How to use IVUS guided PCI for CTO

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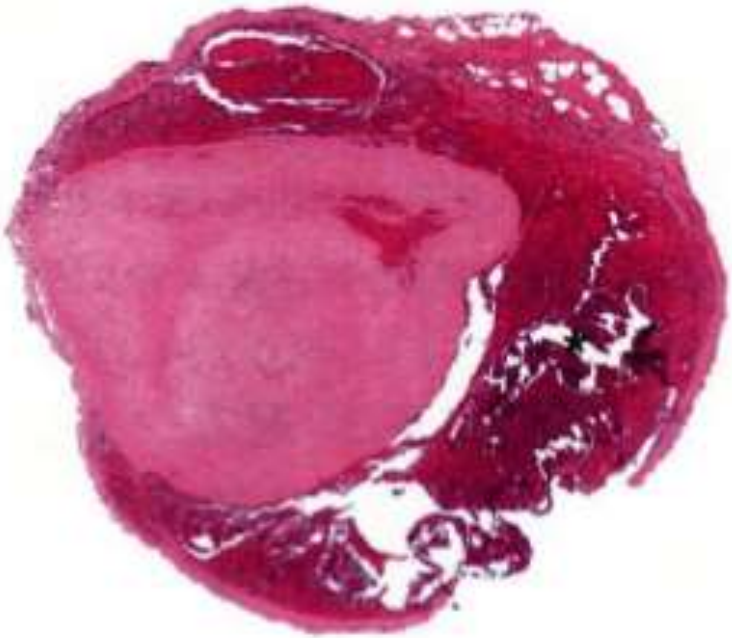
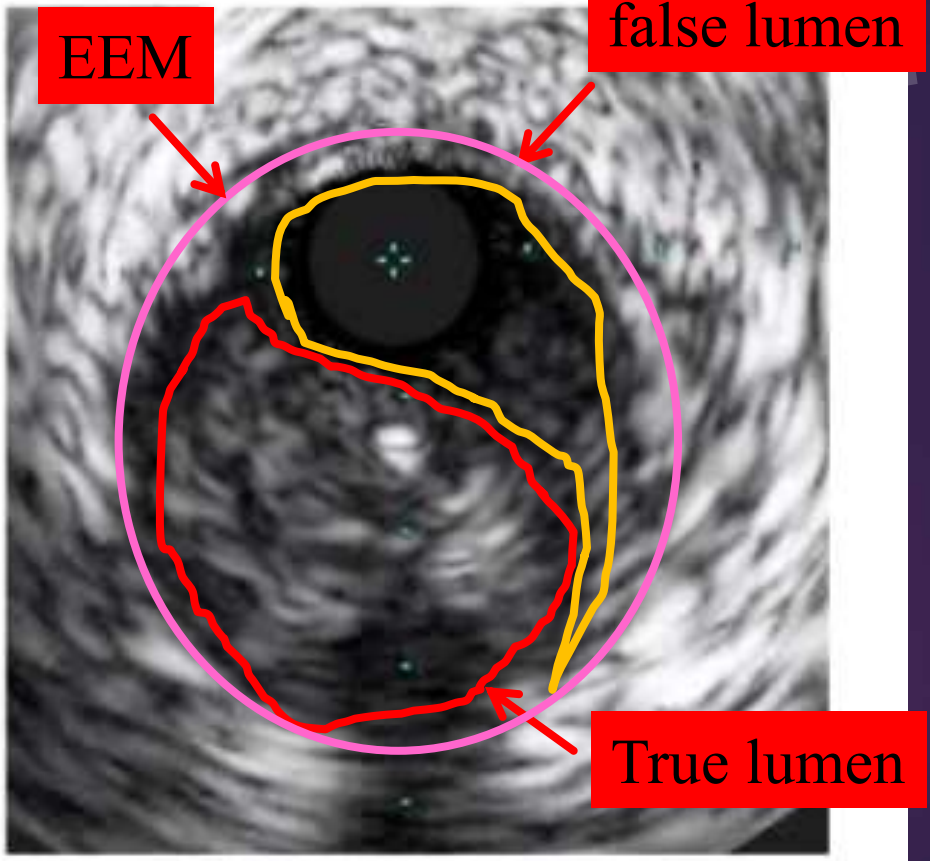
IVUS in CTOs

- IVUS in the antegrade approach
  - Identify the proximal cap
  - Verify true lumen entry
  - Try to guide reentry into true lumen
  - Verify true lumen position after reentry
- IVUS in the retrograde approach
  - Identify issues with hampered retrograde wire
  - IVUS guided reverse CART
  - Mandatory when approaching left main
- IVUS to optimize stenting in diffusely diseased CTOs

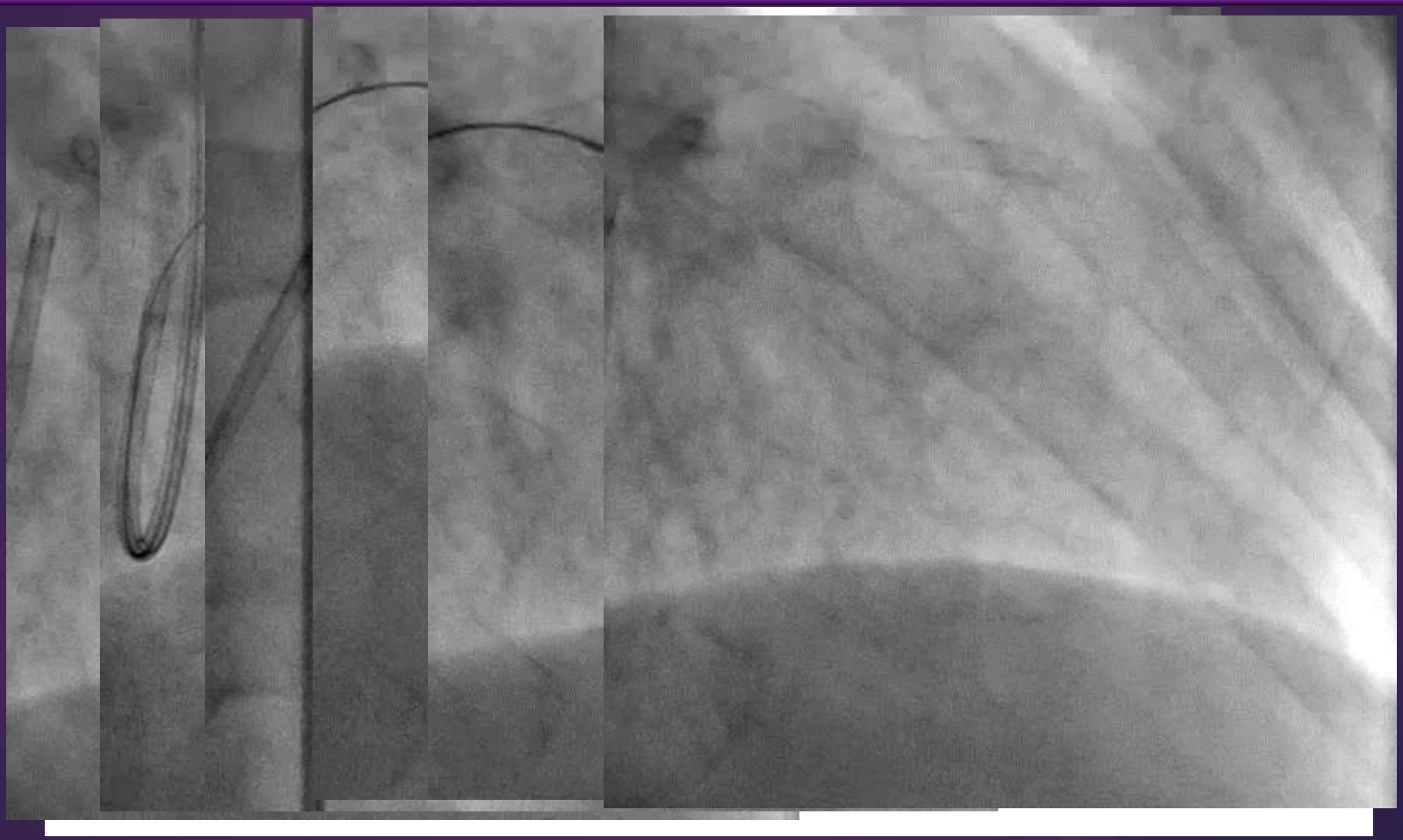
Inside CTO



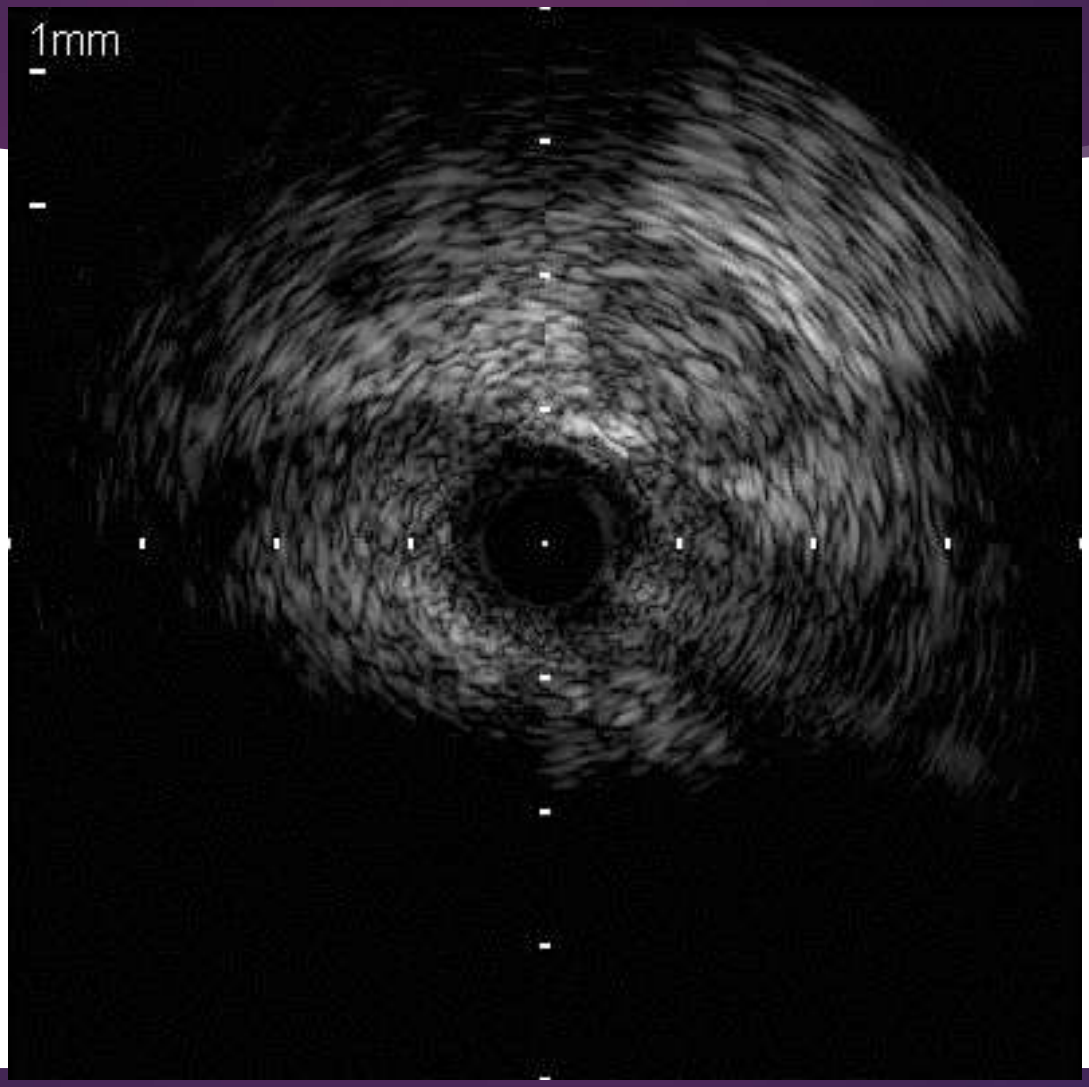


Antegrade IVUS guide

IVUS guide wiring~fing entry point~



IVUS guide wiring~fing entry point~



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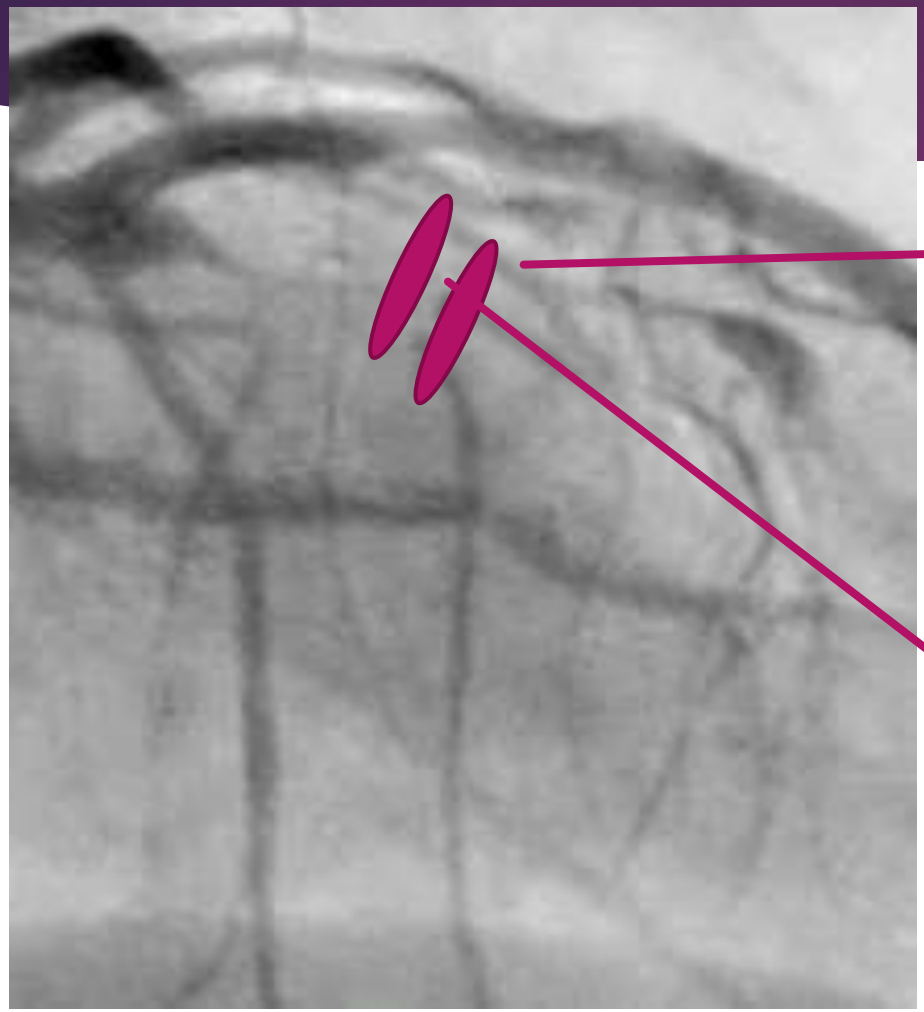
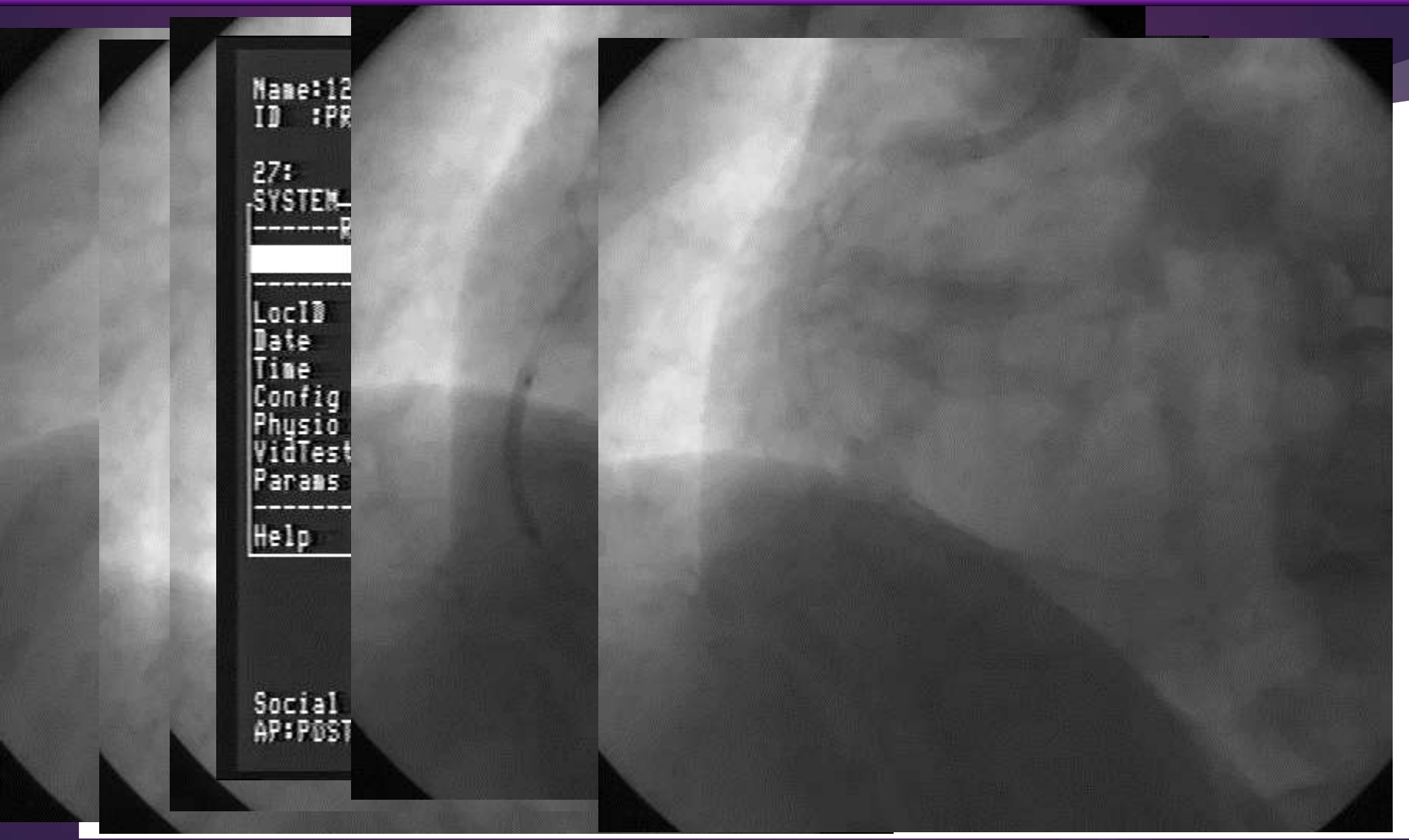
IVUS guide wiring~fing entry point~



IVUS in side branch

IVUS in main branch

IVUS guide wiring~from subintima~



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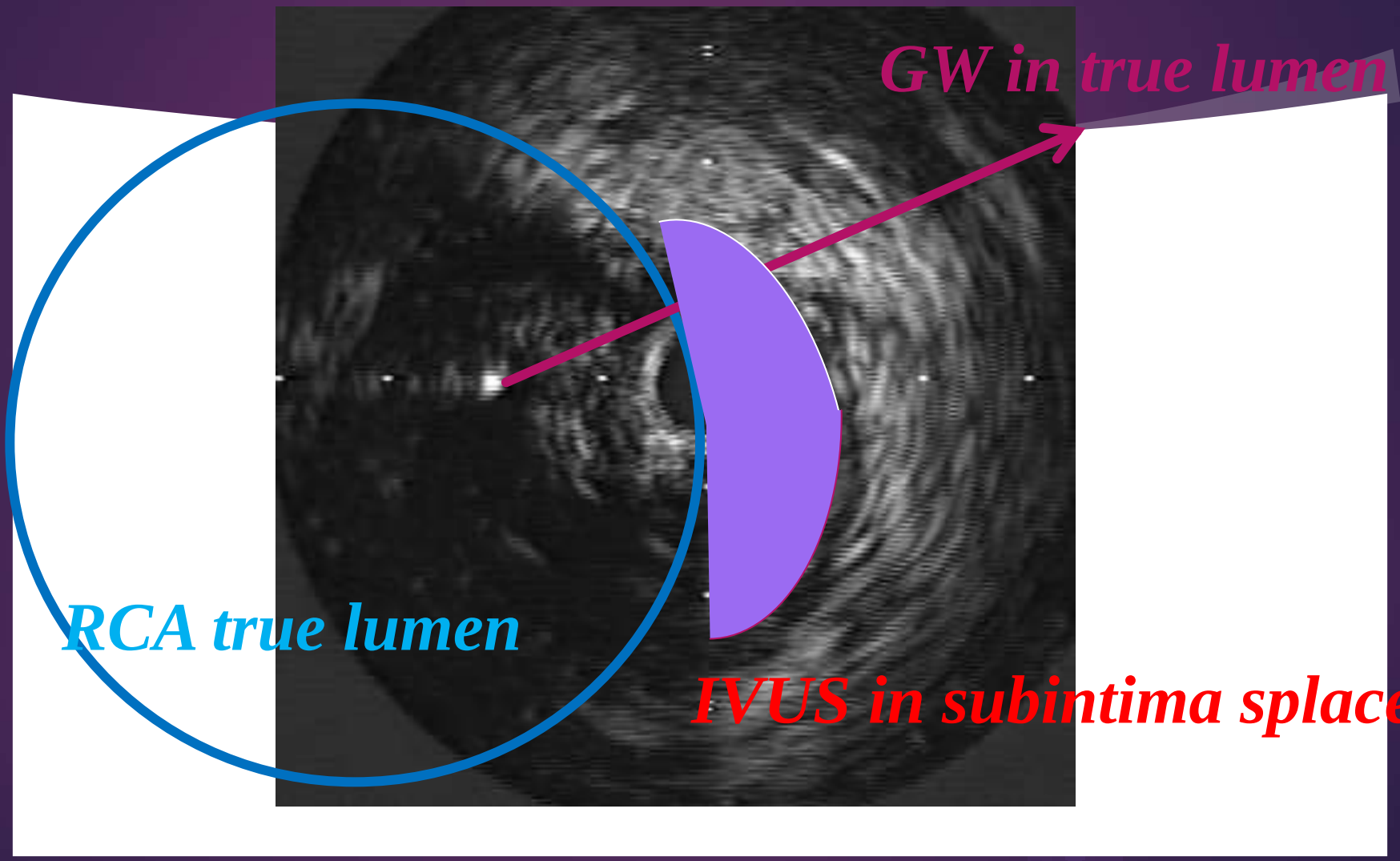
IVUS guide wiring~fing entry point~



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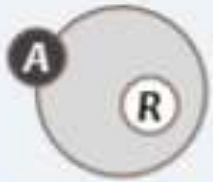
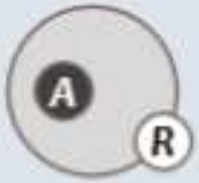
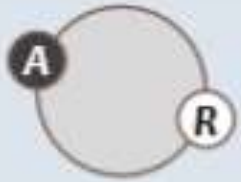
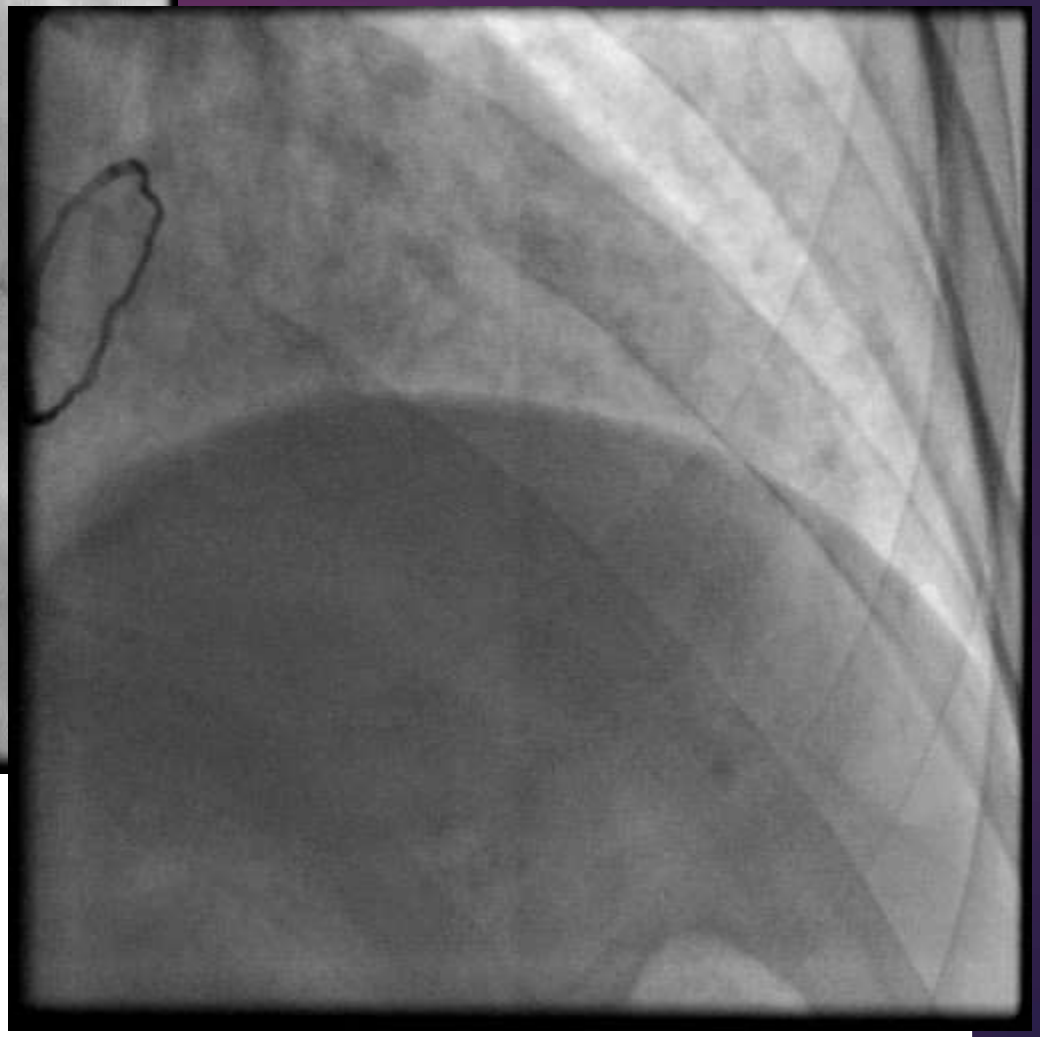
Retrograde IVUS guide

IVUS : Retrograde

		Antegrade wire	
		Intimal Plaque	Subintima
Retrograde wire	Intimal Plaque	 Antegrade ballooning and Retrograde wiring	 Retrograde wiring and More proximal connection
	Subintima	 Antegrade ballooning or More distal connection	 Antegrade ballooning

IVUS guided retrograde for LAD CTO

Age/sex: 48/male
Clinical Diagnosis: Stable angina
Clinical course: In 2002, He received MV repair due to severe MR. 1 year ago, he suffered from effort chest pain.
Coronary risk factor: HTN, ex-smoker
Prior intervention: no
CAG Data: mLAD- total occlusion with collateral flow Gr 3 from RCA
RCA, LCX- normal
Target lesions: mLAD
EF: 64%, no regional wall motion abnormality



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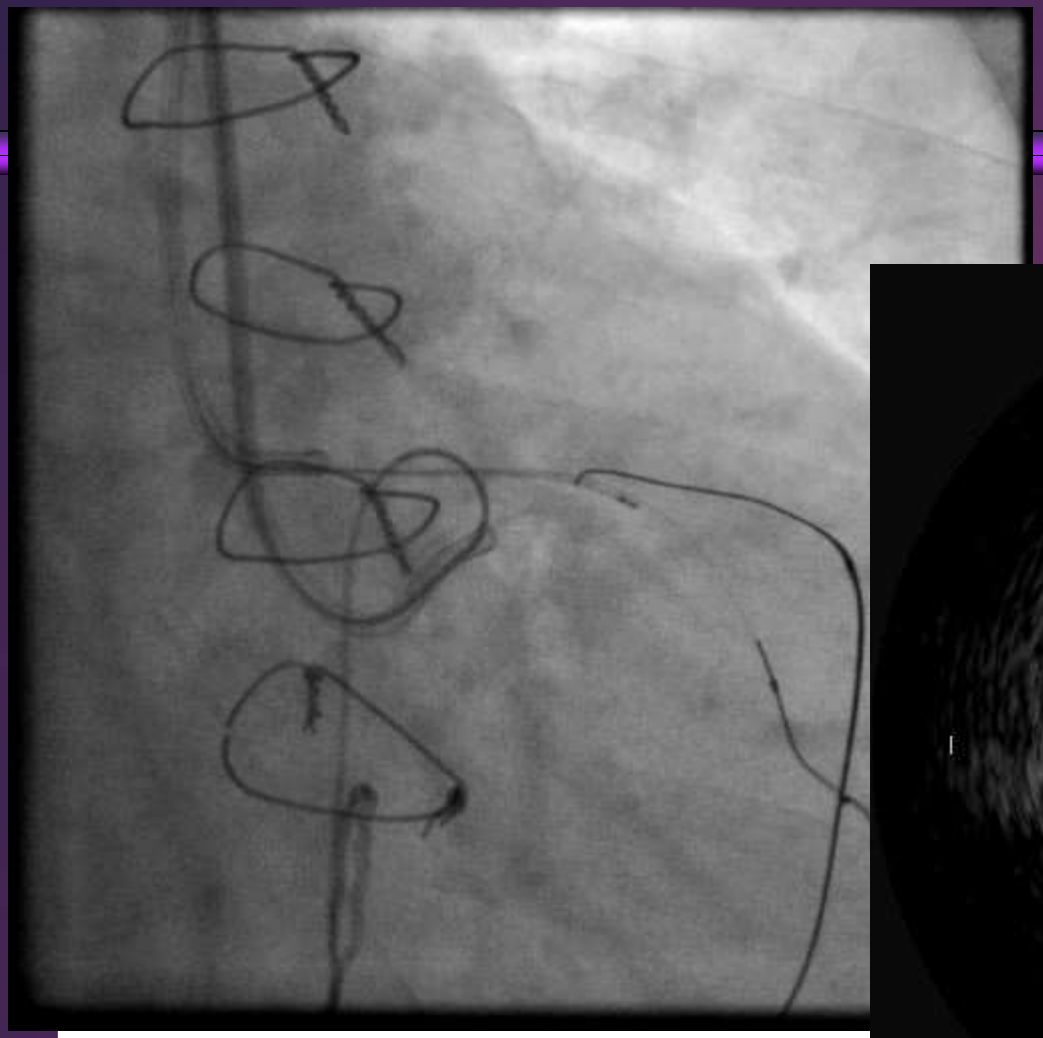

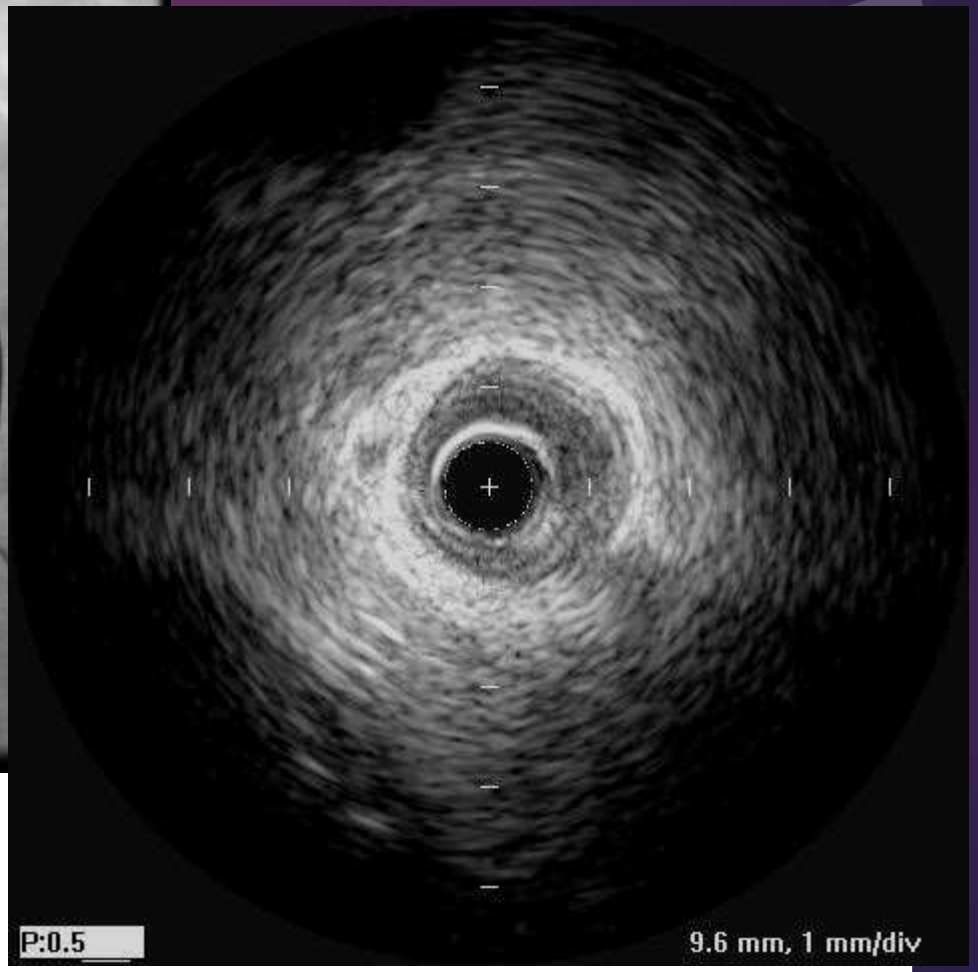

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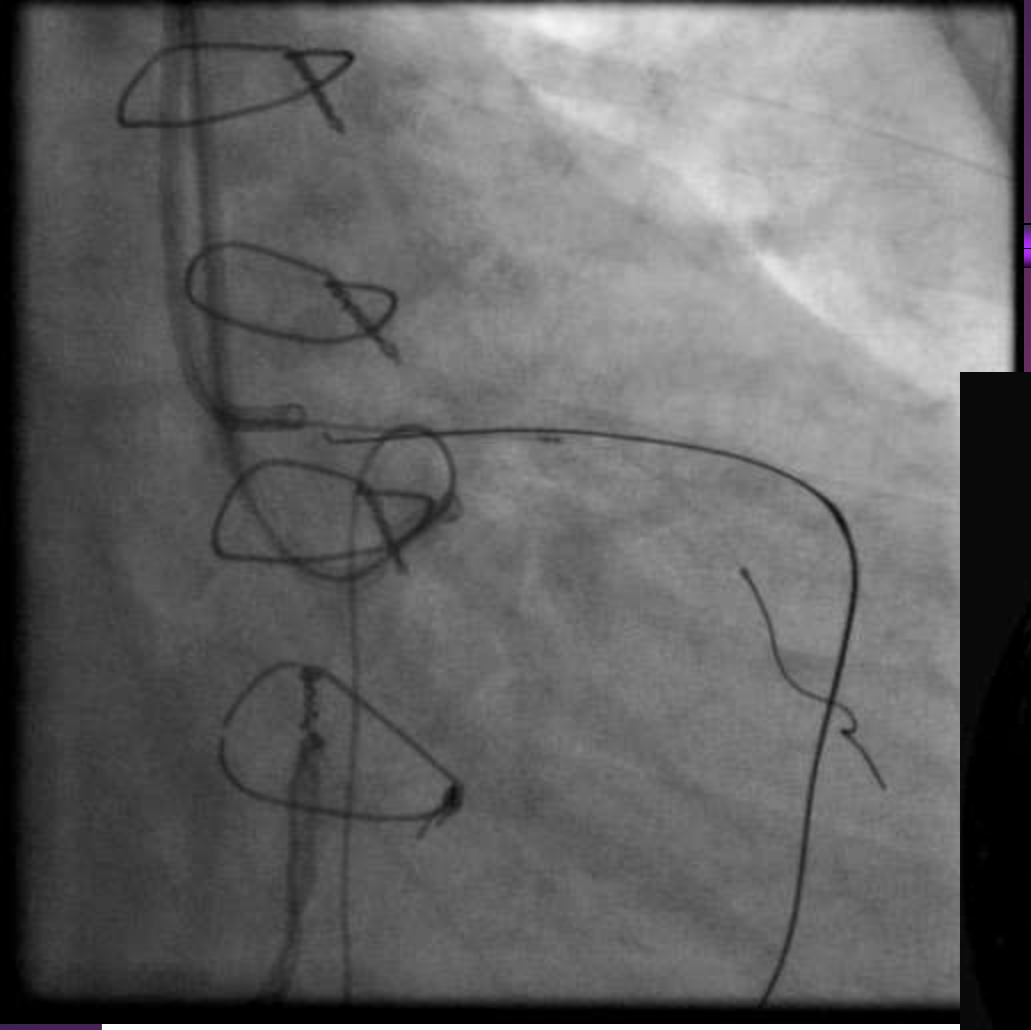

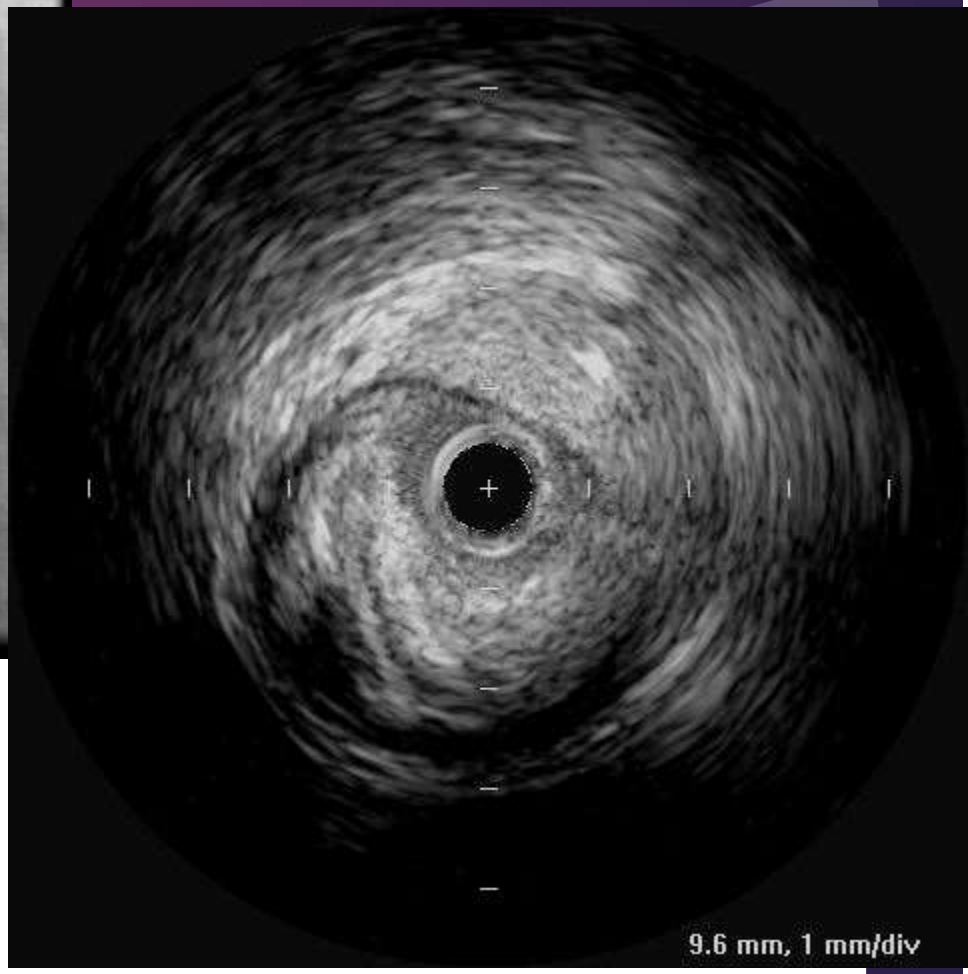

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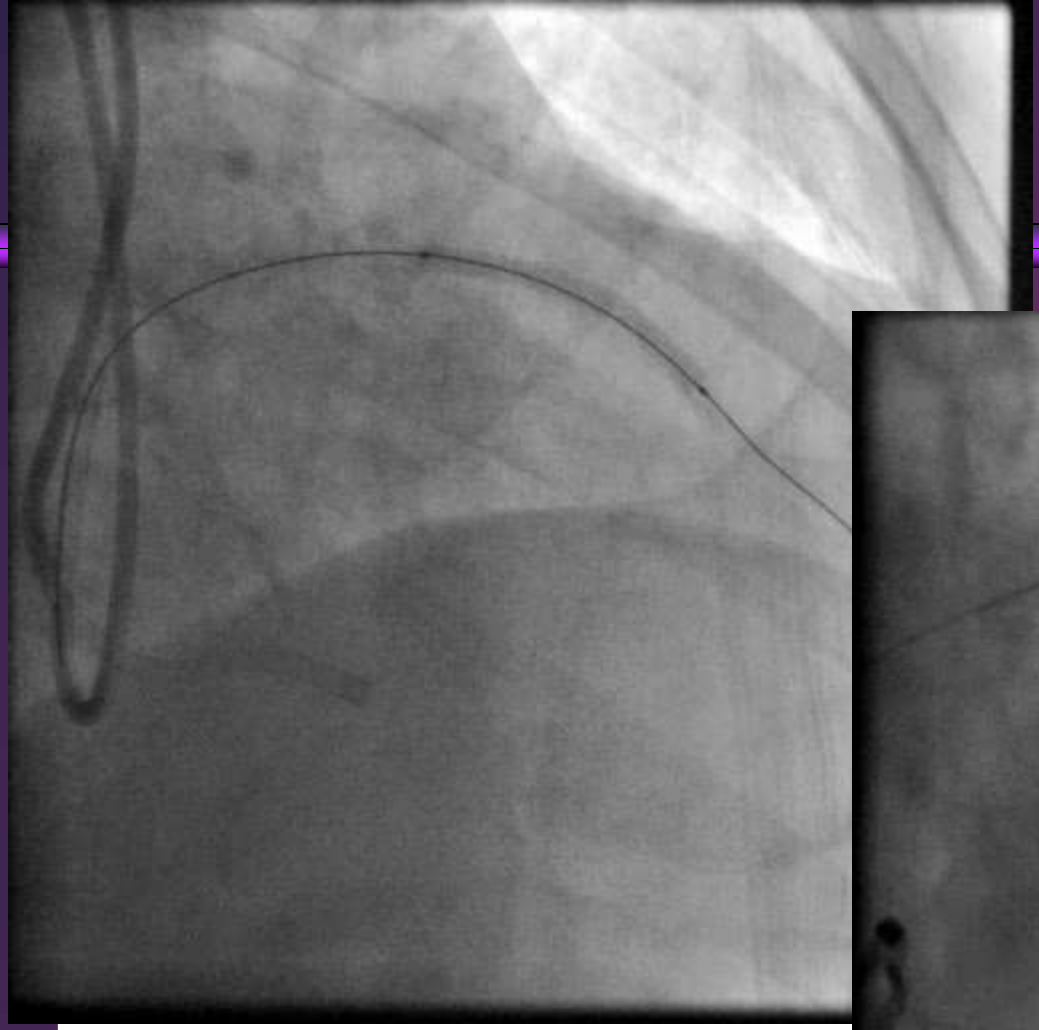

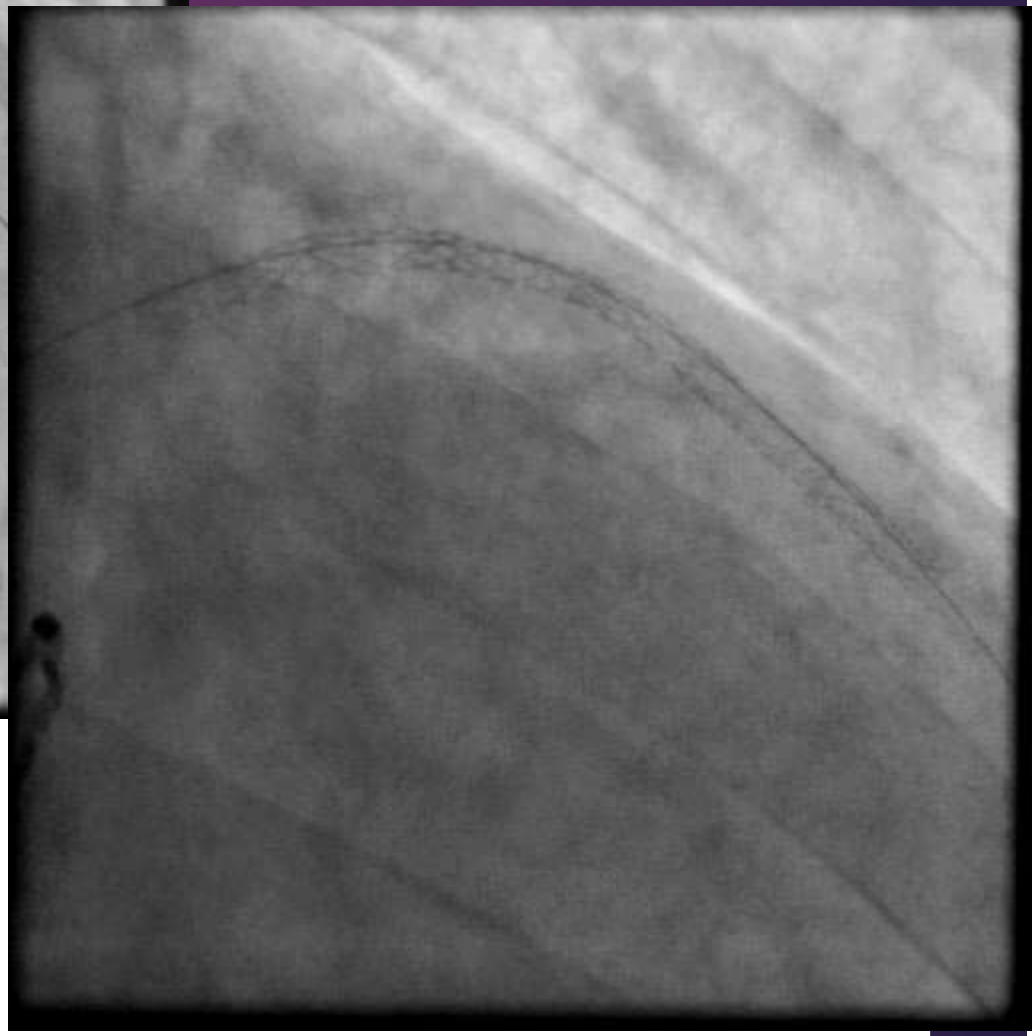

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Conclusion

1. IVUS guided approach is one of the useful for CTO crossing.
2. IVUS give us information where GW located in the CTO vessel.
3. Antegrade IVUS guided find entry point and to insure true lumen.
4. Balloon size of reverse CART can be determined by IVUS measurement of CTO vessel size.
5. IVUS guided r-CART is one of the best strategy for retrograde wire connection.