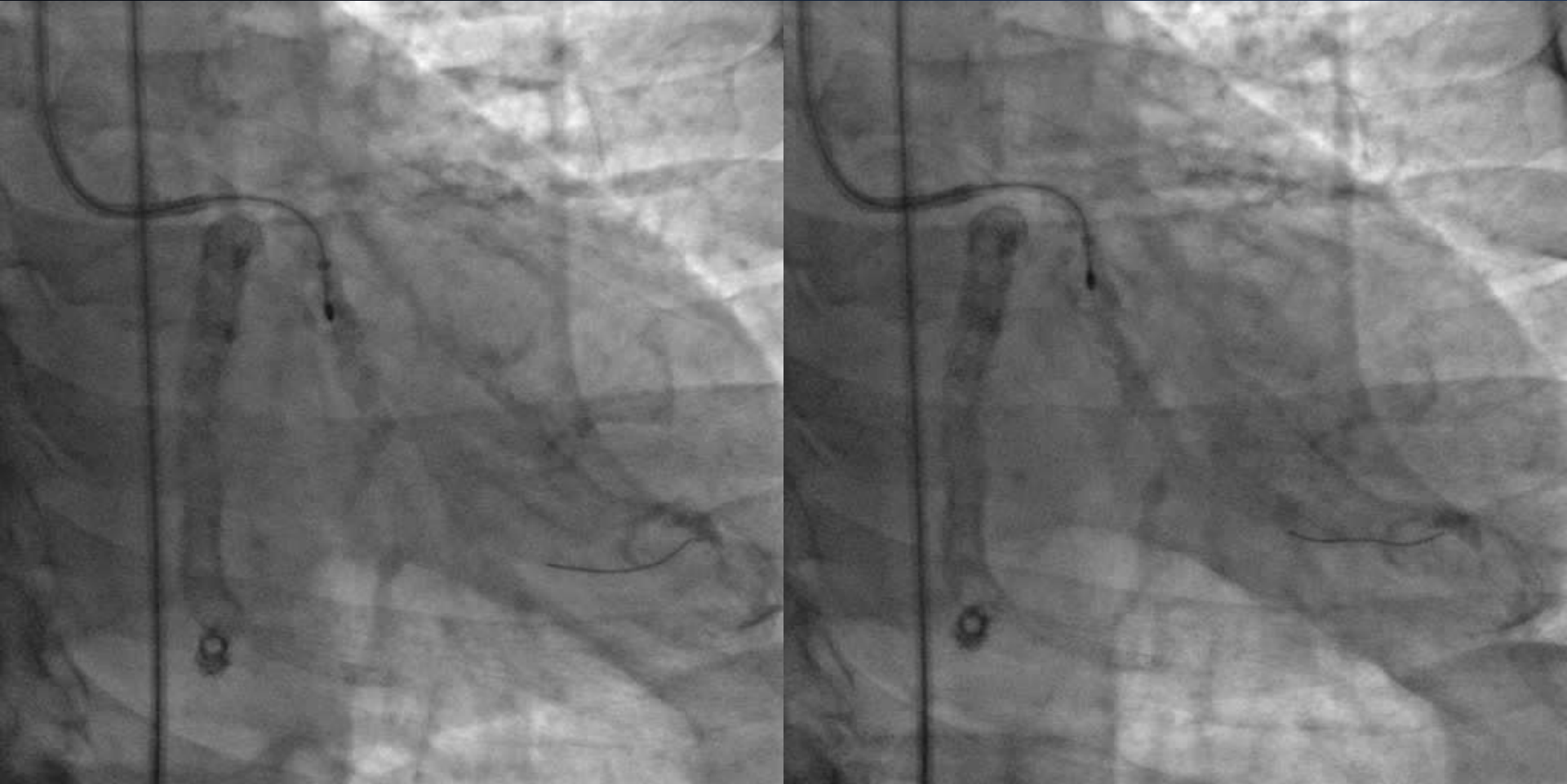


Guideliner 7Fr

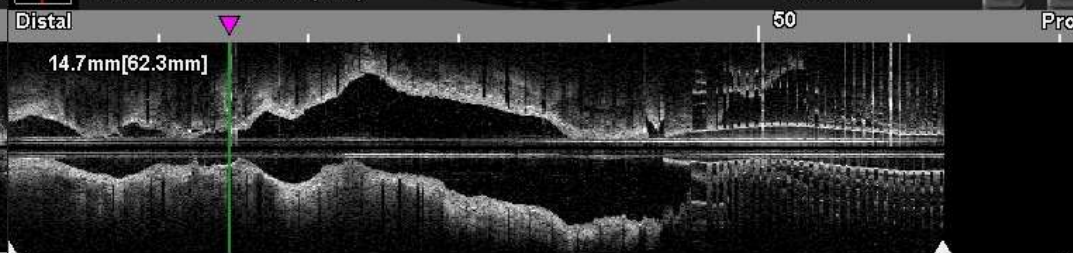
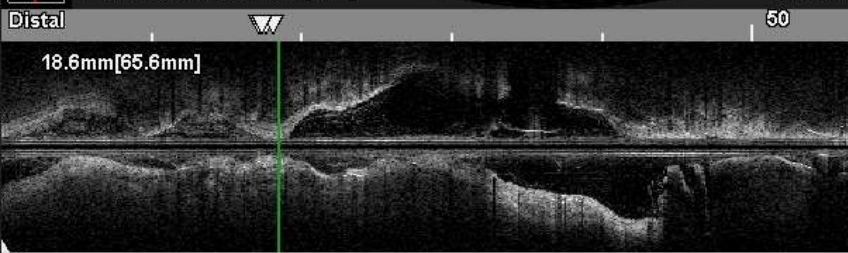
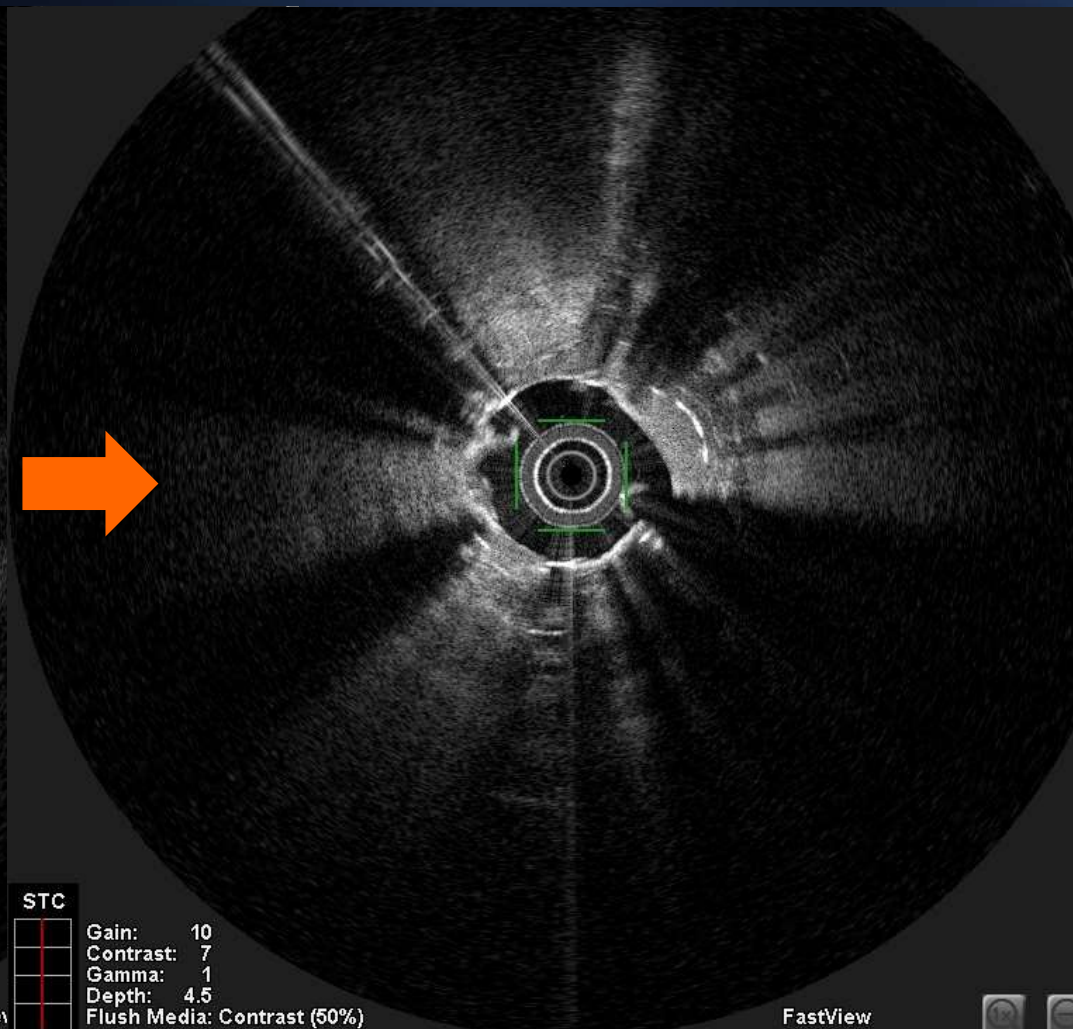
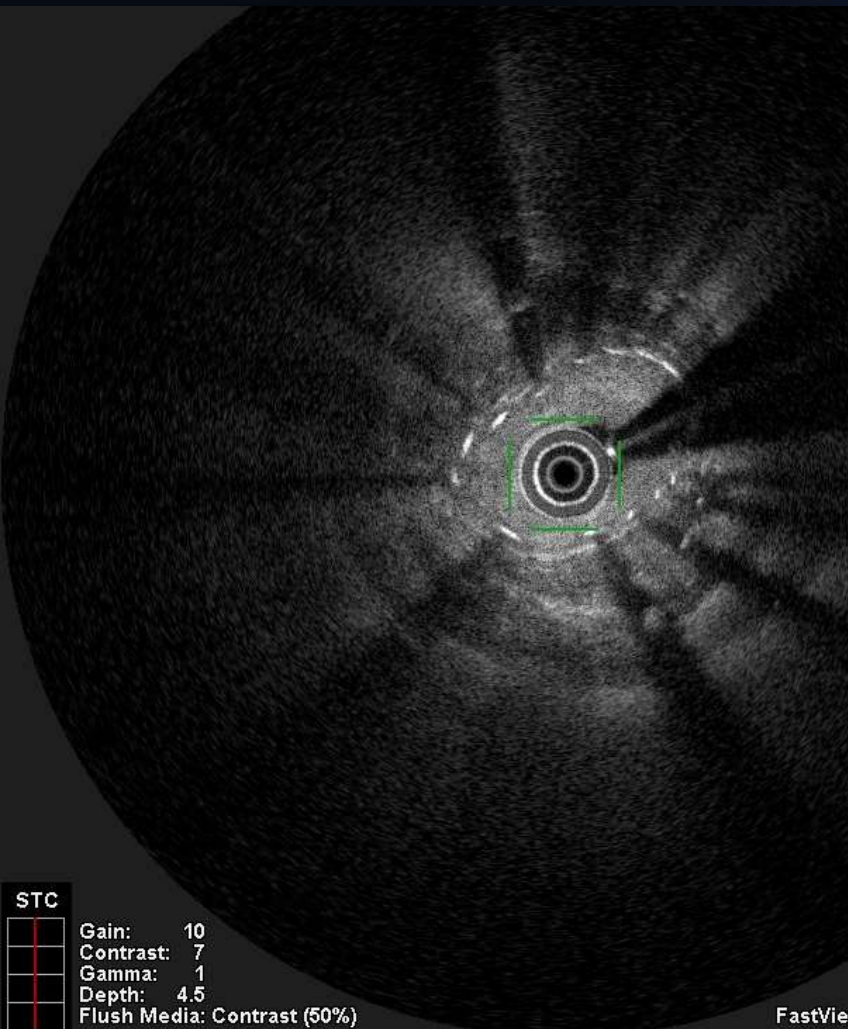




Rotational Atherectomy



**Rotawire Extrasupport
1.5mm burr, 200,000rpm**



POBA



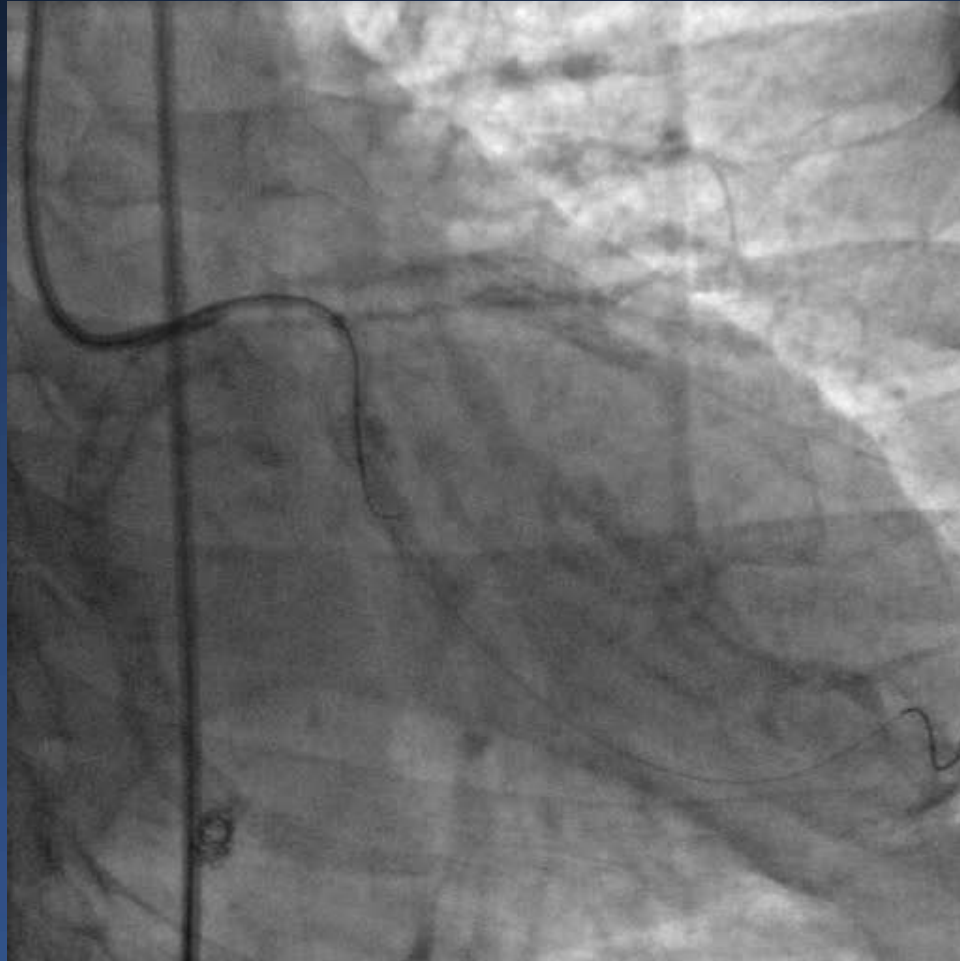
Wire Cracking

Crusade K support

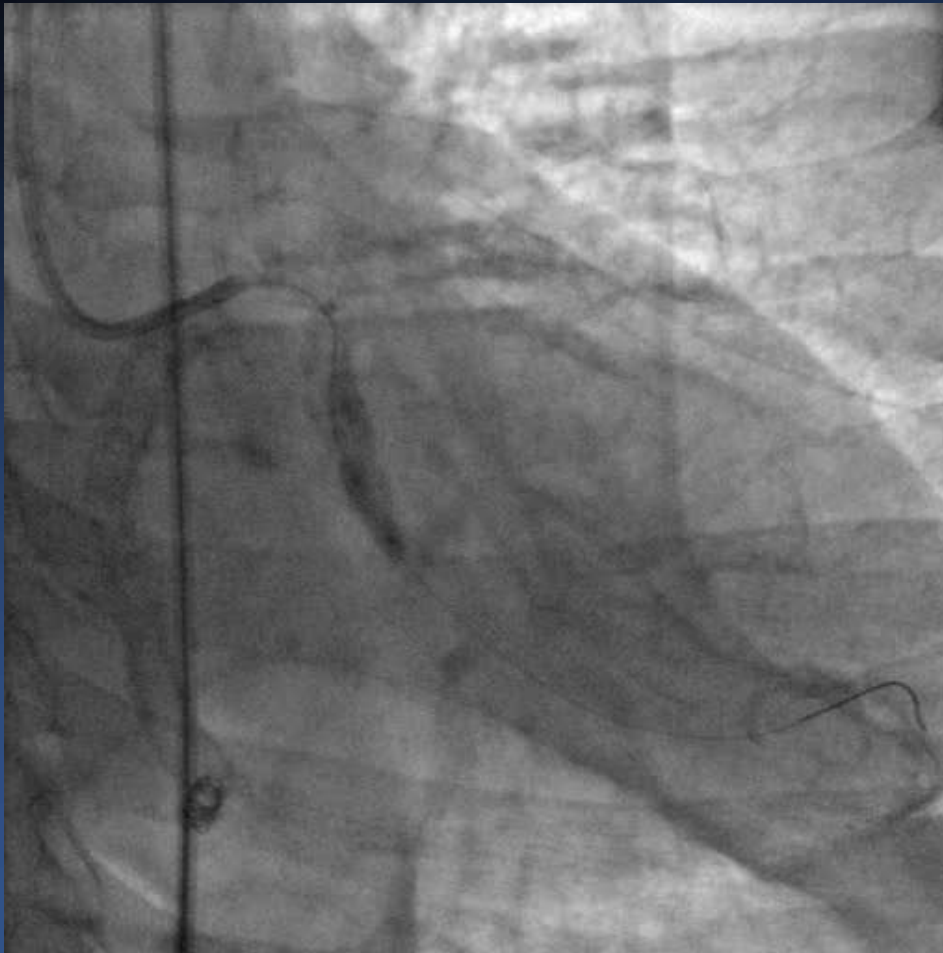


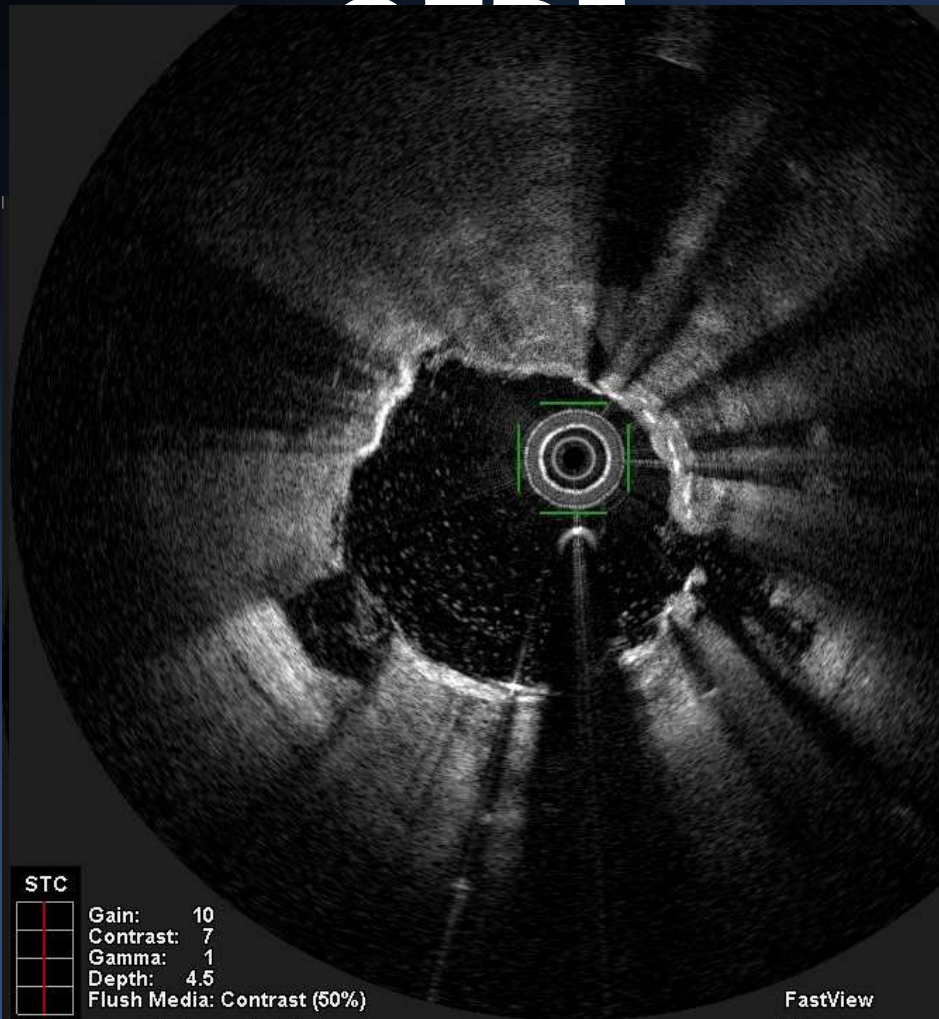
Wire Cracking

Crusade K support



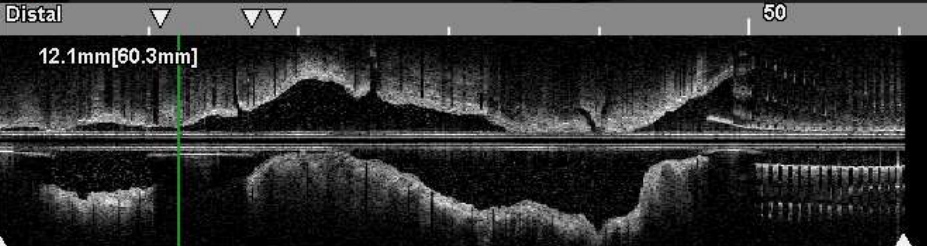
POBA





STC
Gain: 10
Contrast: 7
Gamma: 1
Depth: 4.5
Flush Media: Contrast (50%)

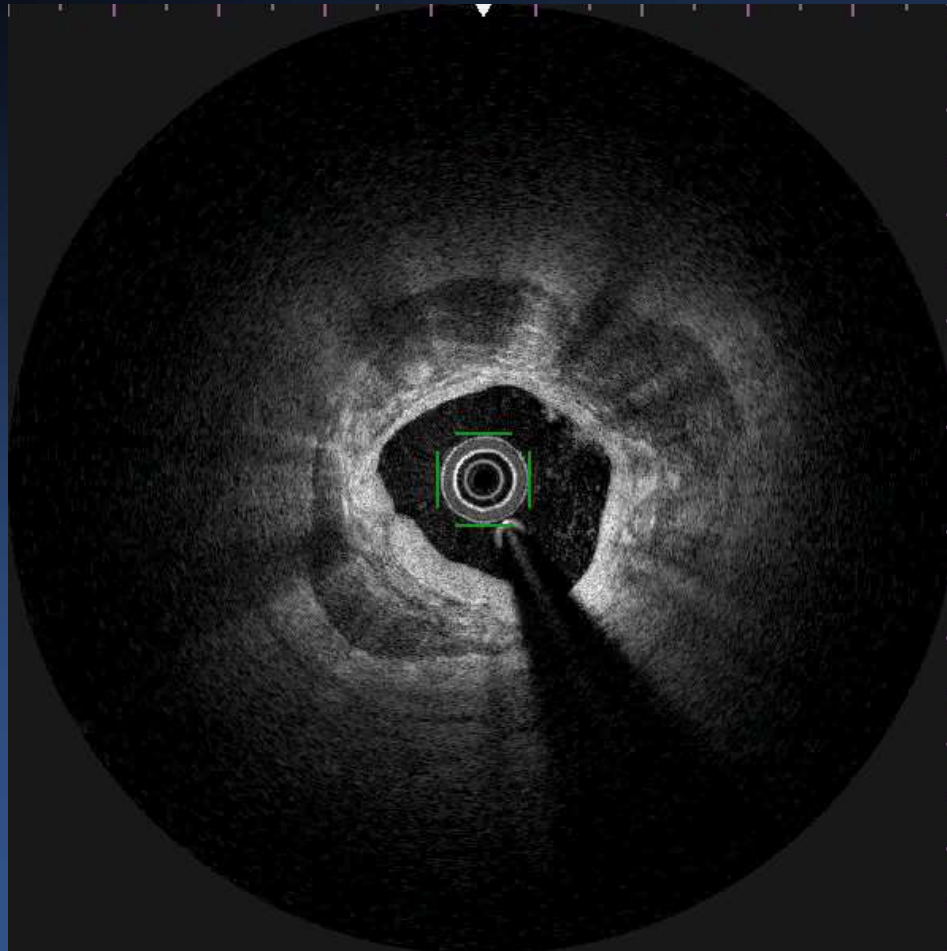
FastView



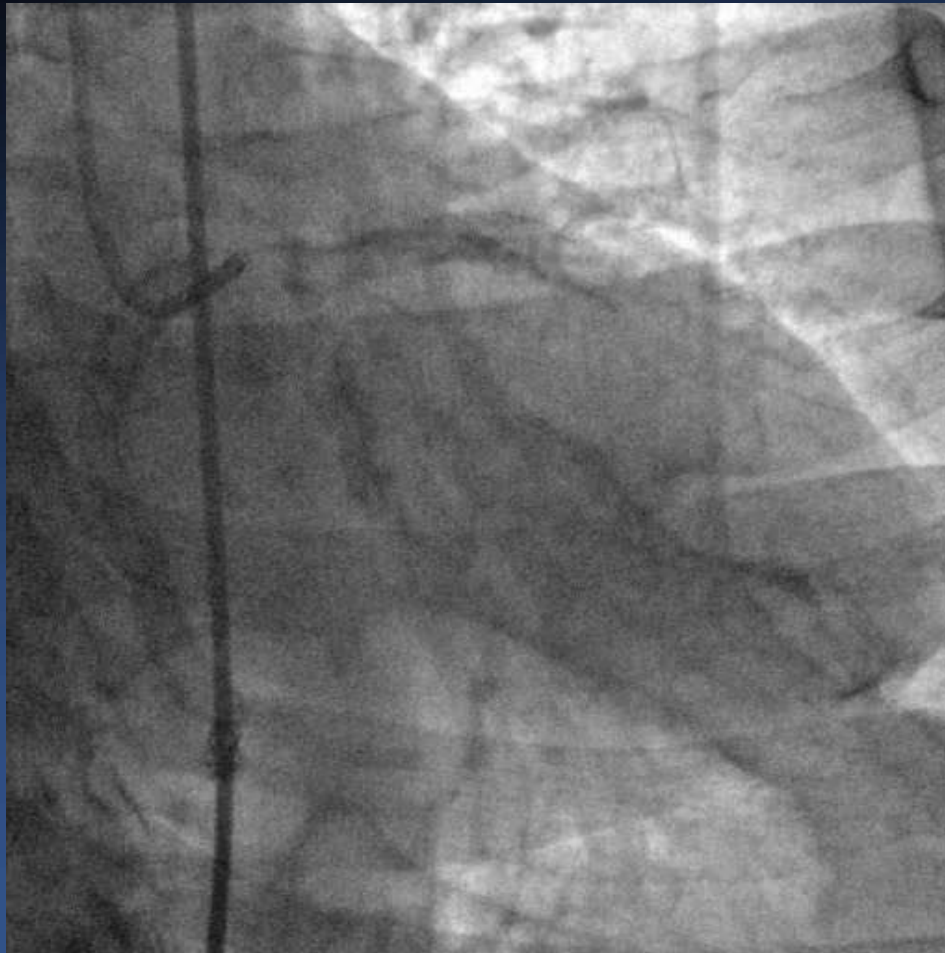
Stenting



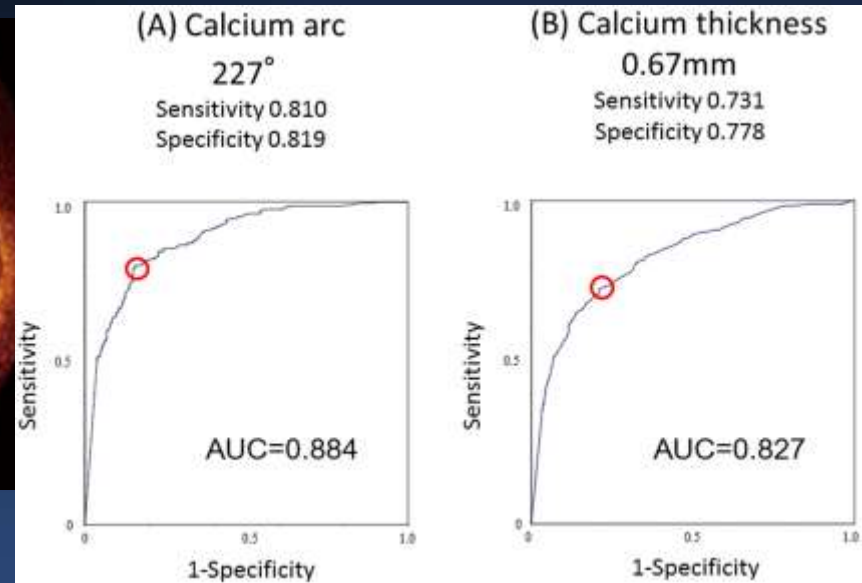
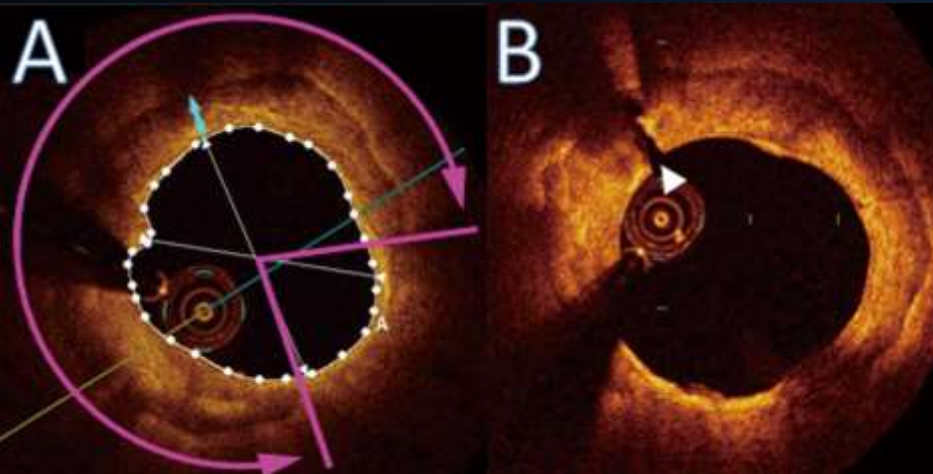
OFDI



Final CAG



Discussion



Presence of calcium crack was the important determinant of optimal stent expansion in the calcified coronary lesions.

Larger calcium arc ($>227^\circ$) and thinner calcium thickness ($<0.67\text{mm}$ ($670\mu\text{m}$)) were associated with formation of calcium crack. (*Circ J* 2016; 80: 1413-1419)

In this case, in addition to thick calcification, the under expanded stent was the obstacle, and we needed to make mandatory cracks with stiff wire.

Conclusion

- **We report an in-stent restenosis case of an under expanded stent due to heavy calcification treated by rotational atherectomy and wire cracking.**