

IVUS Guided CTO Intervention - Pattern recognition -

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Disclosure Statement of Financial Interest

Within the past 12 months, I or my spouse/partner have had a financial Interest /arrangement or affiliation with the organization(s) listed below

Affiliation/Financial Relationship
Grant/ Research Support:

Speaker Fee

Company
Boston Scientific Corp.

Volcano Corp.

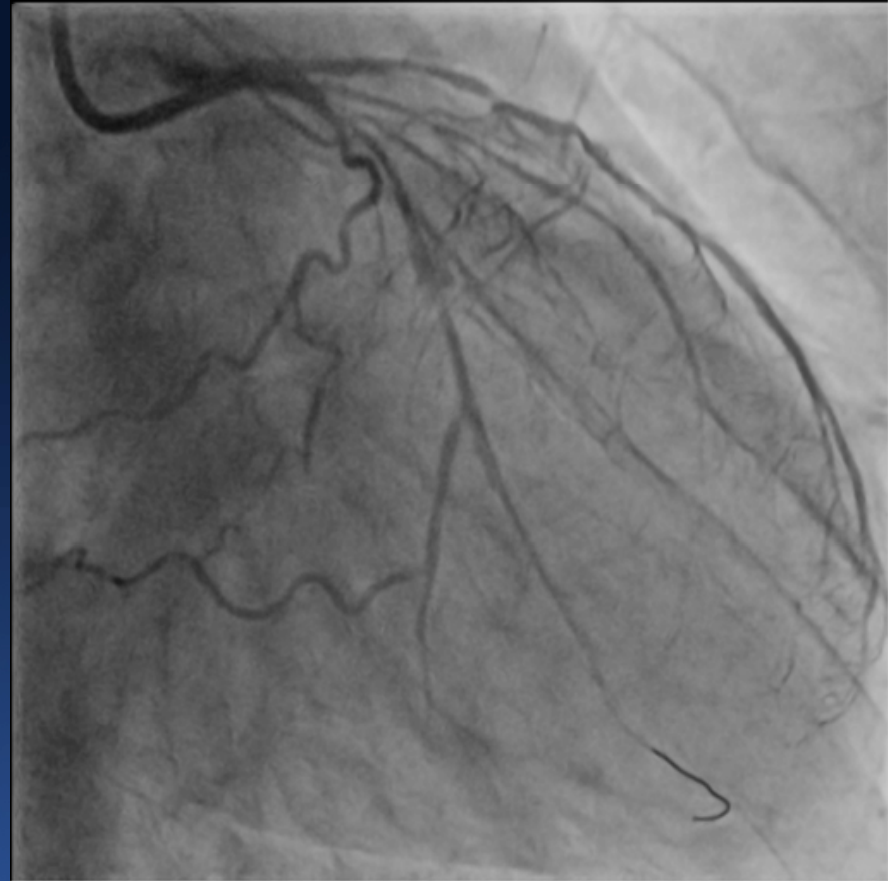
IVUS Pattern 1

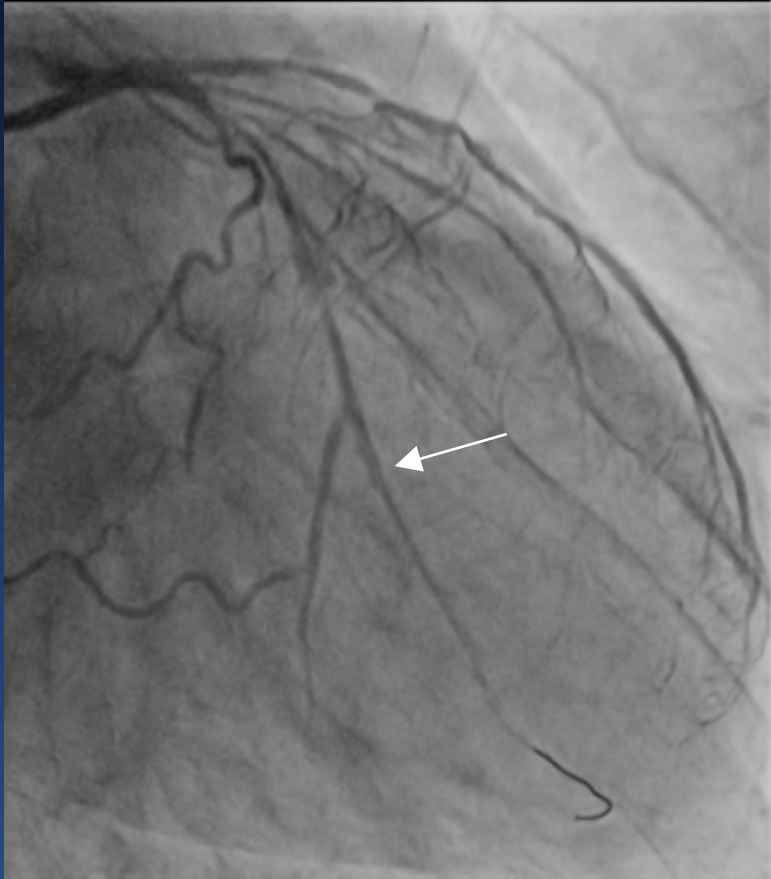
True and False Lumen

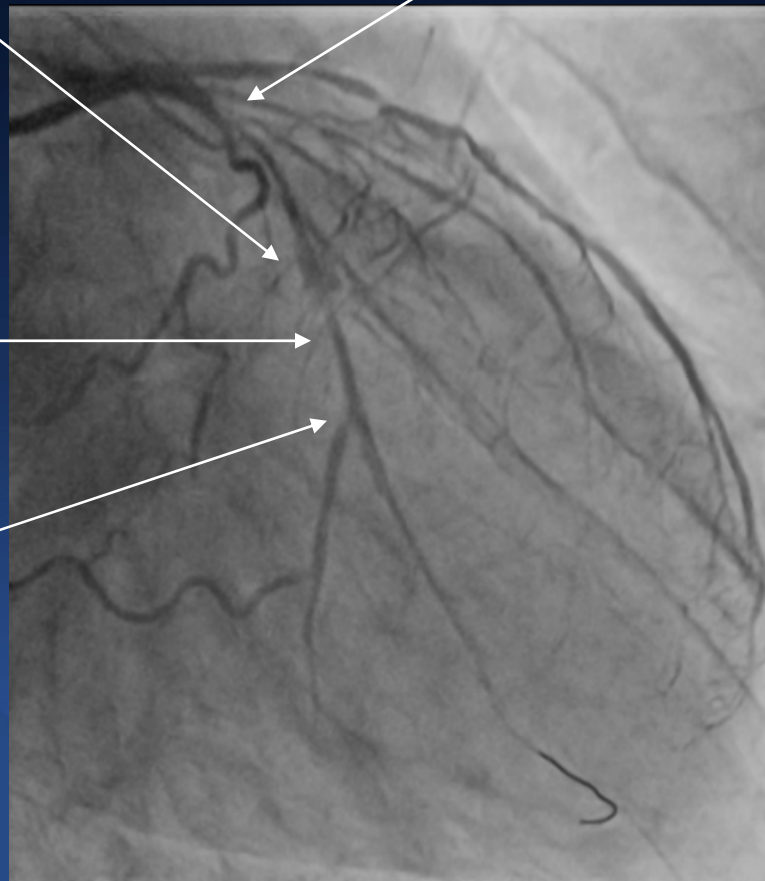
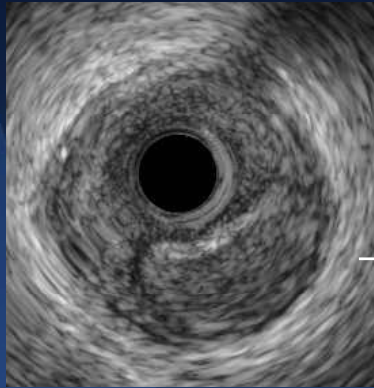
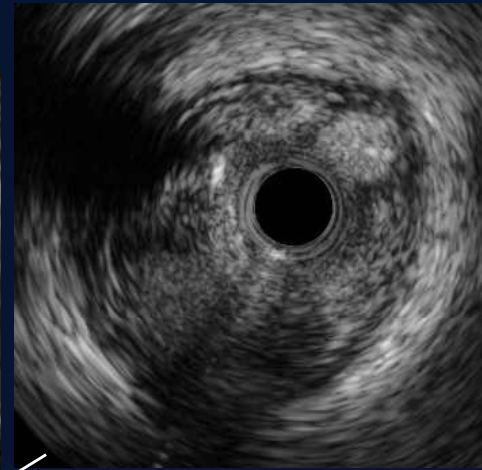
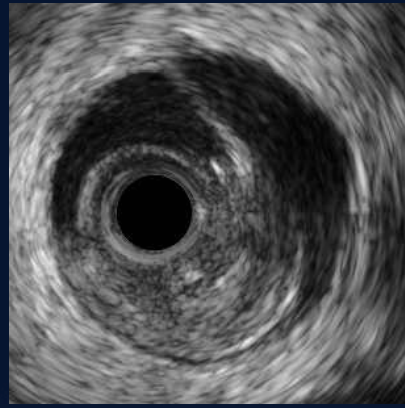
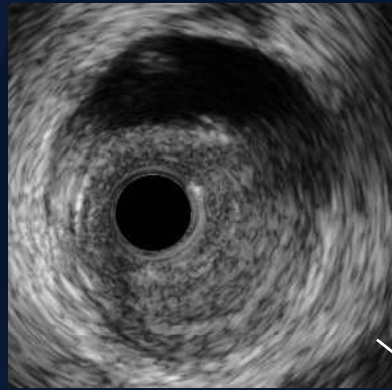
Pre



Post-Wiring

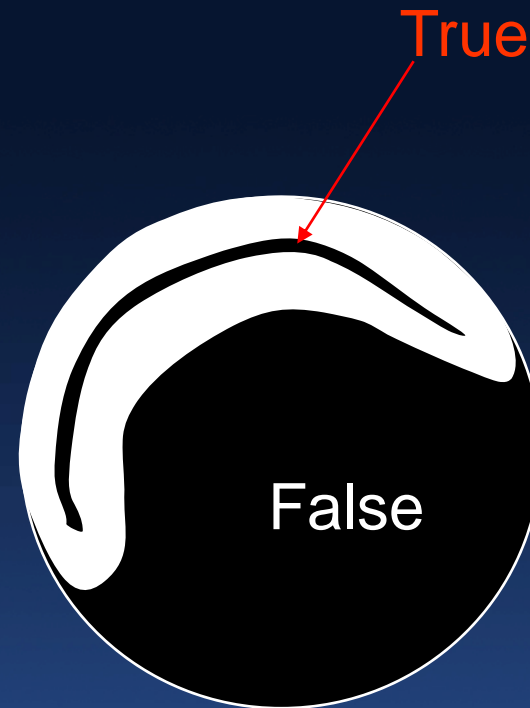
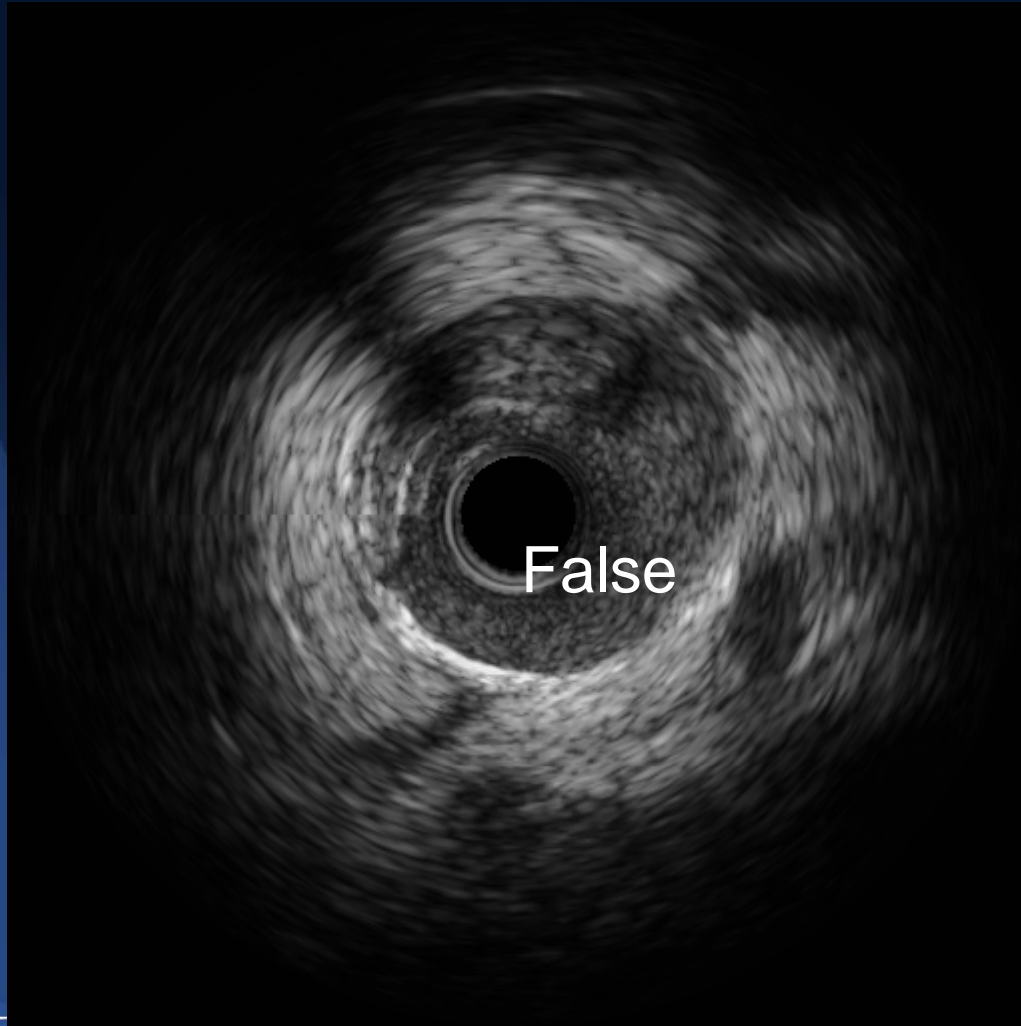


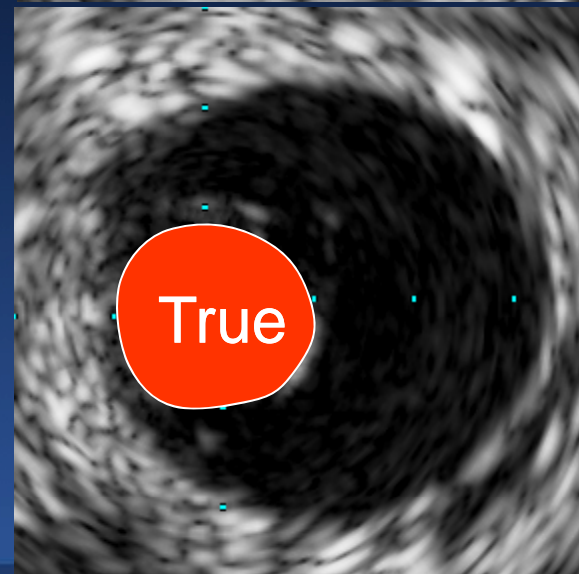
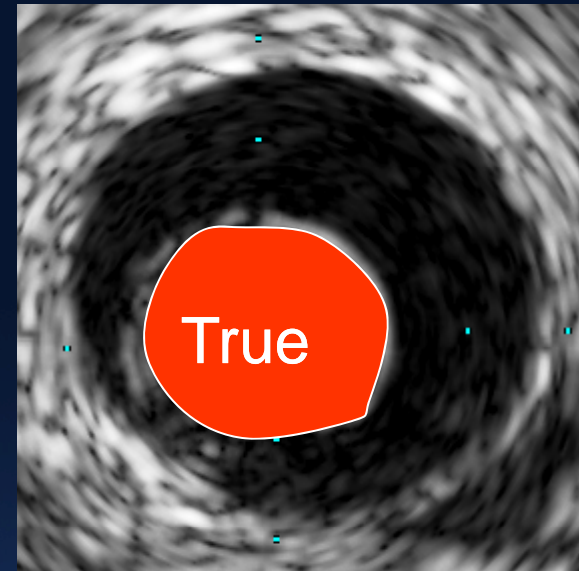
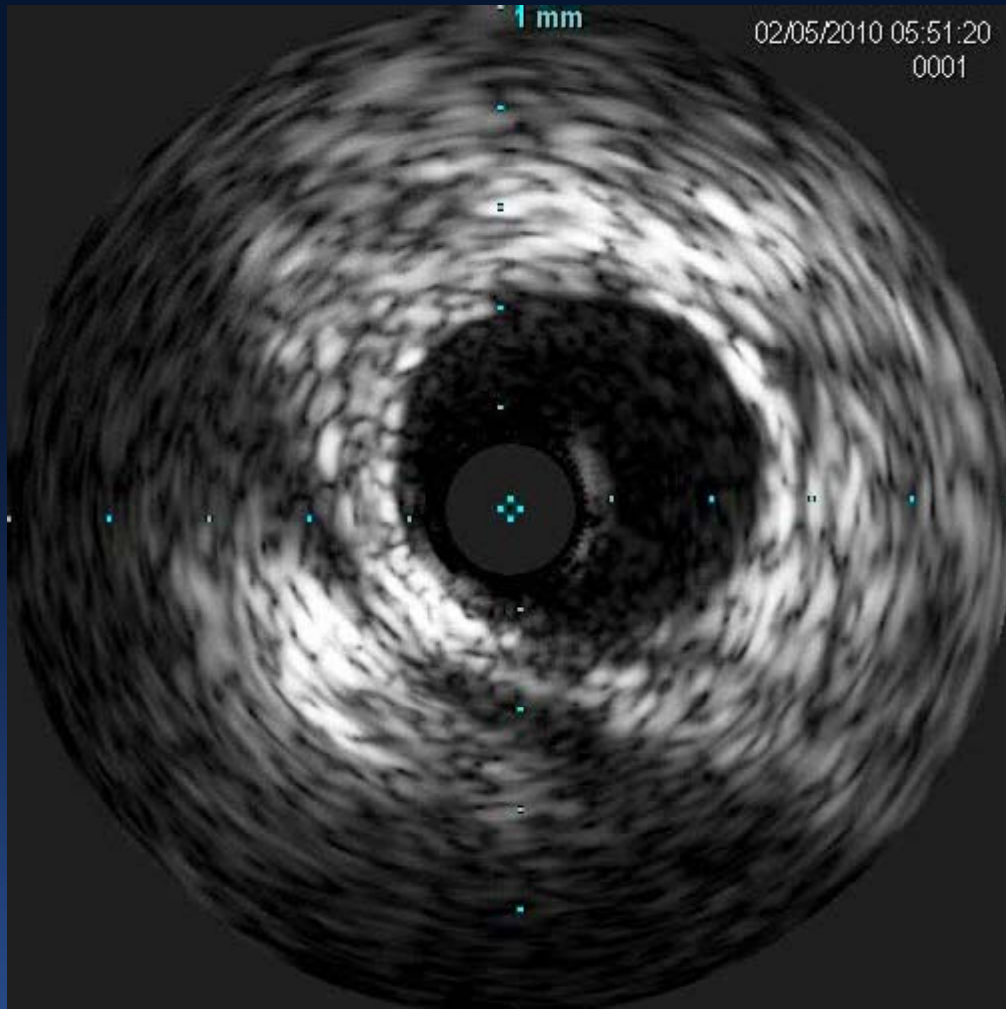




- False Lumen
- Start and End in true lumen

Typical False Lumen

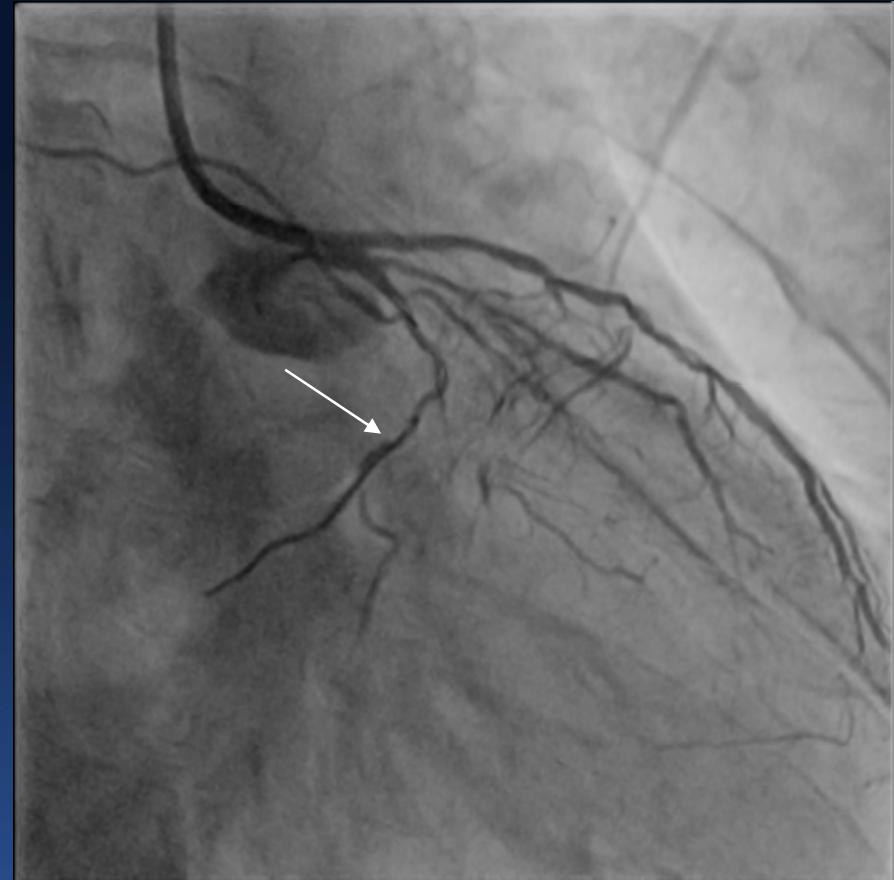


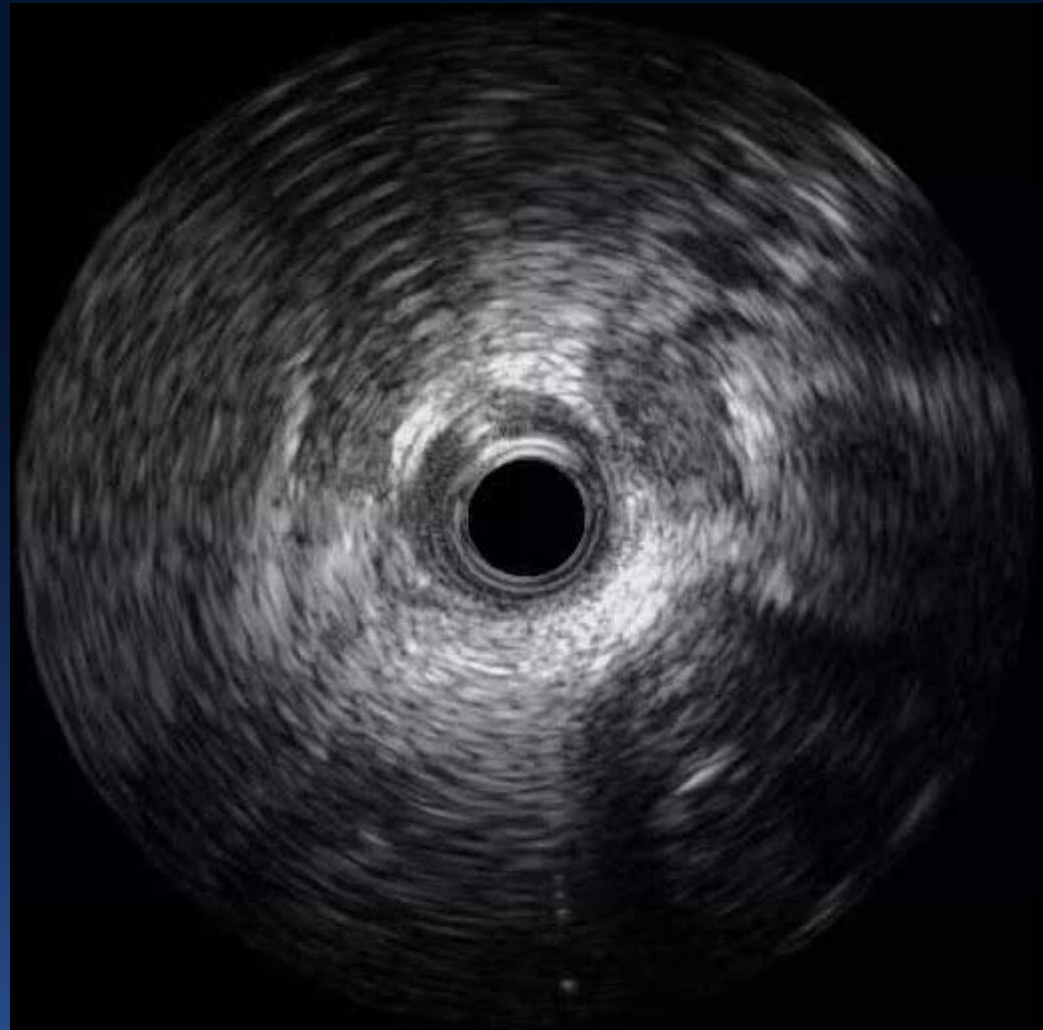
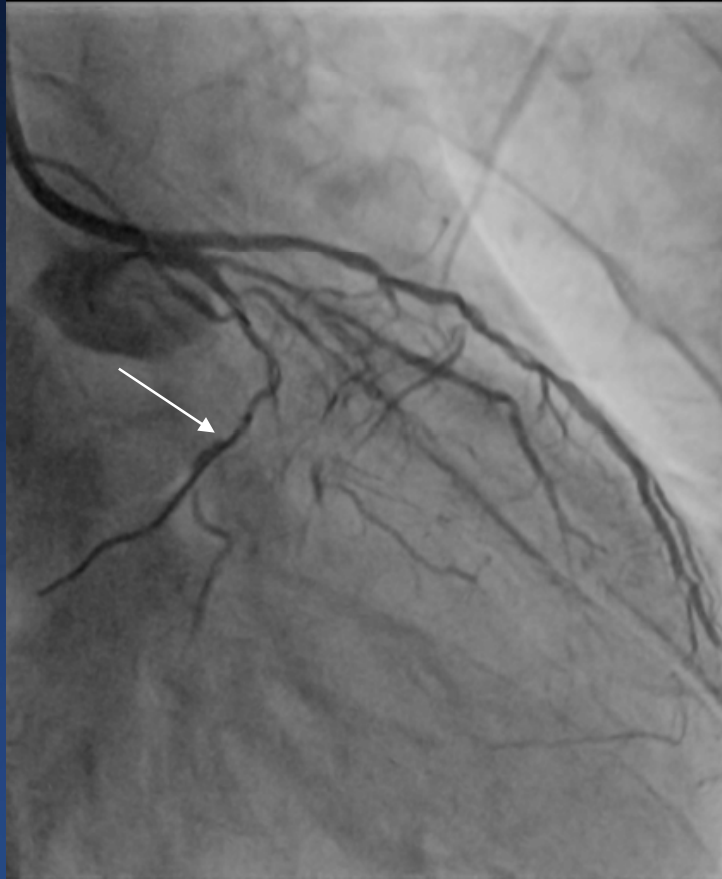


IVUS Pattern 2

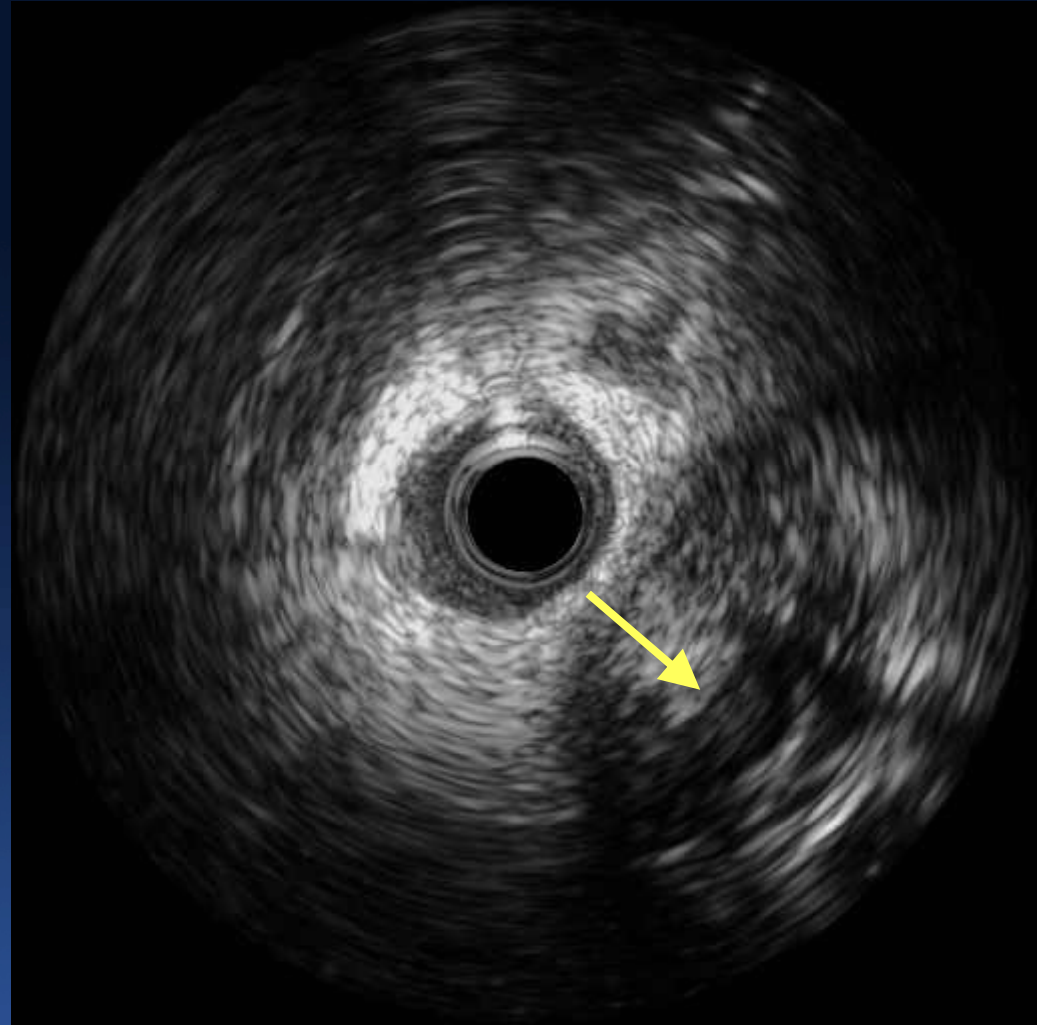
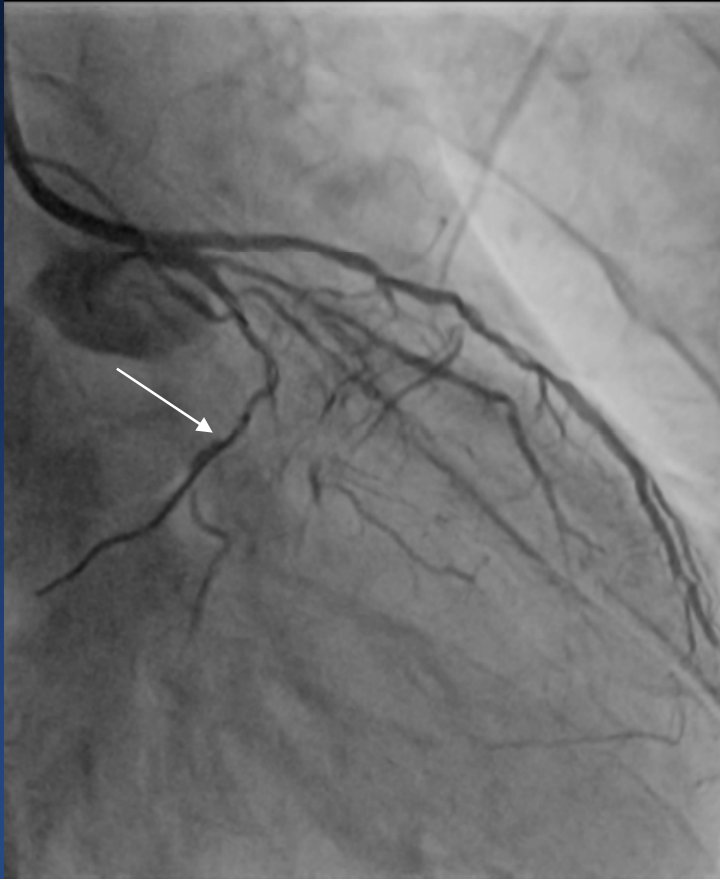
Flow in CTO

Wire in Branch





Flow in CTO



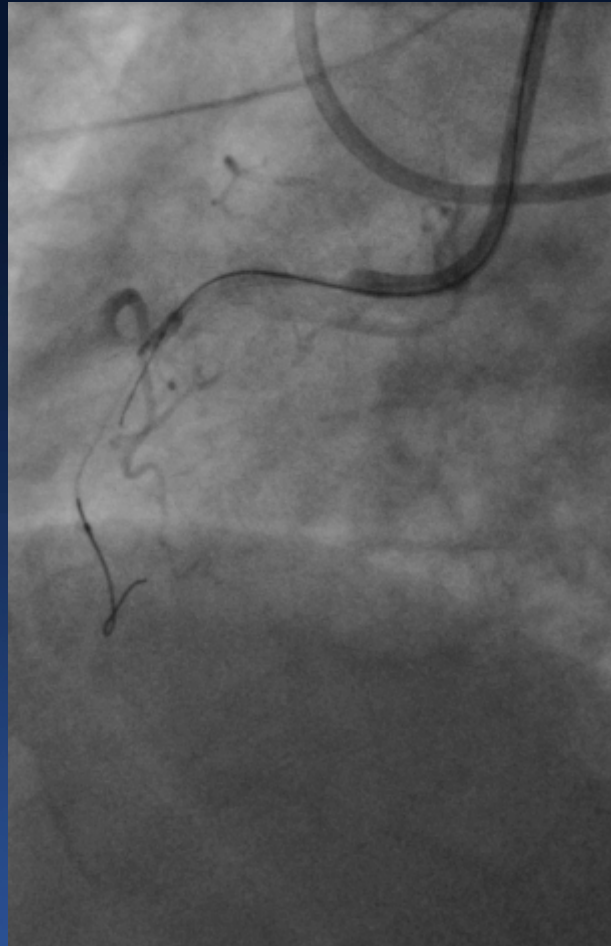
IVUS Pattern 3

Wiring in CTO

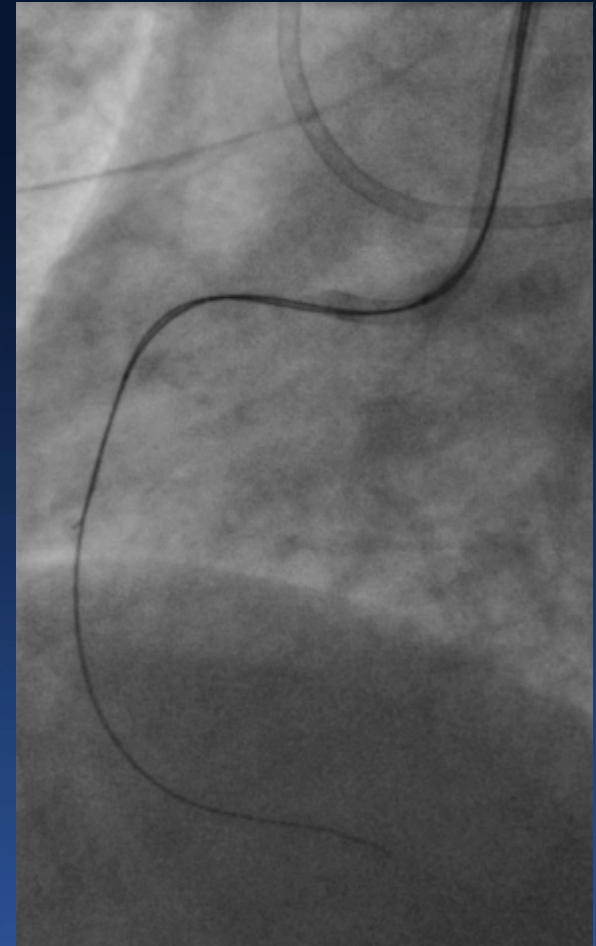
Pre

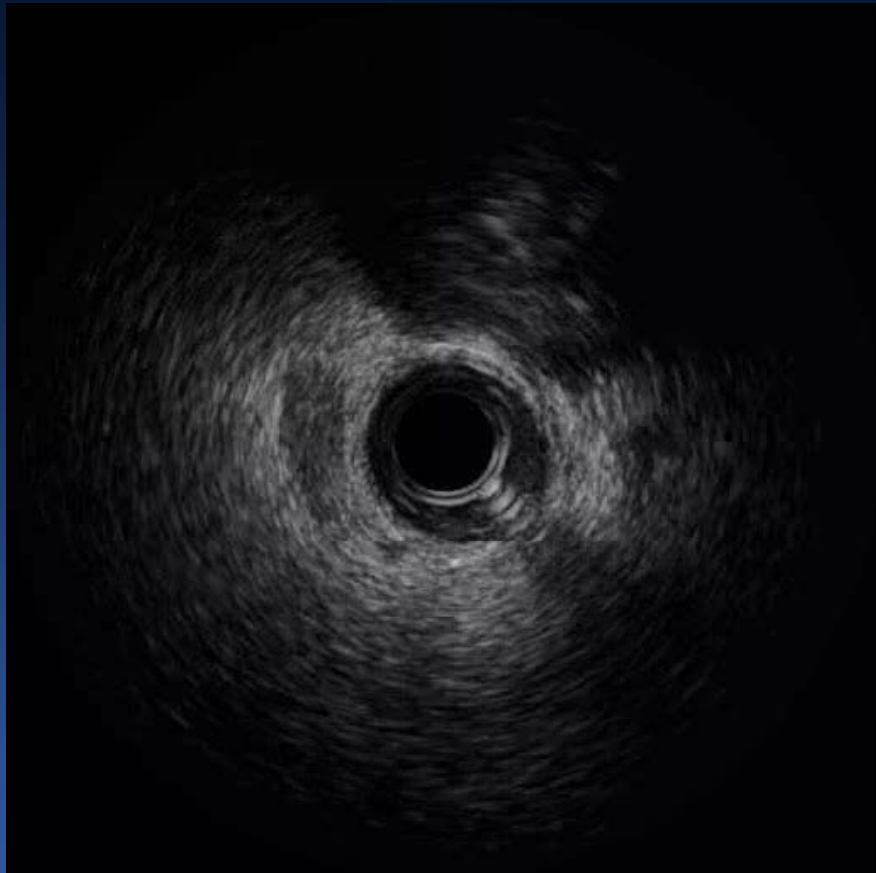
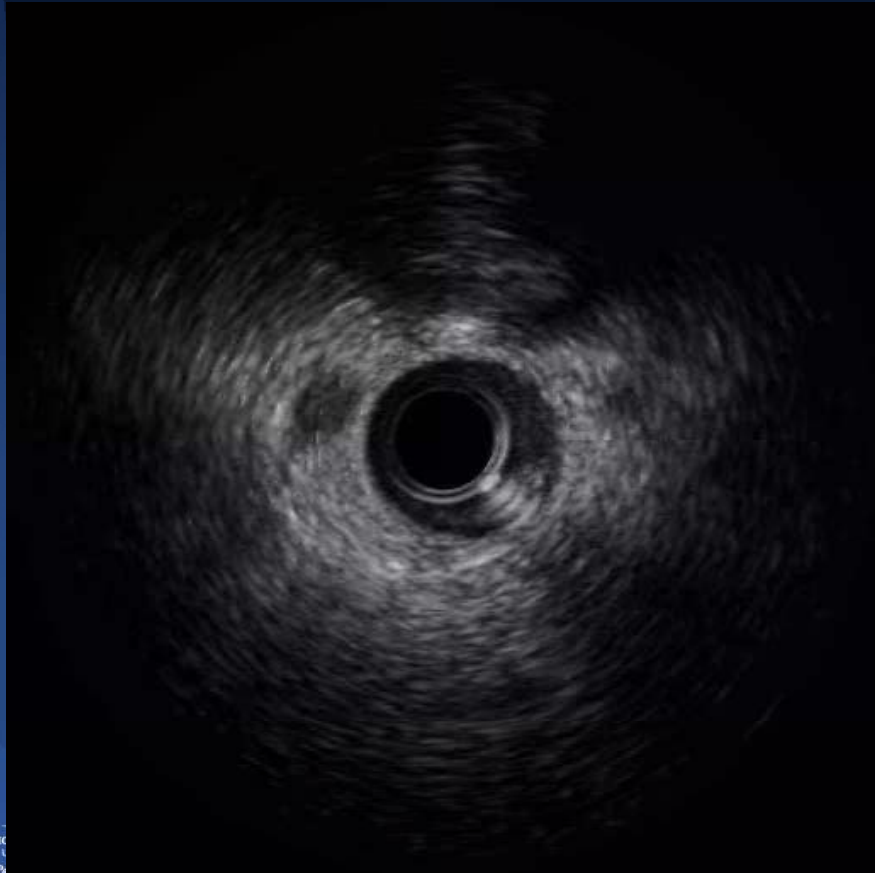
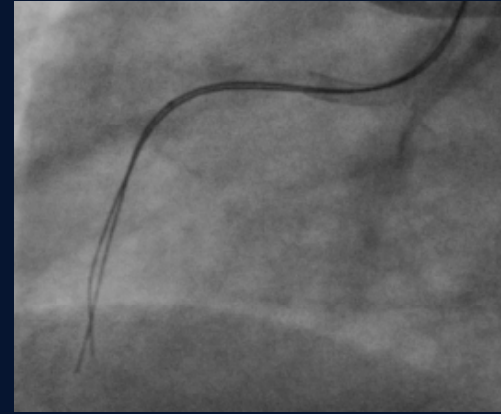
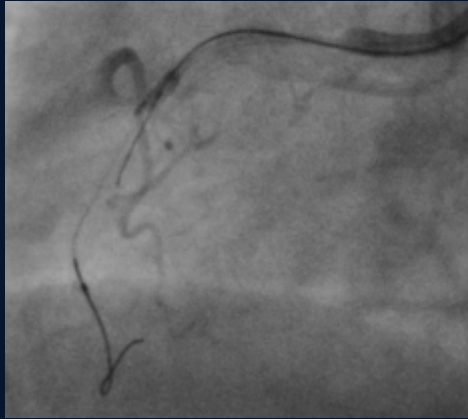


Wire in false



Wire in true

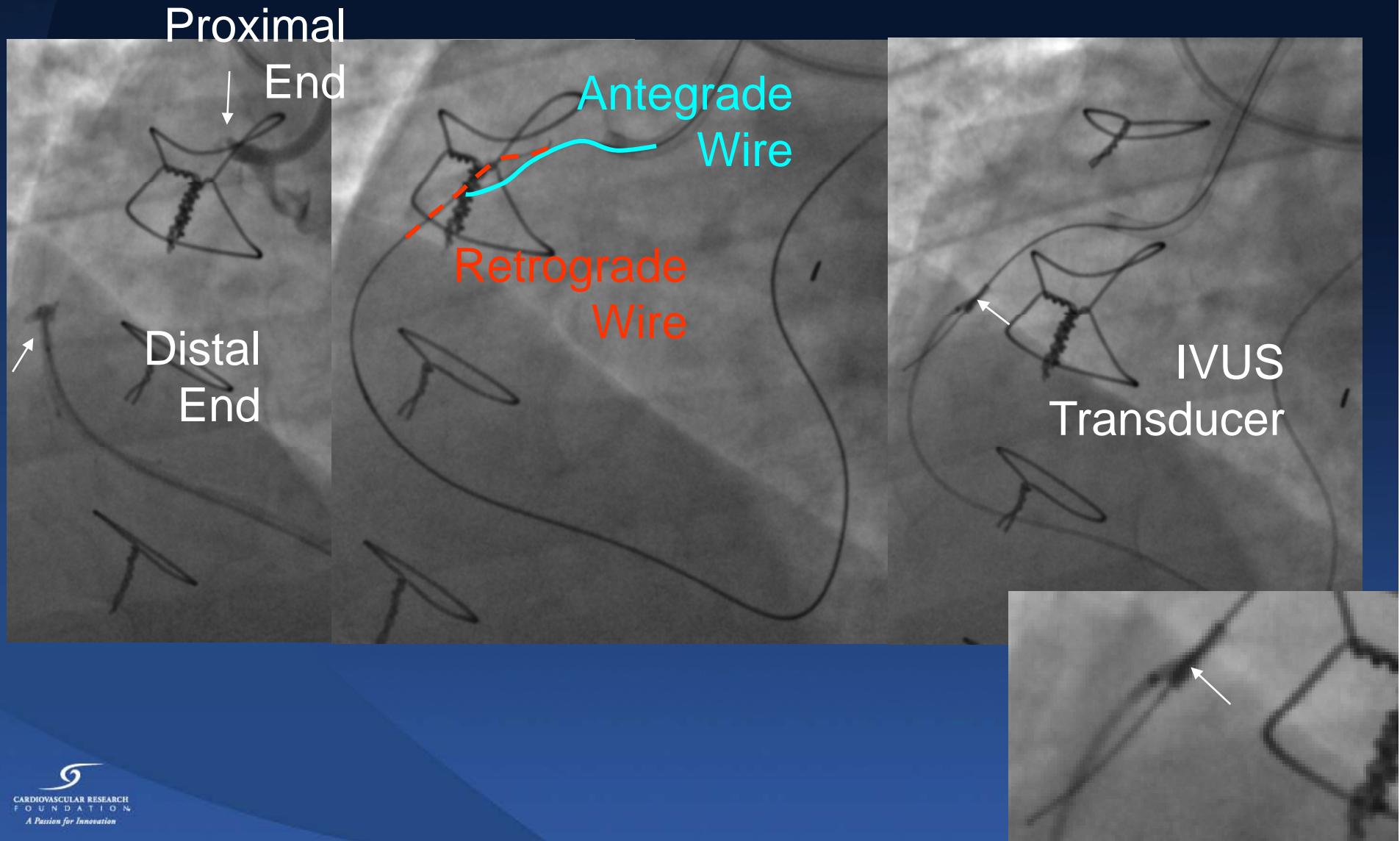




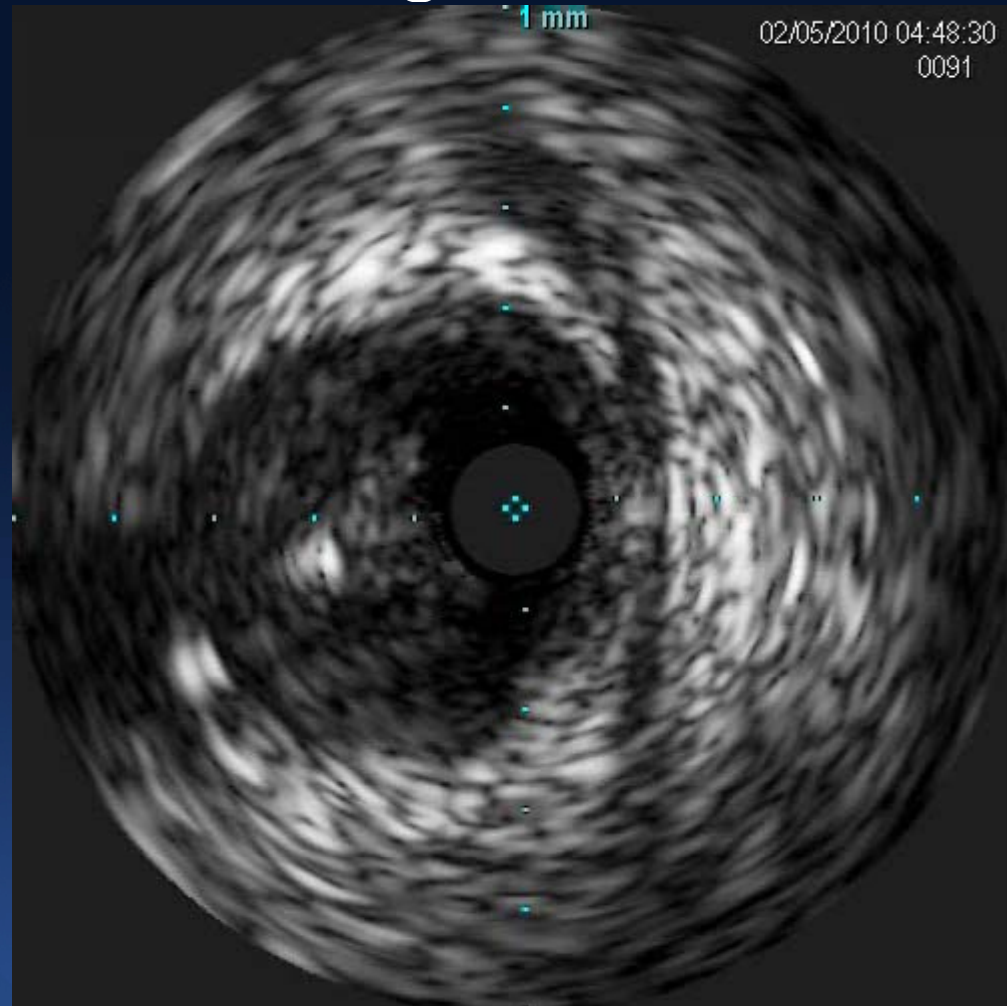
IVUS Pattern 4

Retrograde Wire in REVERSE CART

IVUS with Retrograde



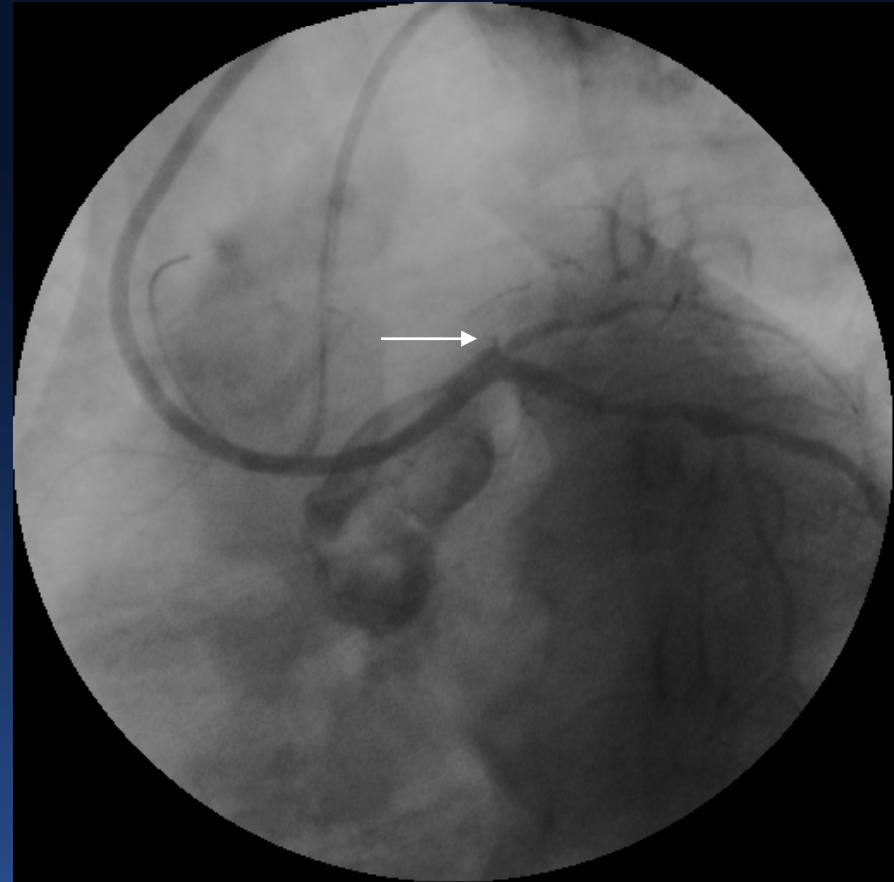
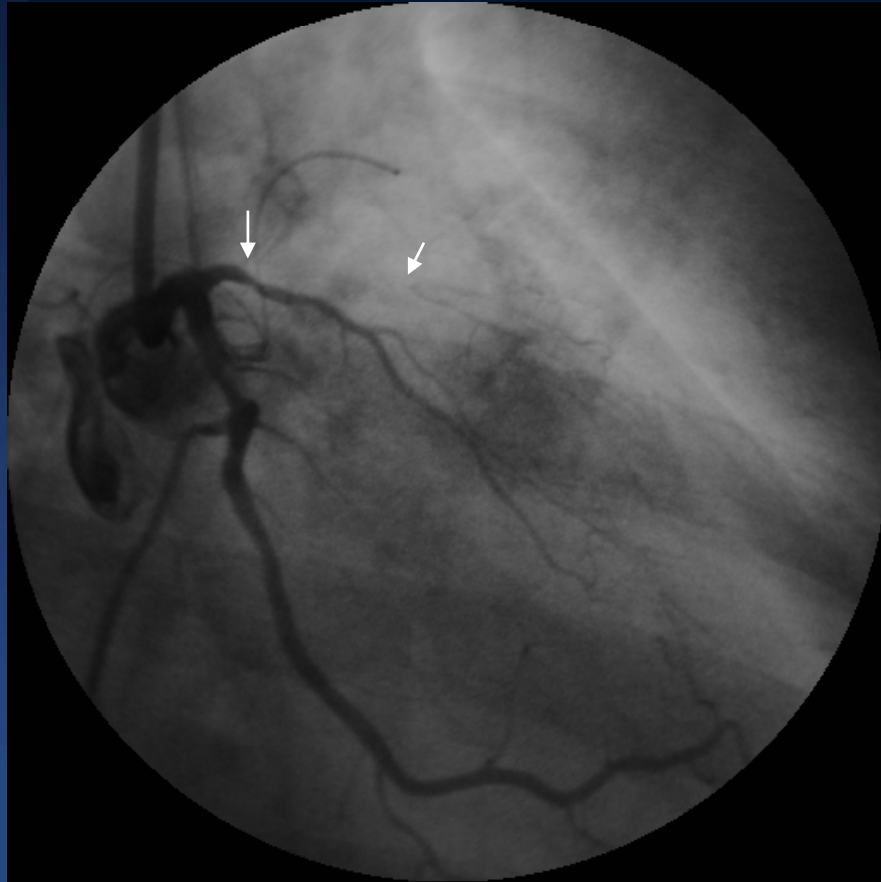
Retrograde Wire



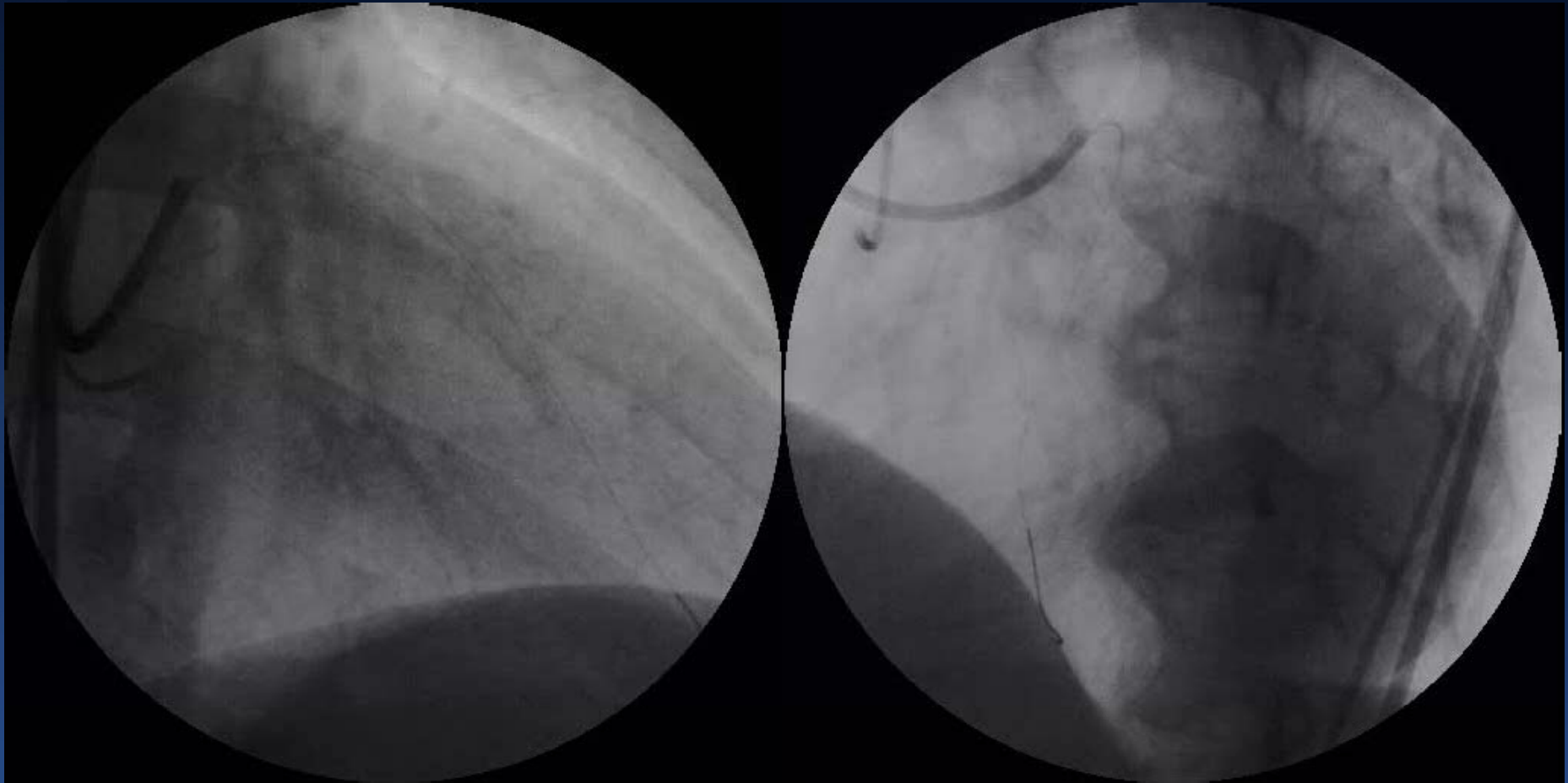
IVUS Pattern 5

Landing of Stent in CTO

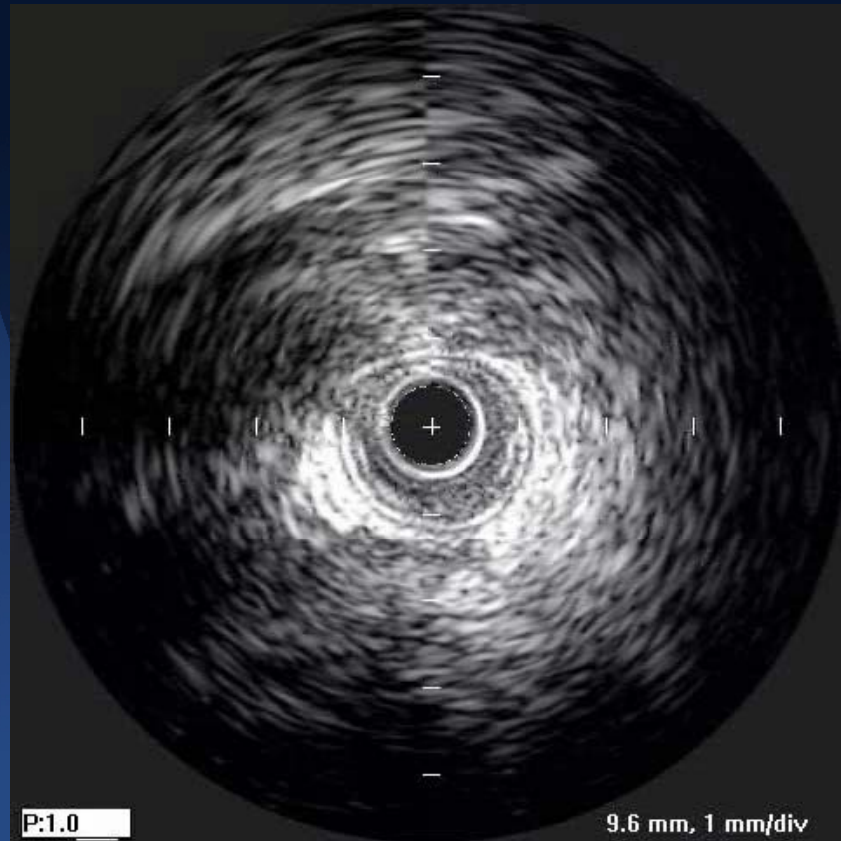
LAD CTO



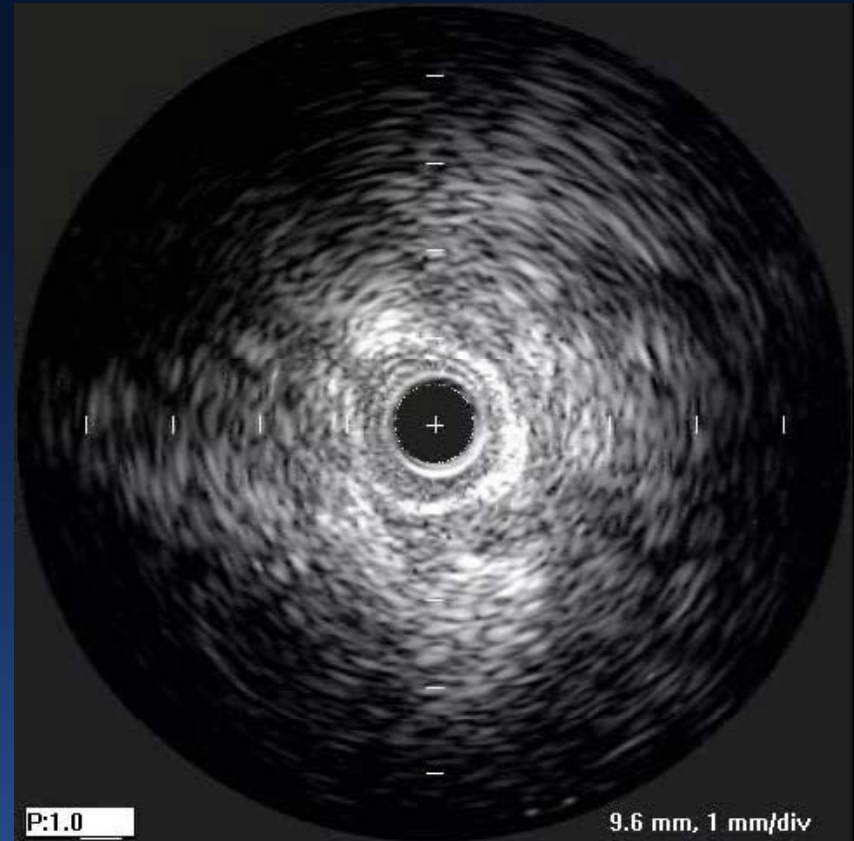
After Successful Wire



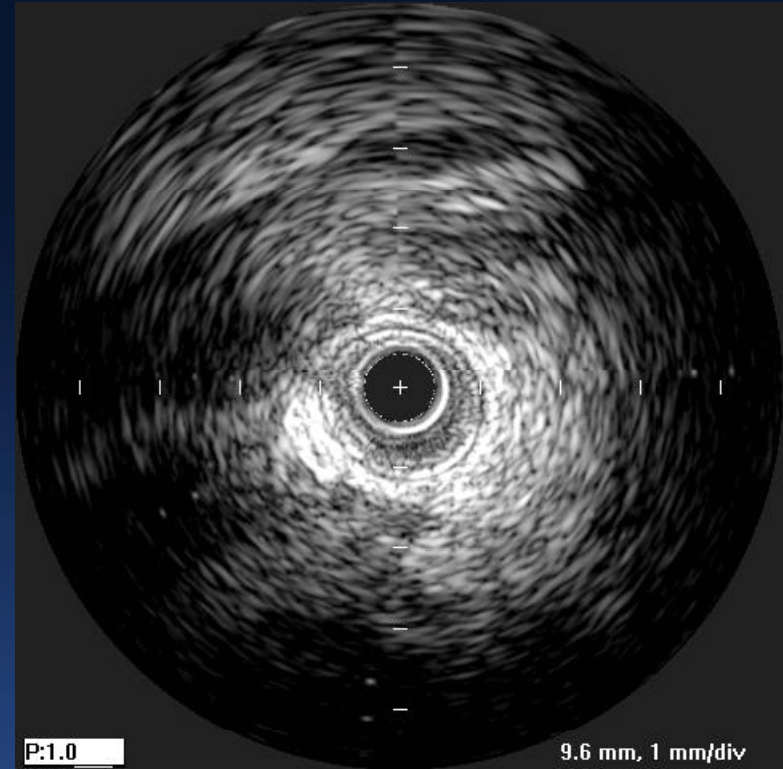
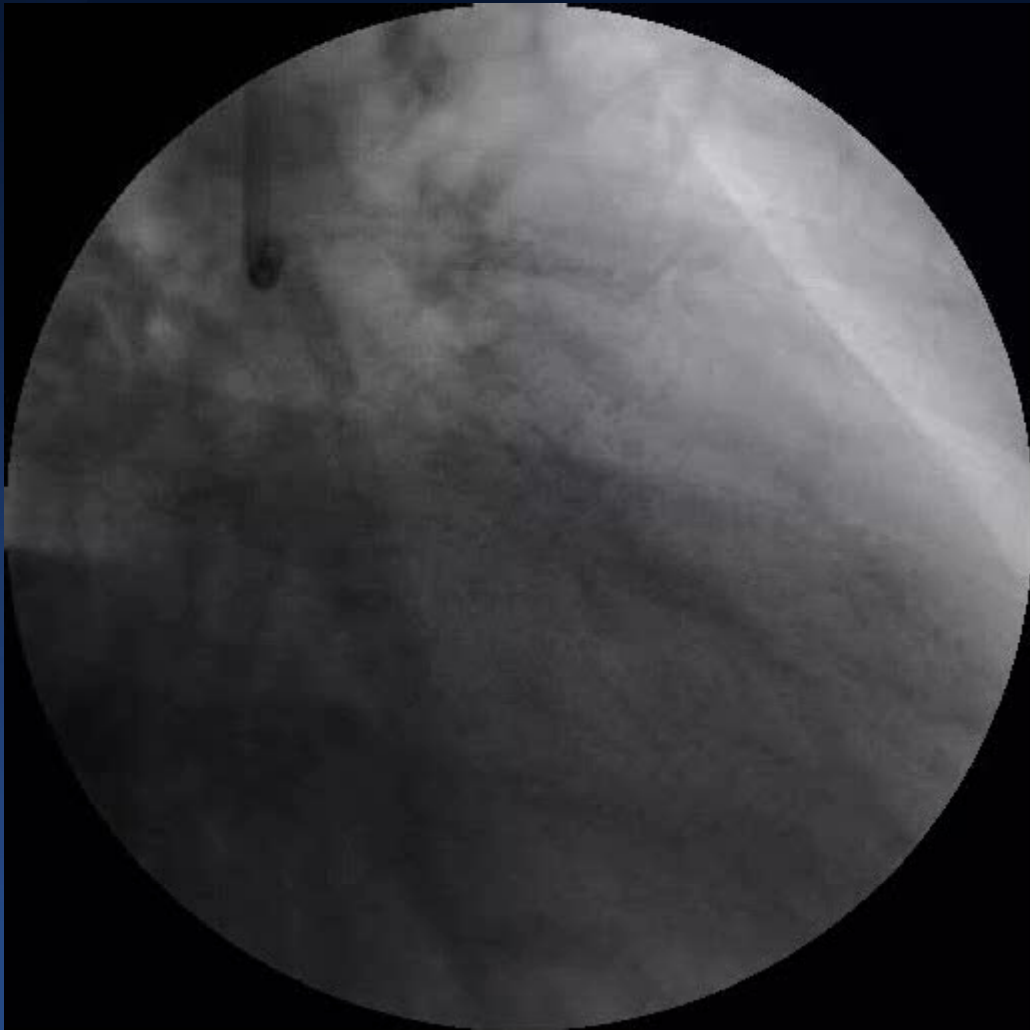
Post-Wiring



Post-Stent

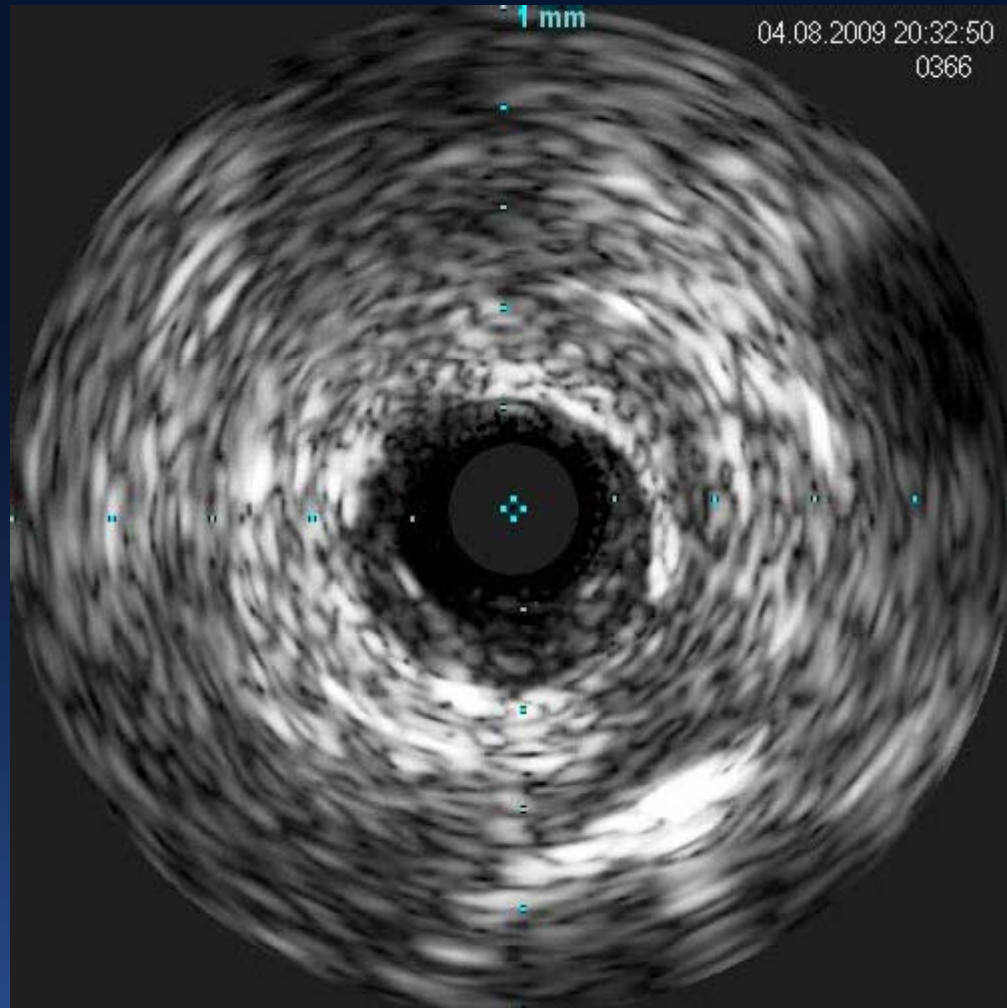


Muscle Bridge and normal artery

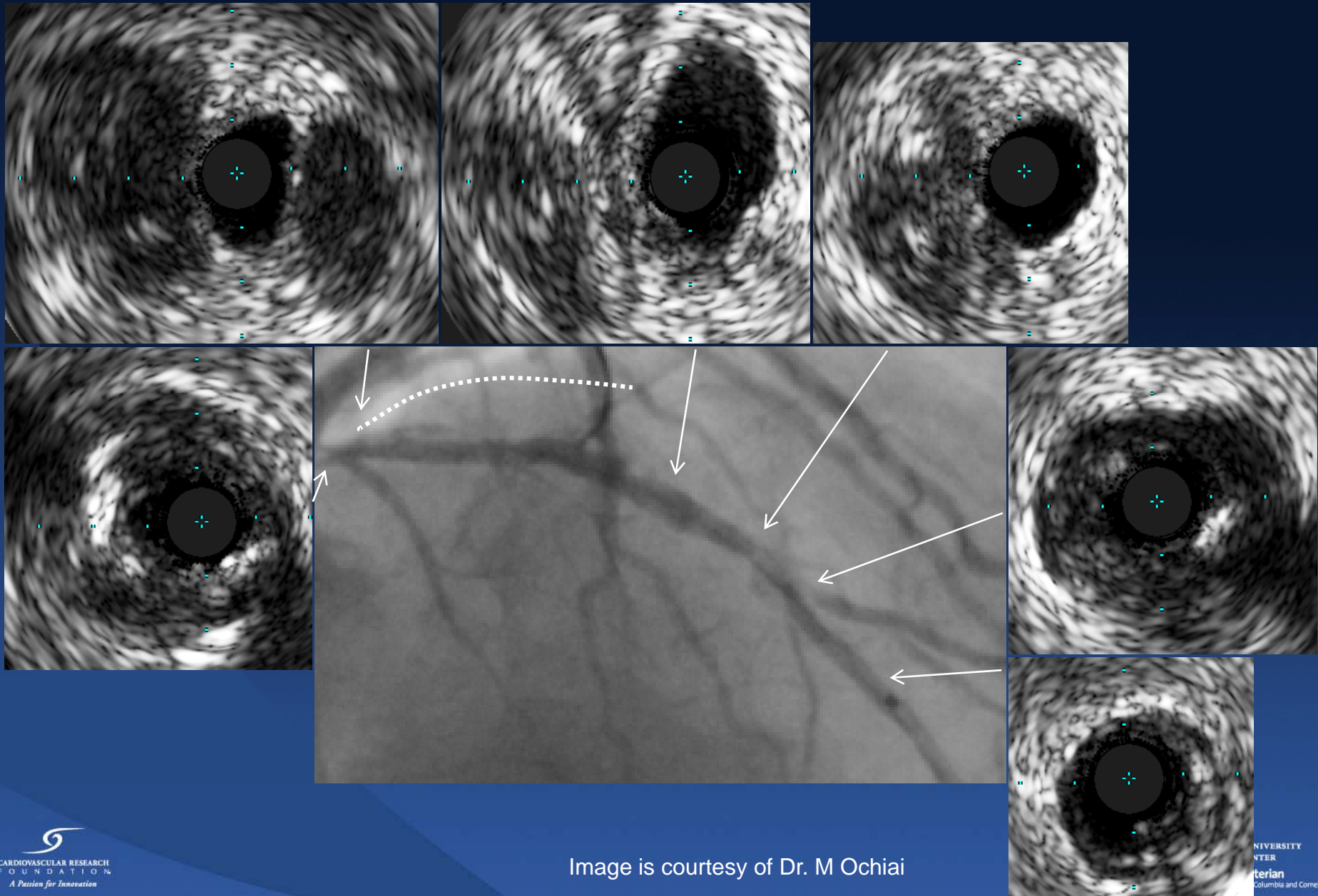


IVUS Pattern 6





Outside of Vessel (Adventitia)



Extra-media/adventitia Hematoma?

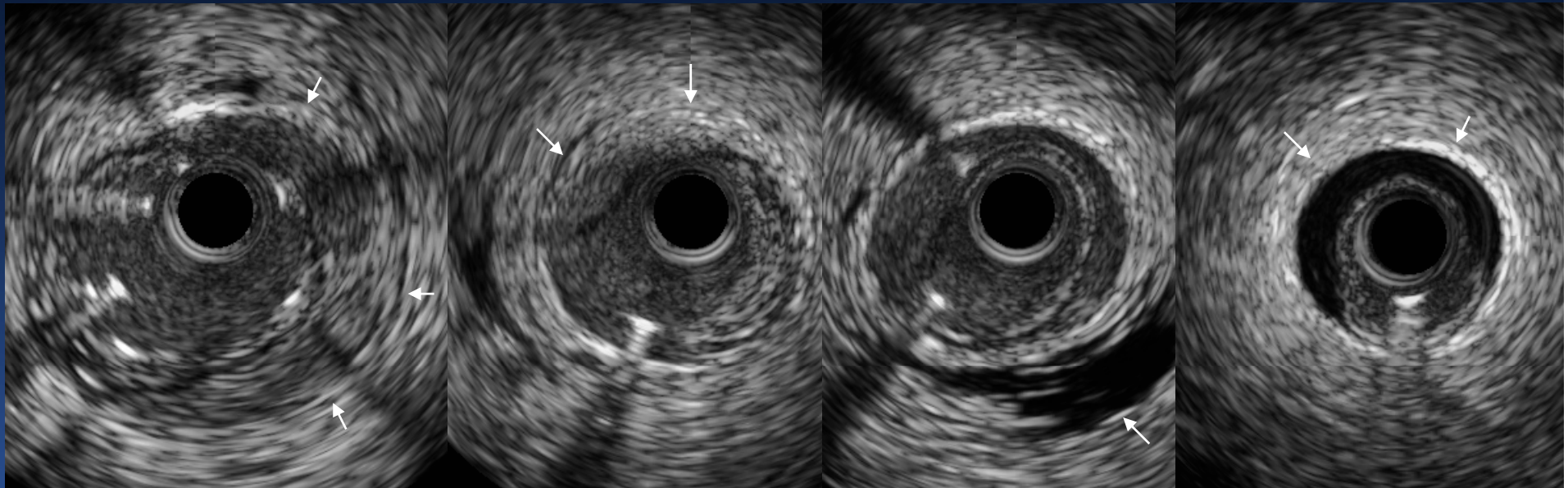
proximal

distal

Extra
hematoma

Edge
dissection

Intramural hematoma

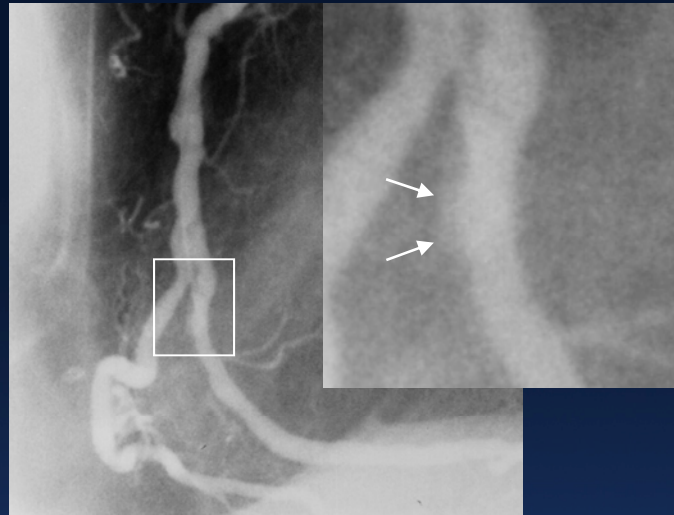


Angiographic Lumen Irregularity-Perivascular Blood Speckle and a New Perivascular Layer

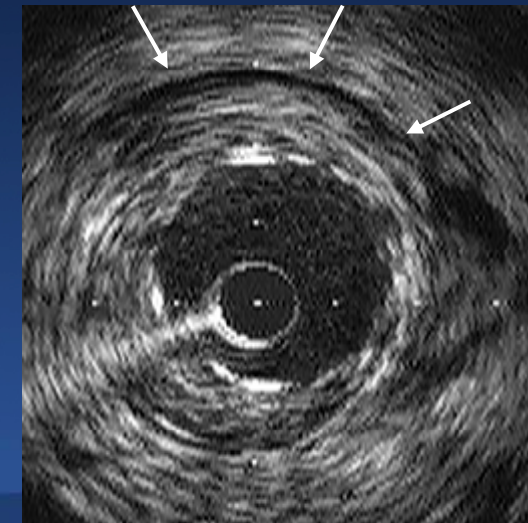
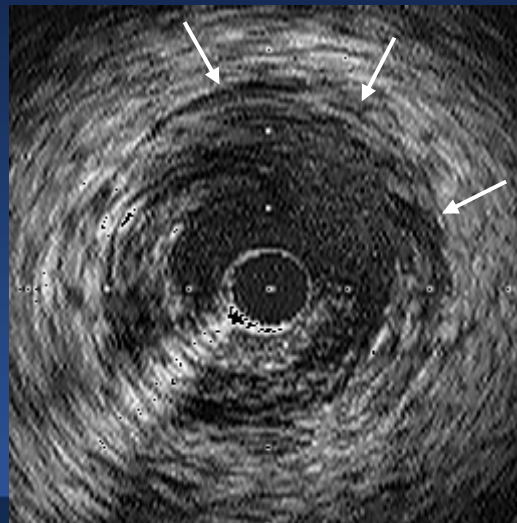
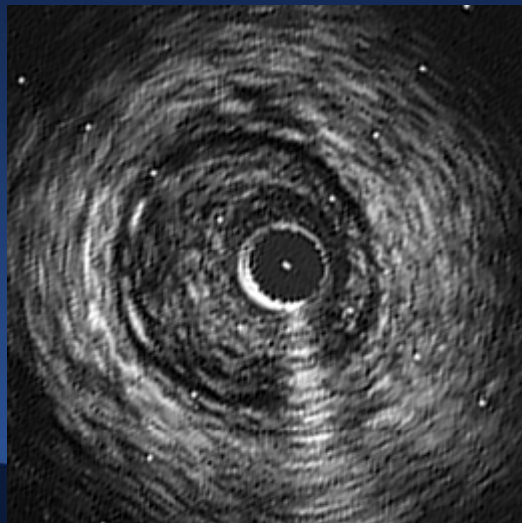
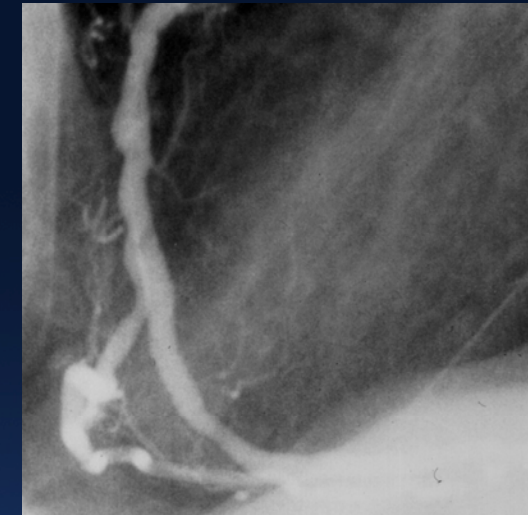
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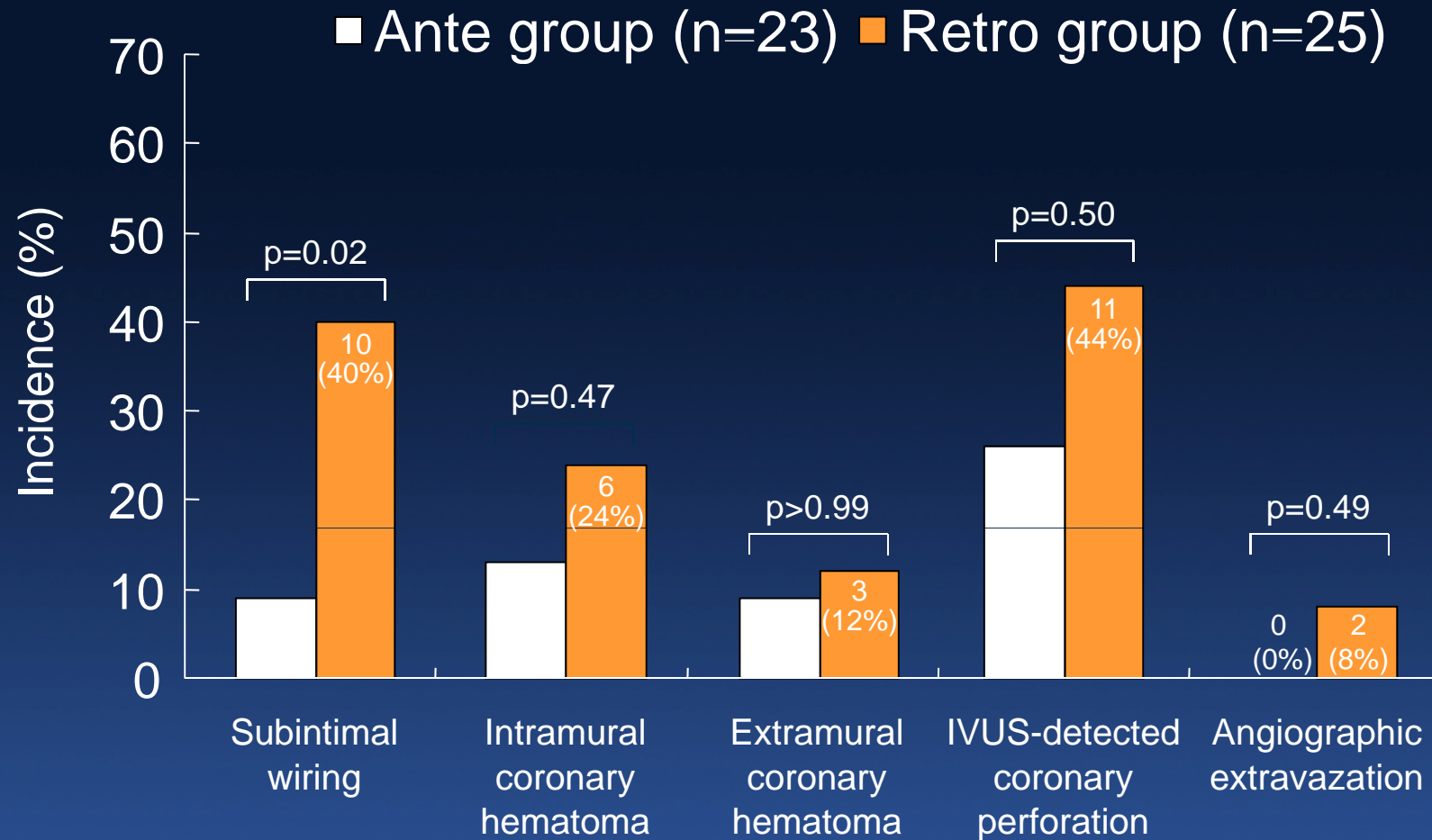
Post-Balloon



Post-Stent



Comparison of Antegrade vs Retrograde



Summary

- 1. Within the CTO segment, the recognition of subintimal space or not using 3 layers appearance and side branch, distal to the CTO, true or false lumen is the key of IVUS evaluation.**
- 2. Perivascular damage can be seen more accurately by IVUS than angio and more often in retrograde approach.**