

Imaging guided Antegrade Approach

-Technical Tips and tricks -

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Technical Tips and Tricks

- Antegrade Approach Technique – 6 important factors
-

1. CT guided approach

CRYSTAL of laborious effort : Antegrade A

Use imaging modality appropriately

-You can conjecture the route of CTO-

Case: LAD CTO; Where is the entry point ??

Proximal stump?



Gw-ring from Prox. ?

Distal stump?

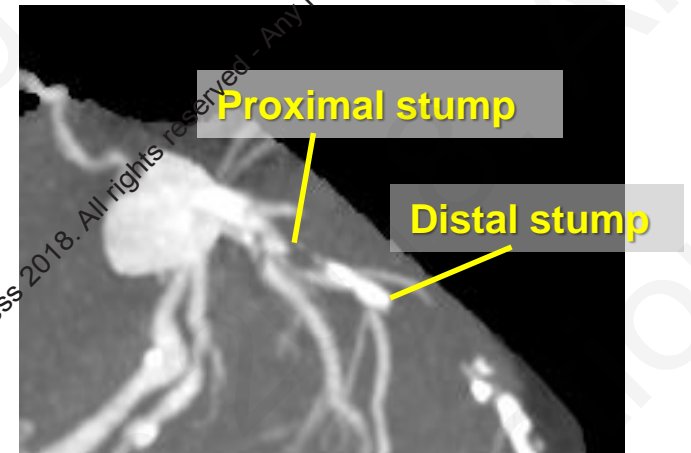
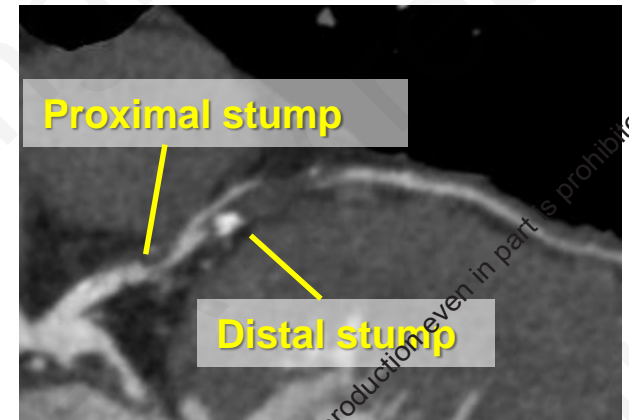
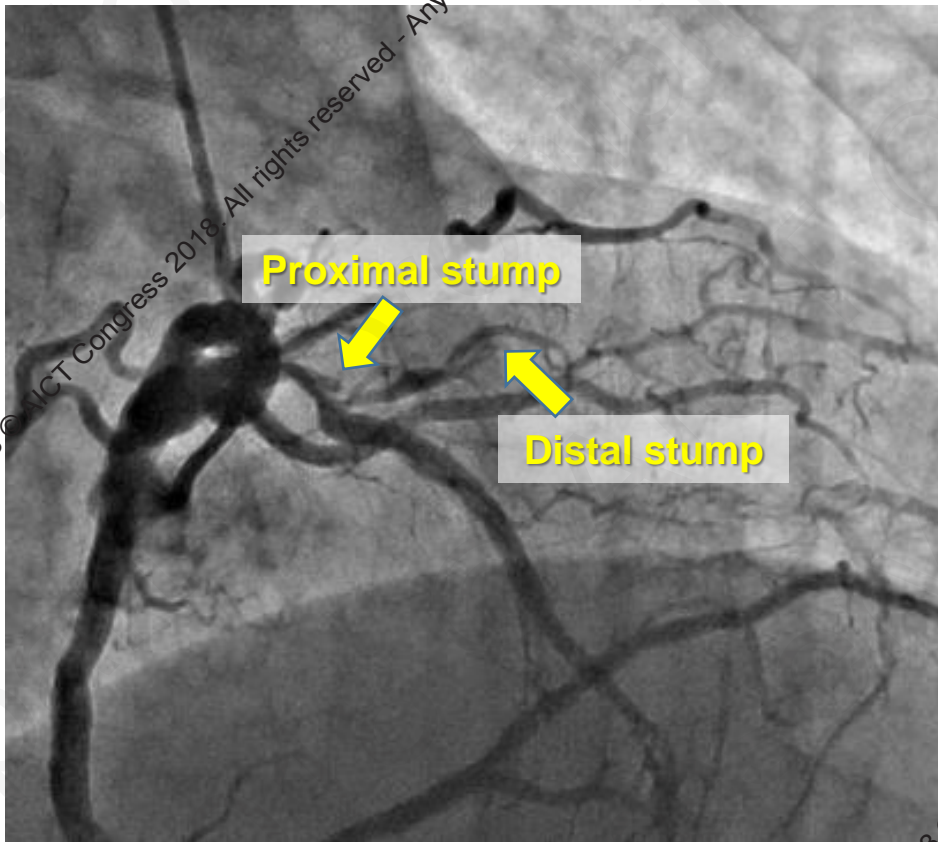


Gw-ring from Dist. ?

Use imaging modality appropriately

-You can connect the route of CTO-

MDCT could give us useful anatomical images.

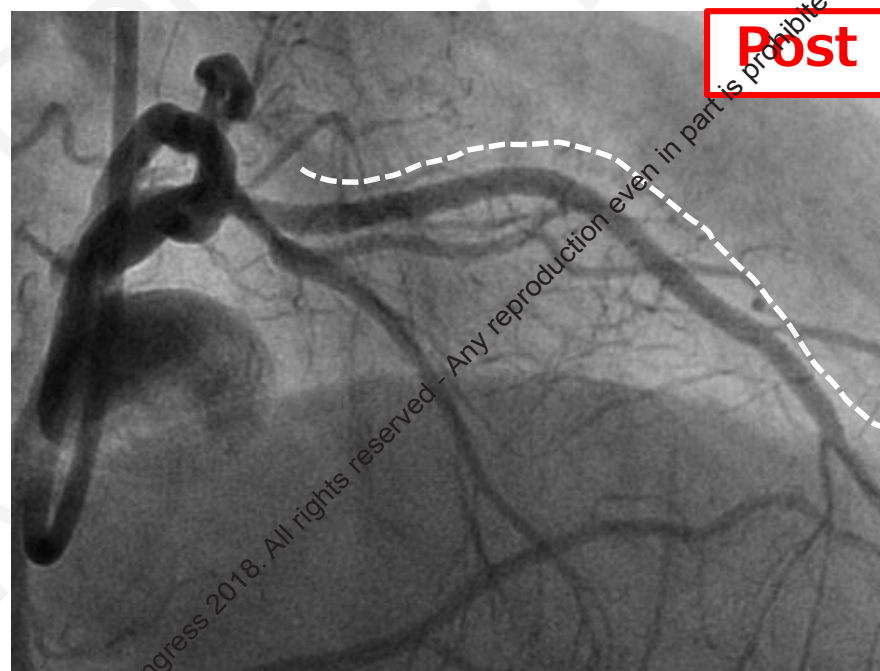
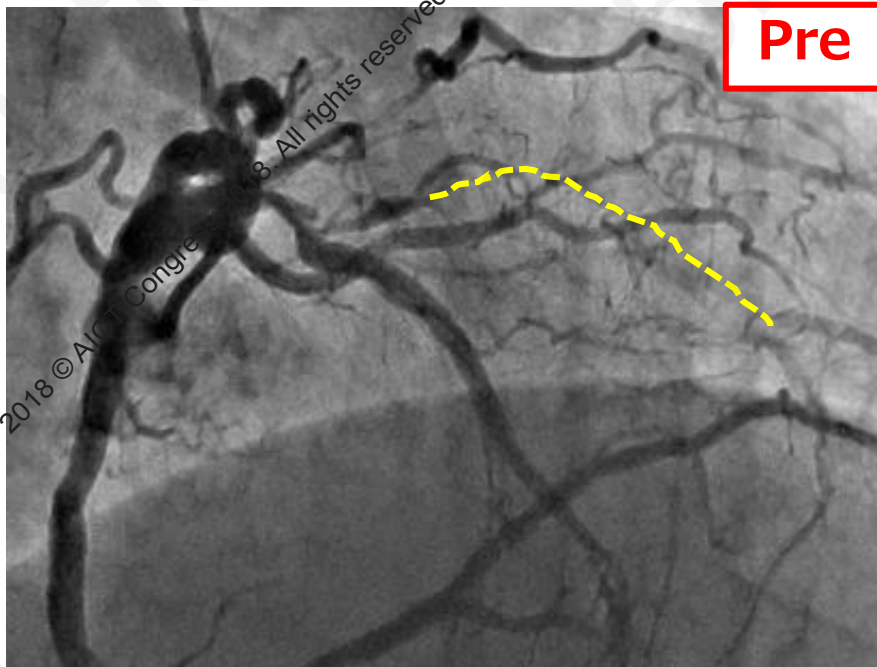


Distal stump is connected to LAD distal true lumen

Use imaging modality appropriately

-You can conject the route of CTO-

We could achieve the route of LAD before PCI !!



Right answer is "Distal Stump" !!

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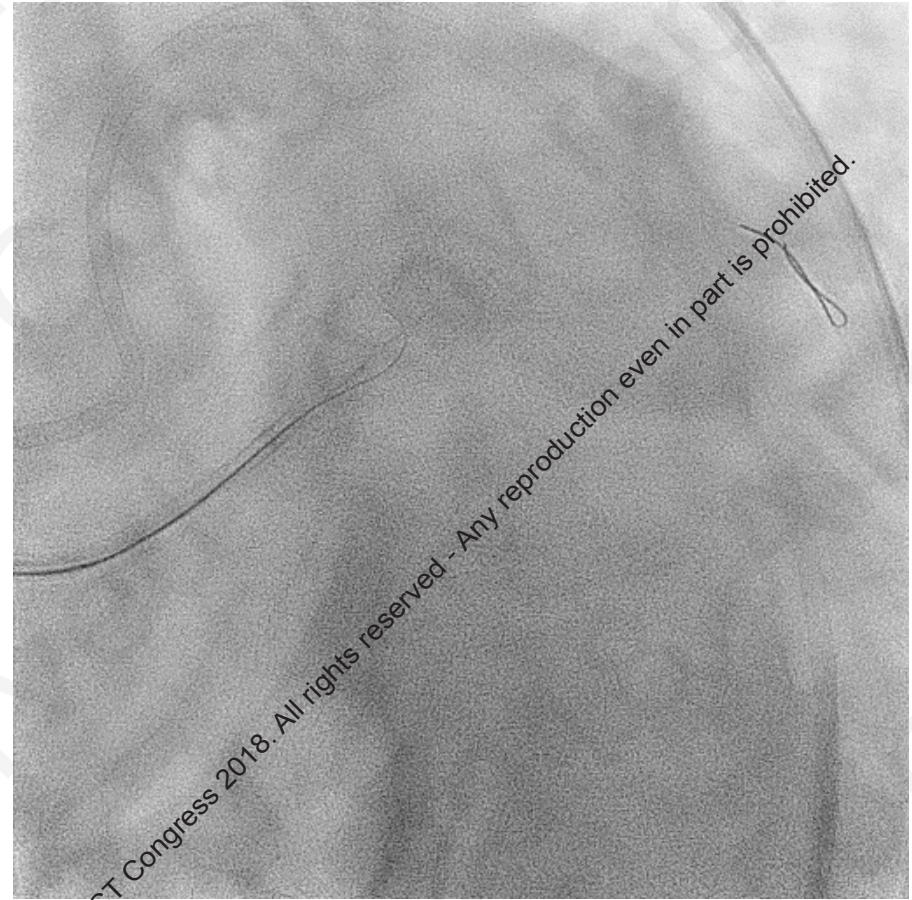
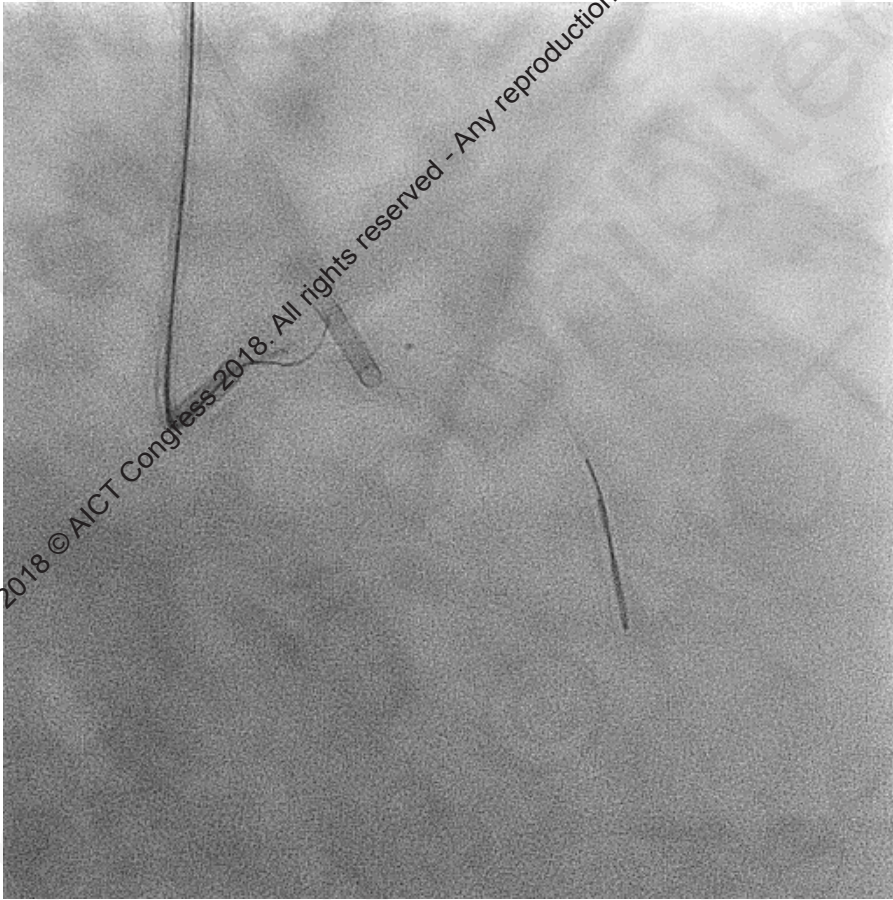
Technical Tips and Tricks

- Antegrade Approach Technique – 6 important factors
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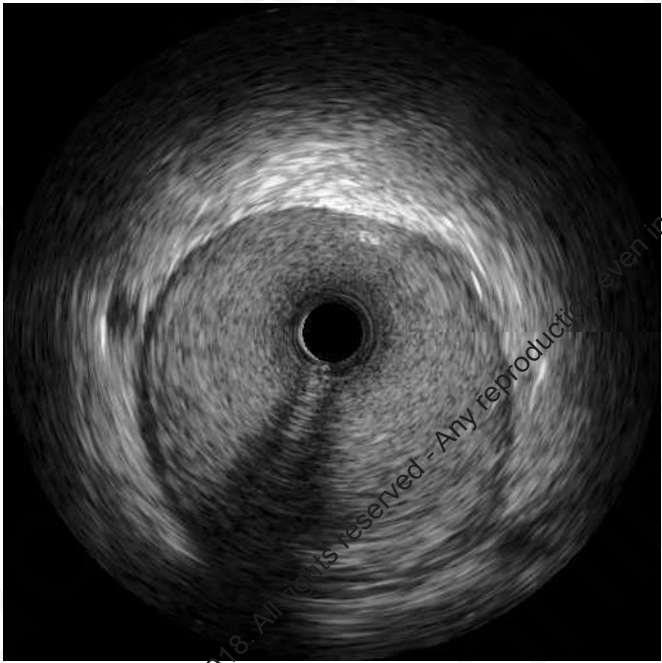
2. CT guided approach

CRYSTAL of laborious effort : Antegrade A

Case 2 : No Stump LAD CTO w/o retrograde route

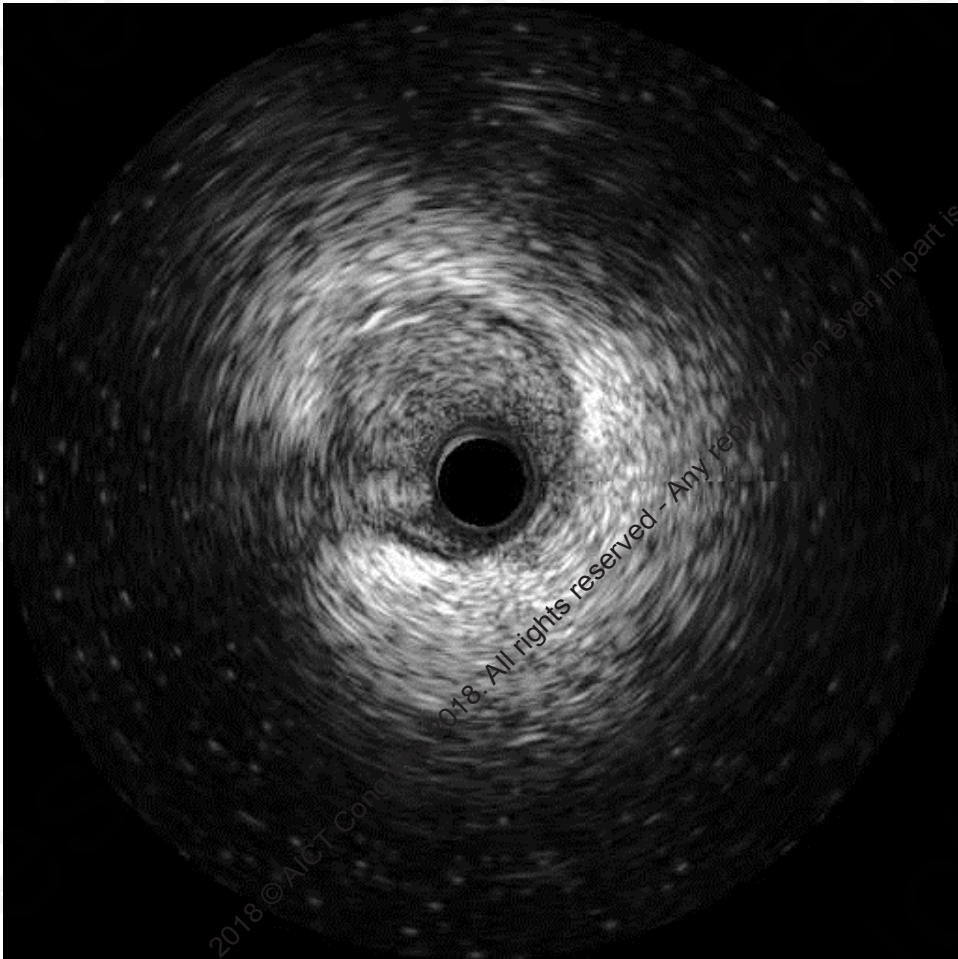


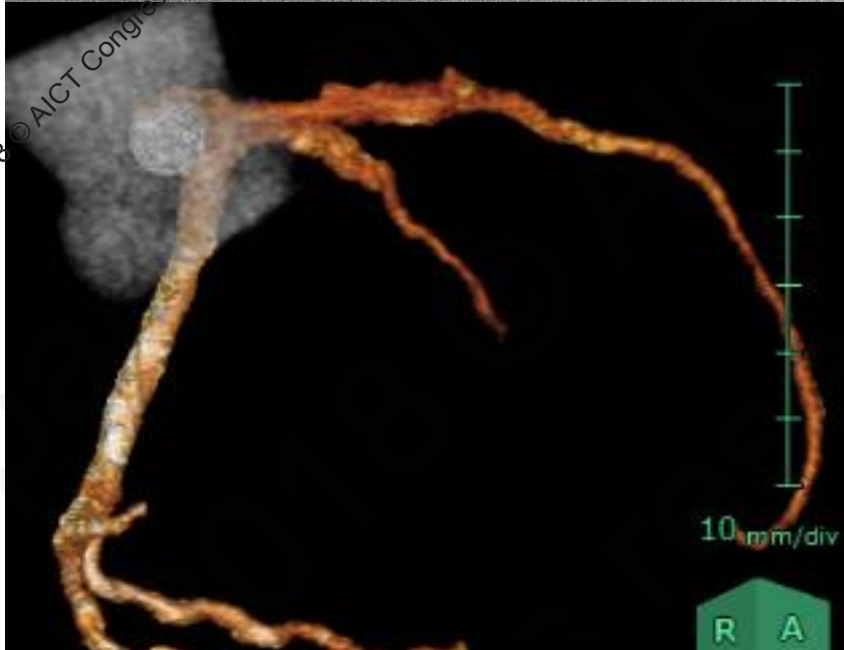
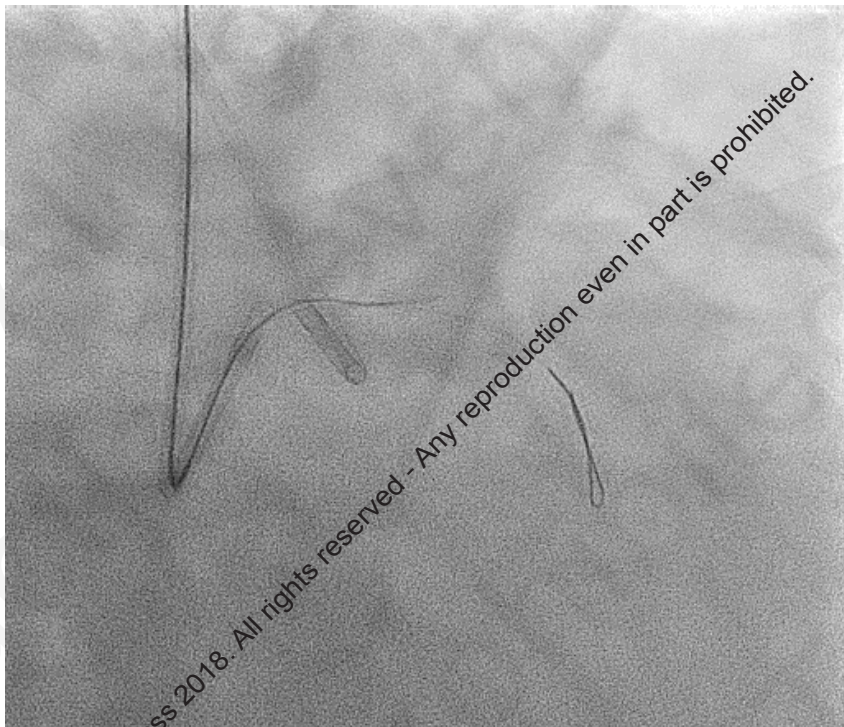
No Stump LAD CTO; And No Retrograde option !!

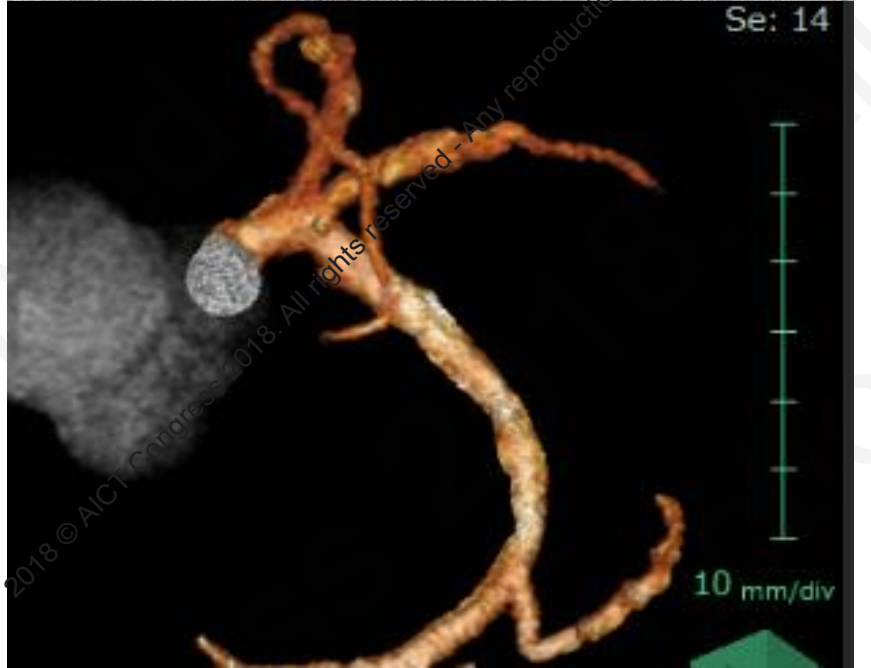
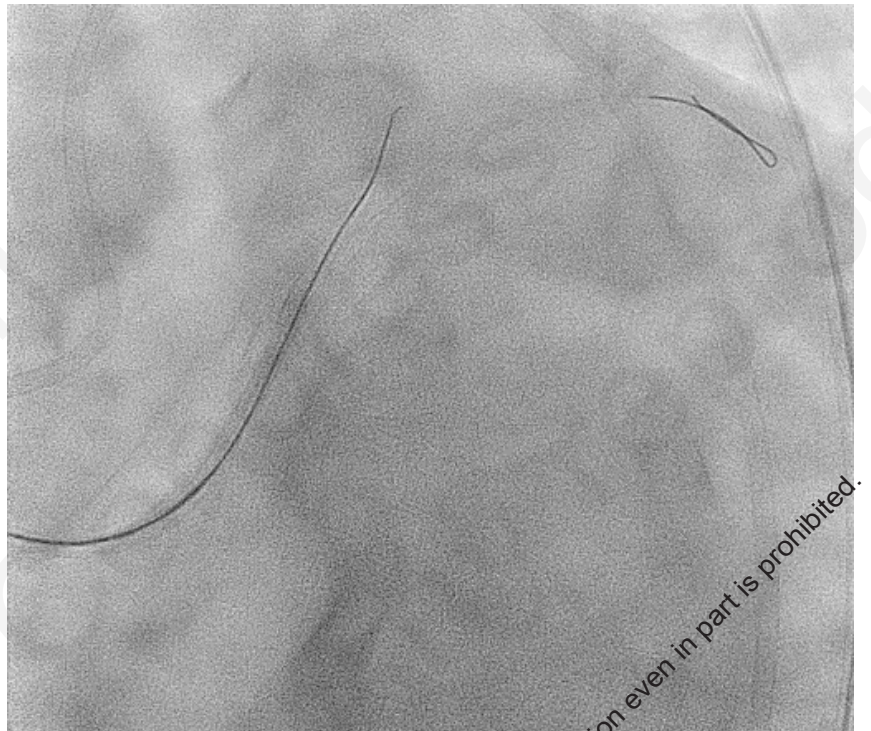
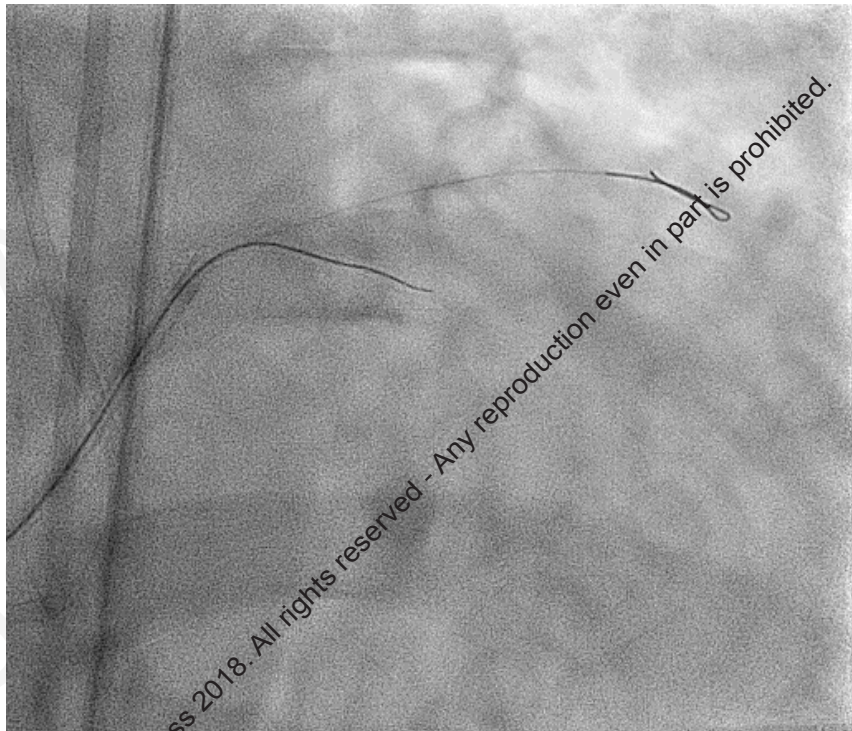


If we checked IVUS from IM to LMT,
We cannot find entry of LAD CTO clearly,
But if we review CT finding...

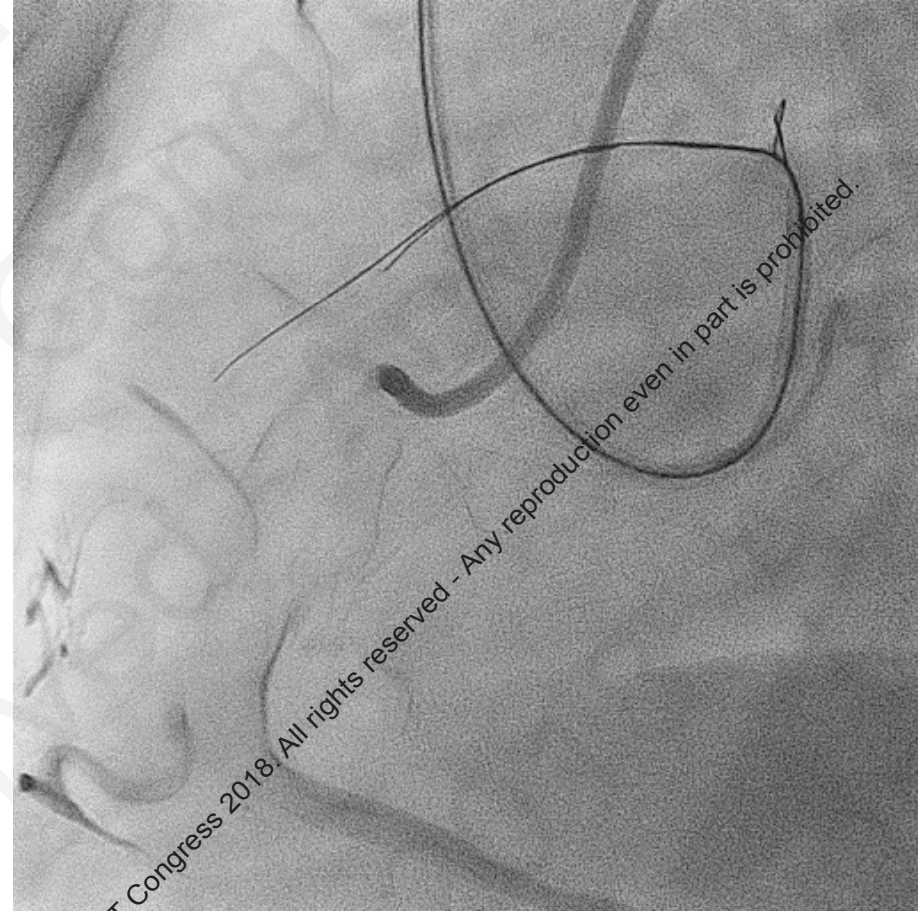
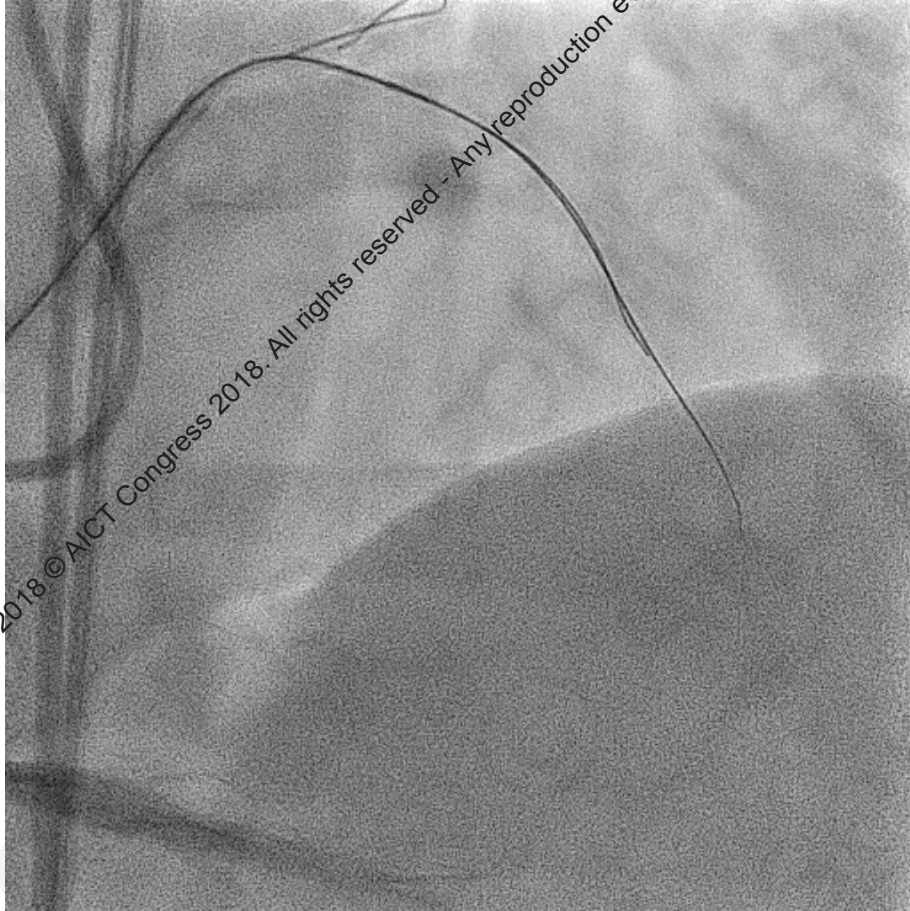
No IVUS Option !!





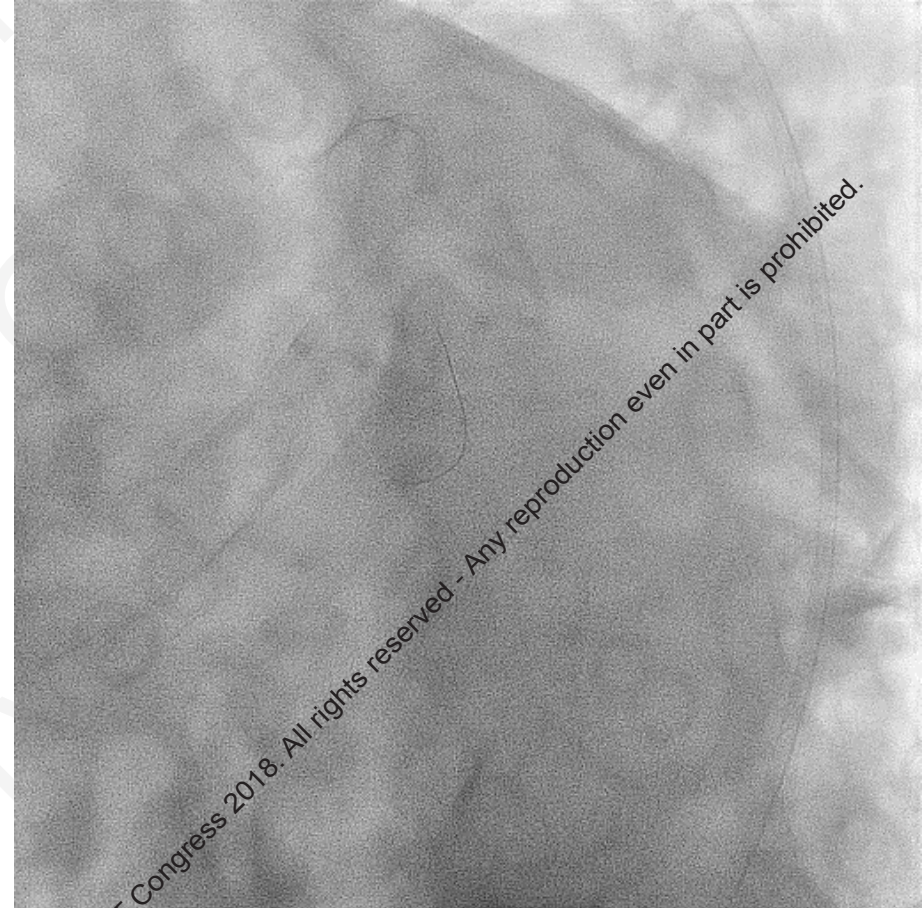
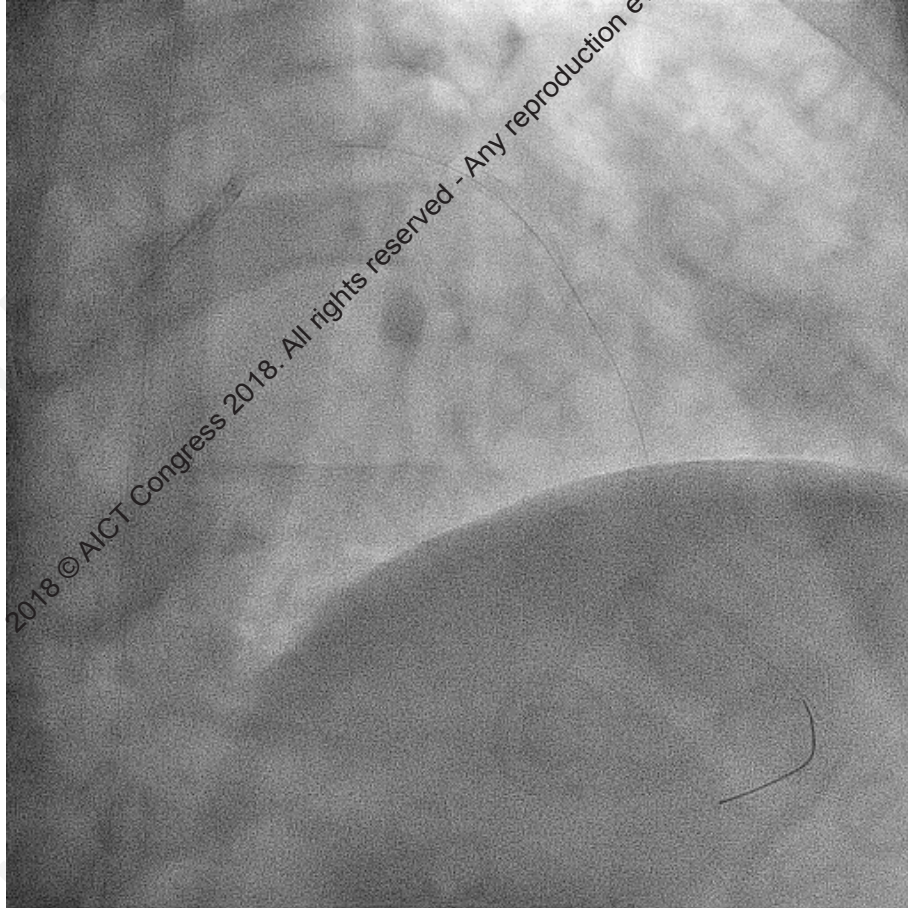


Case 2 : No Stump LAD CTO w/o retrograde route



Now, our GW was already inside of true lumen, then ballooning and stenting

Case 2 : No Stump LAD CTO w/o retrograde route



Final Result

Technical Tips and Tricks

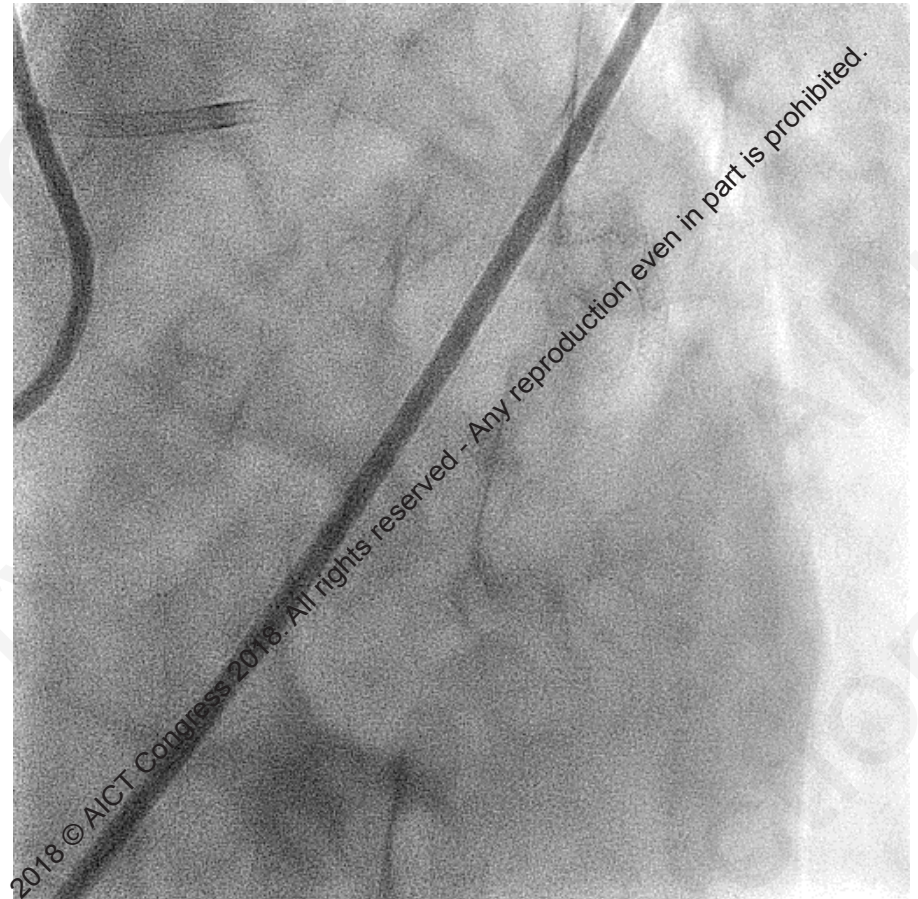
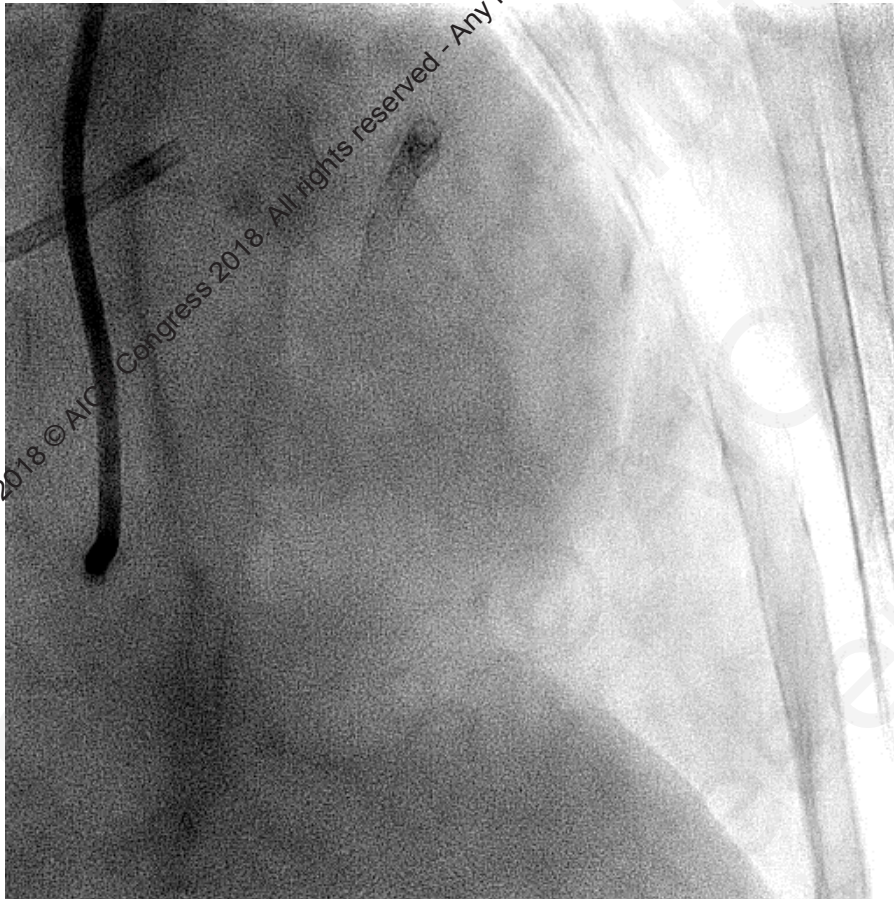
- Antegrade Approach Technique – 6 important factors
-

3. IVUS guided approach

CRYSTAL of laborious effort : Antegrade A

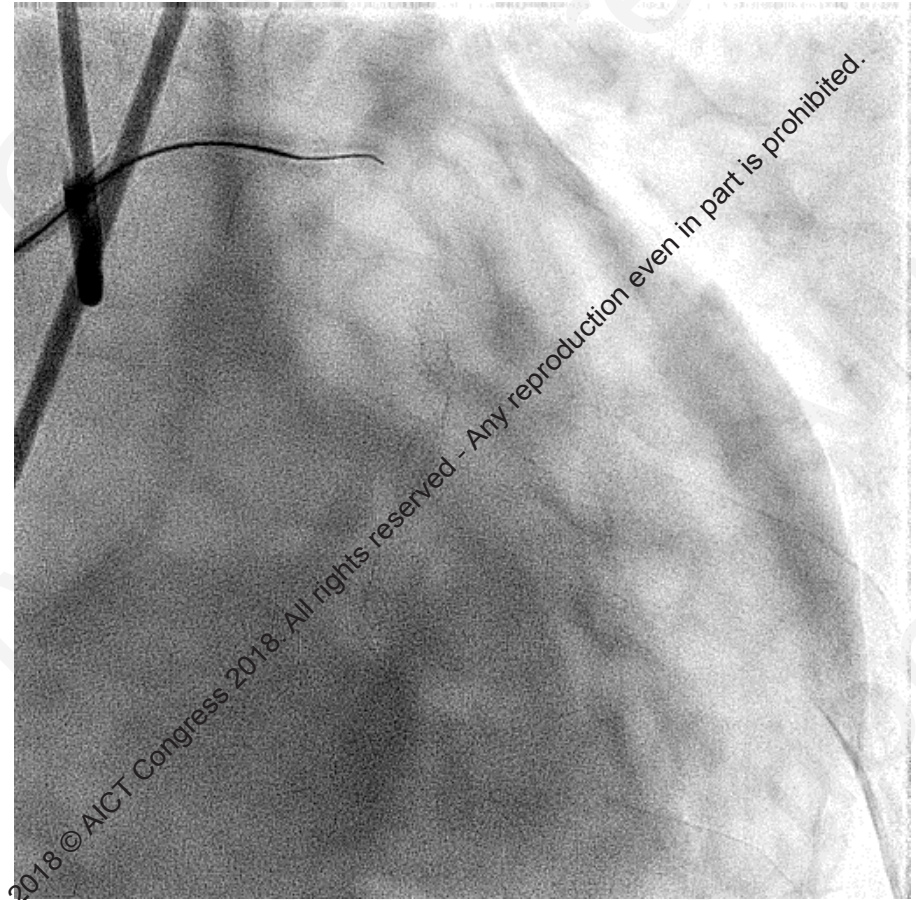
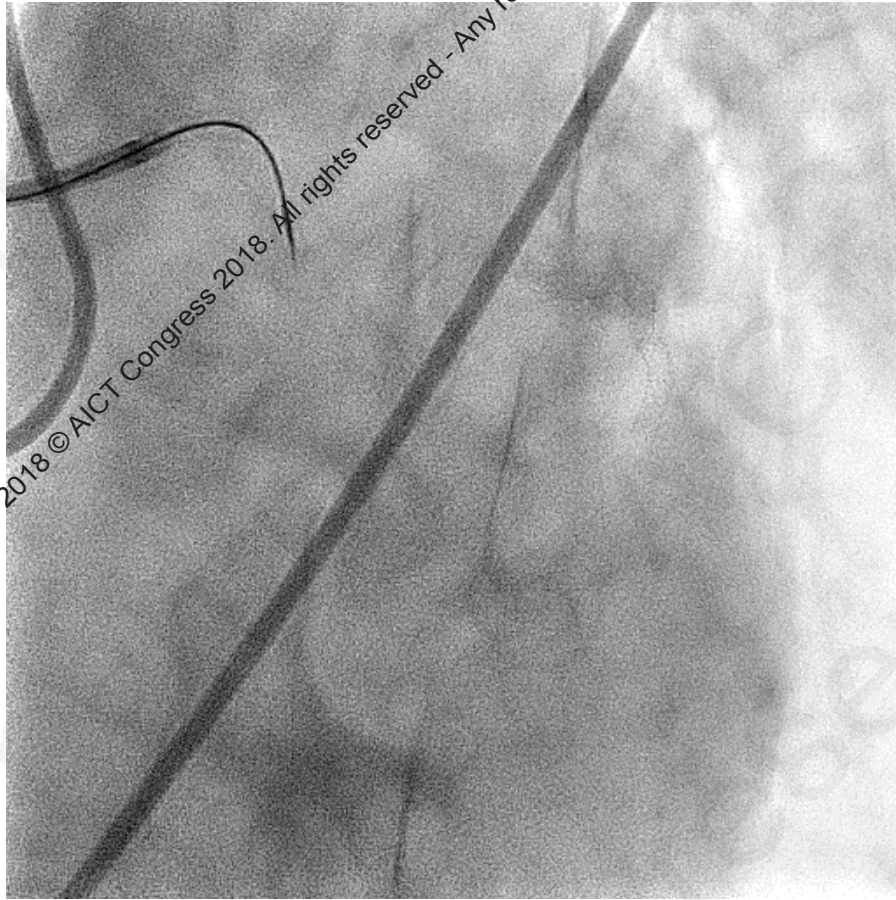
Case 3 : LAD CTO: distal end has a hard "old CAP"

LAD blunt CTO (not so long) with dull end distal re-entry site



Case 3 : LAD CTO: distal end has a hard "old CAP"

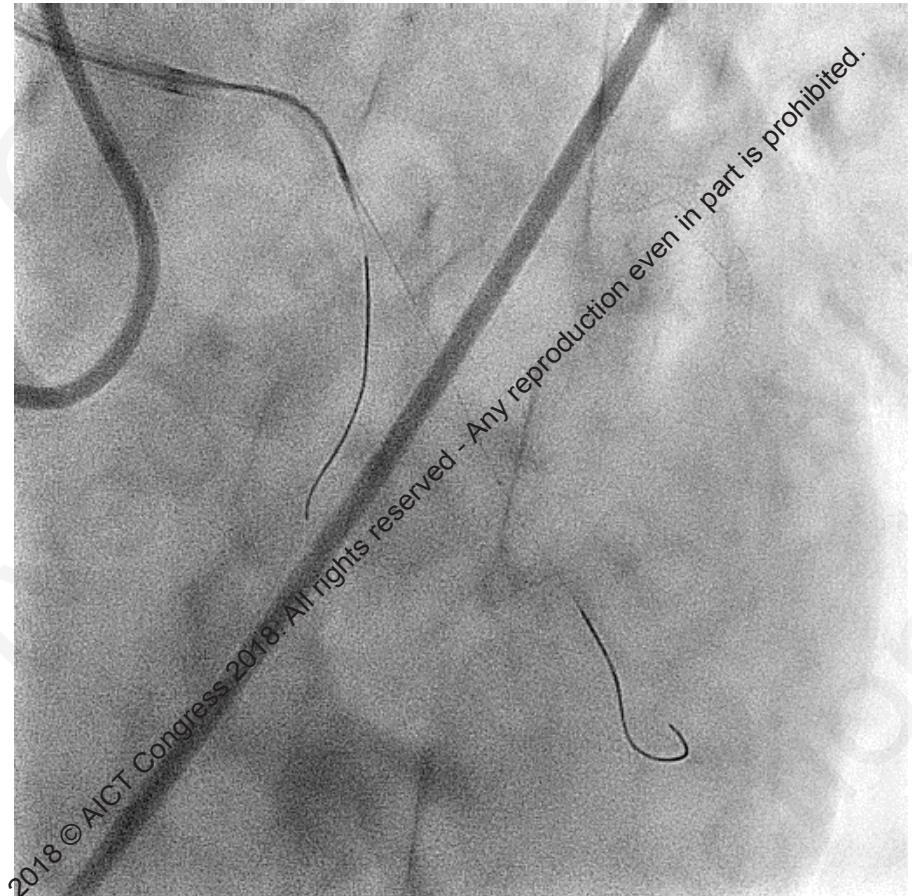
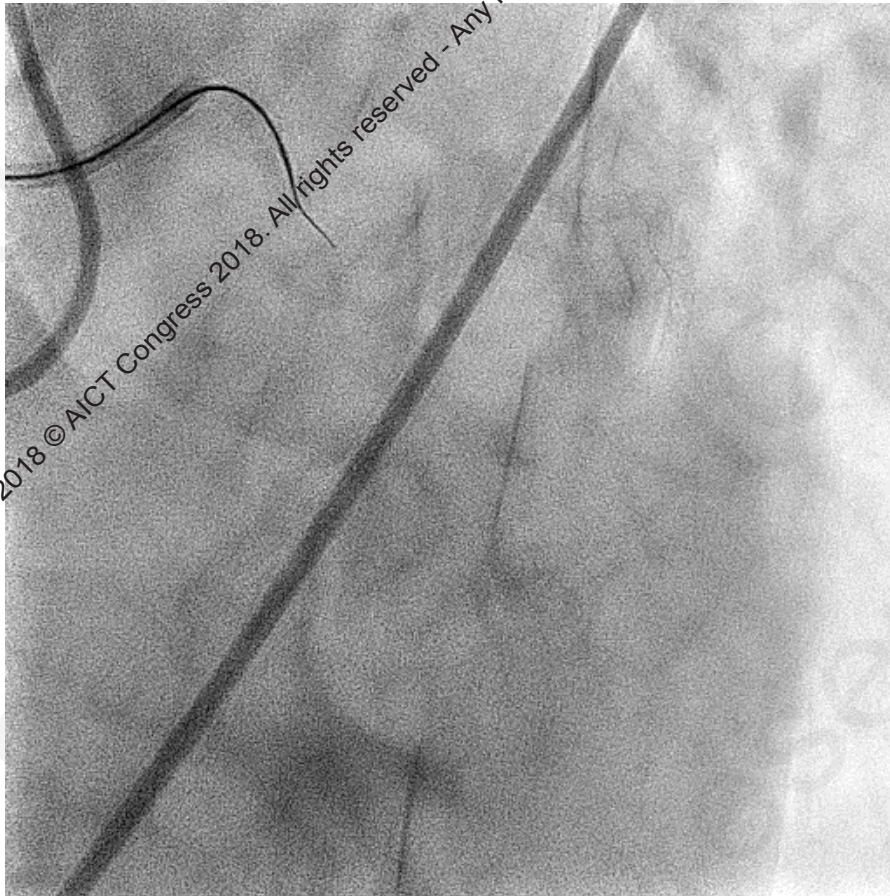
Antegrade GW went into CTO lesion with checking several projection,
Now looks not so bad !!!



Case 3 : LAD CTO: distal end has a hard "old CAP"

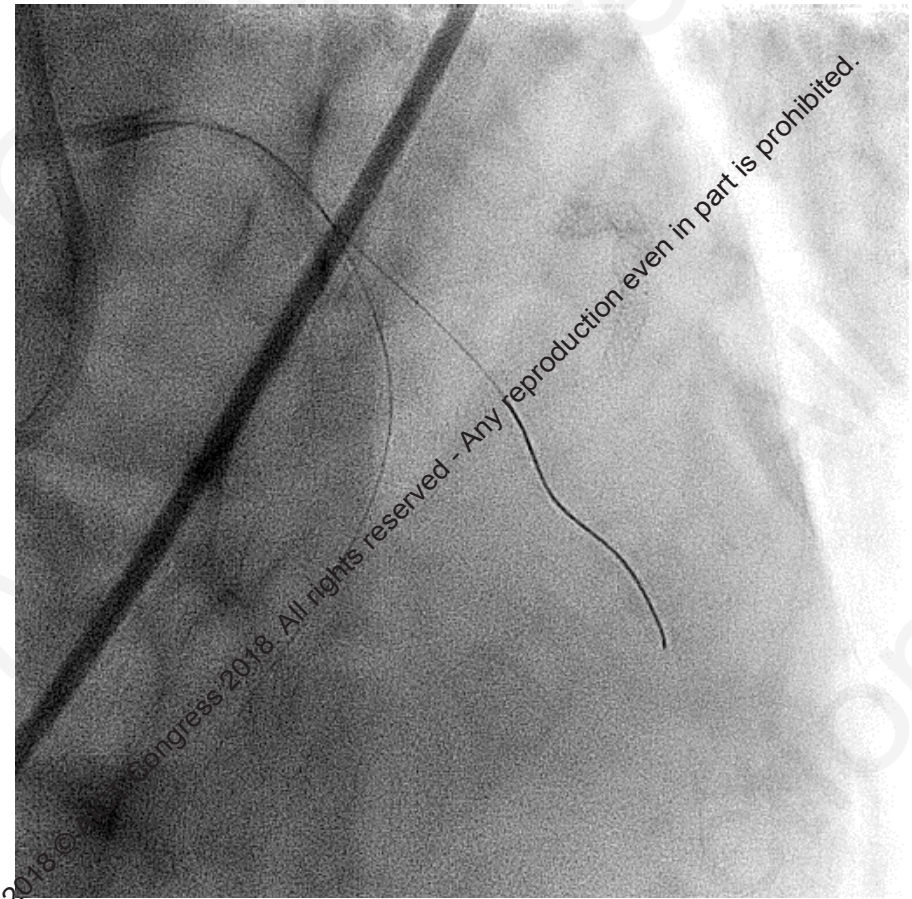
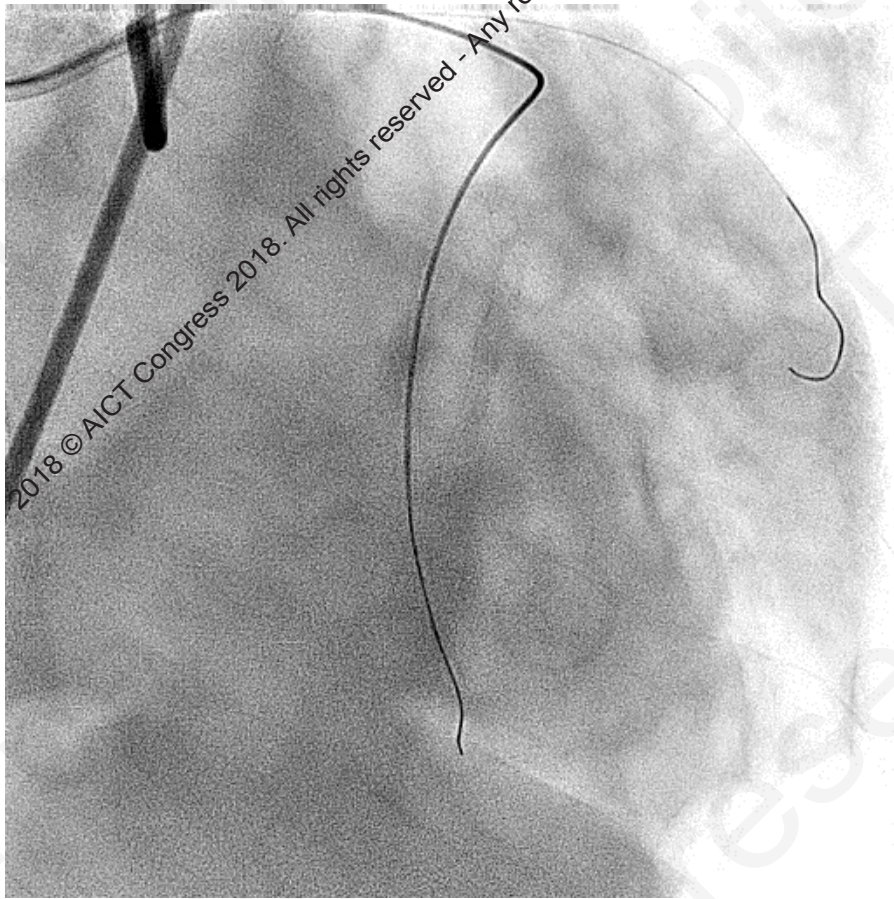
Looks OK !! In several projections, but in some projection, looks very small deviation.

So, we started checking IVUS



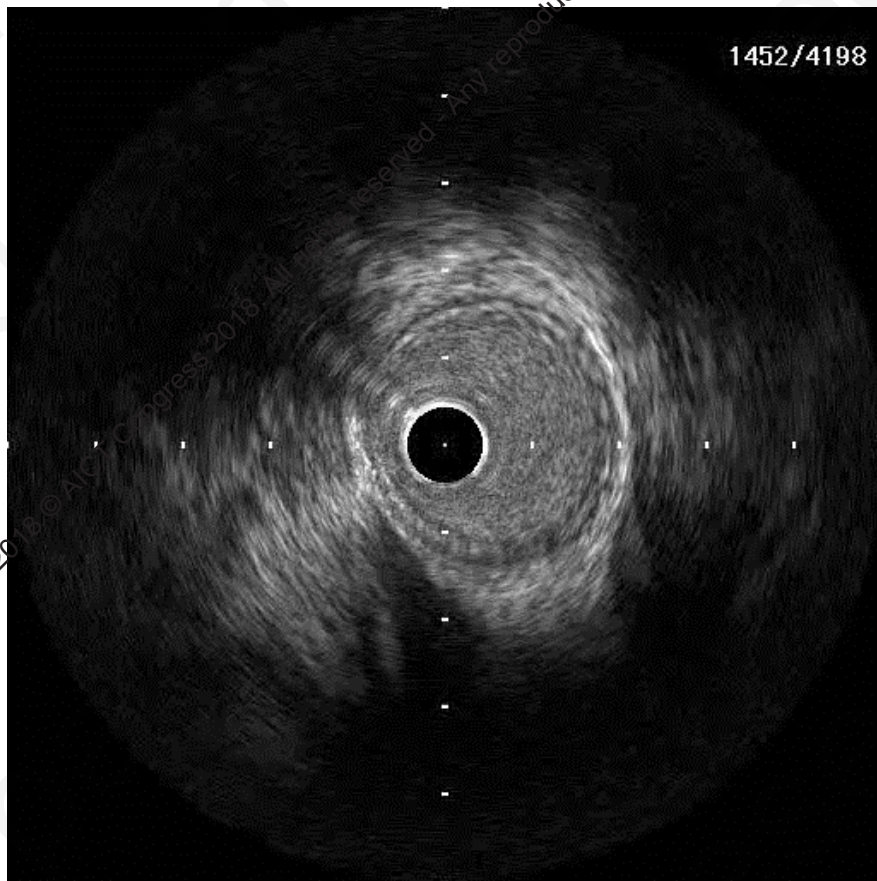
Case 3: LAD CTO: distal end has a hard "old CAP"

IVUS shows...



Case 3: LAD CTO: distal end has a hard "old CAP"

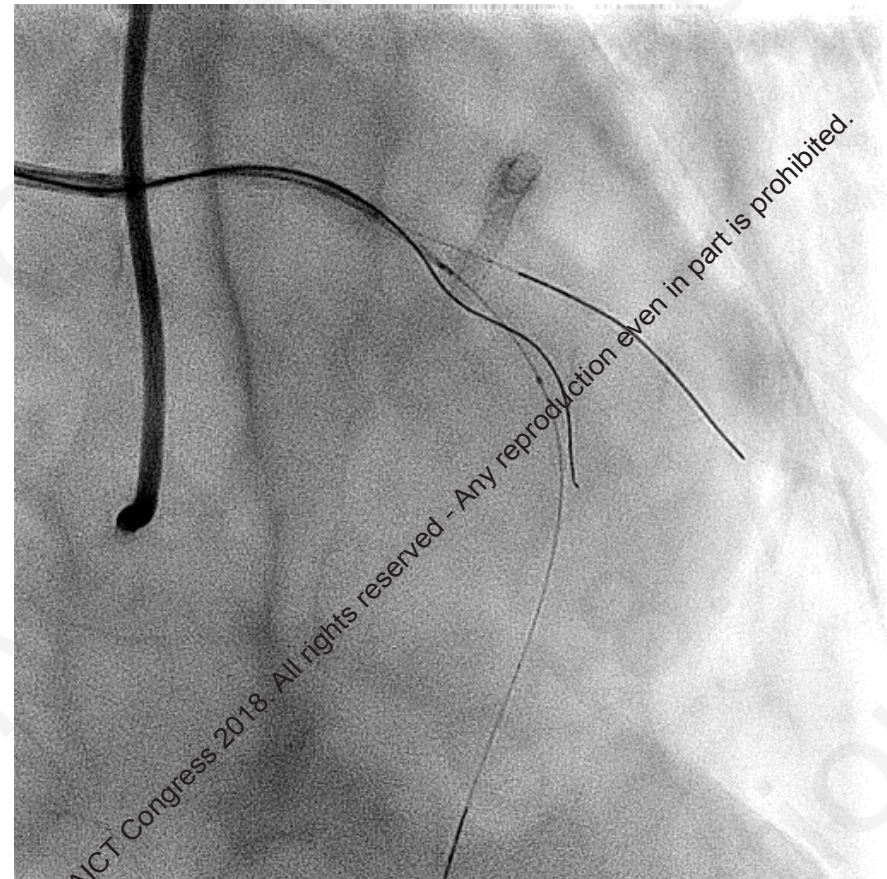
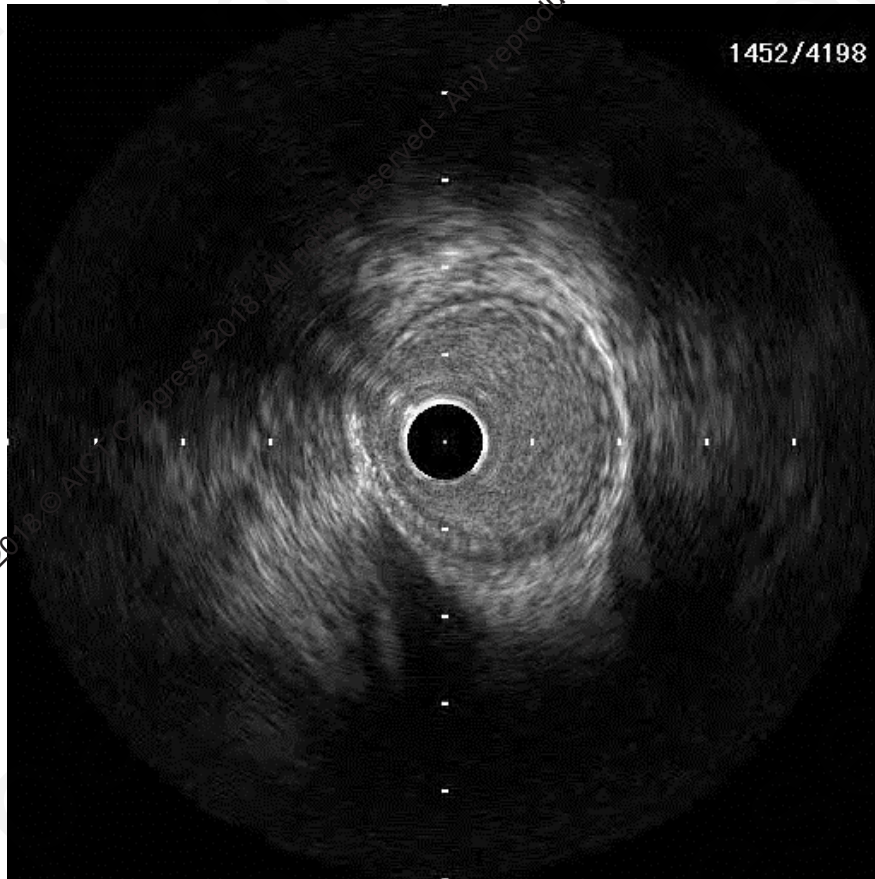
IVUS shows... How do you think ???



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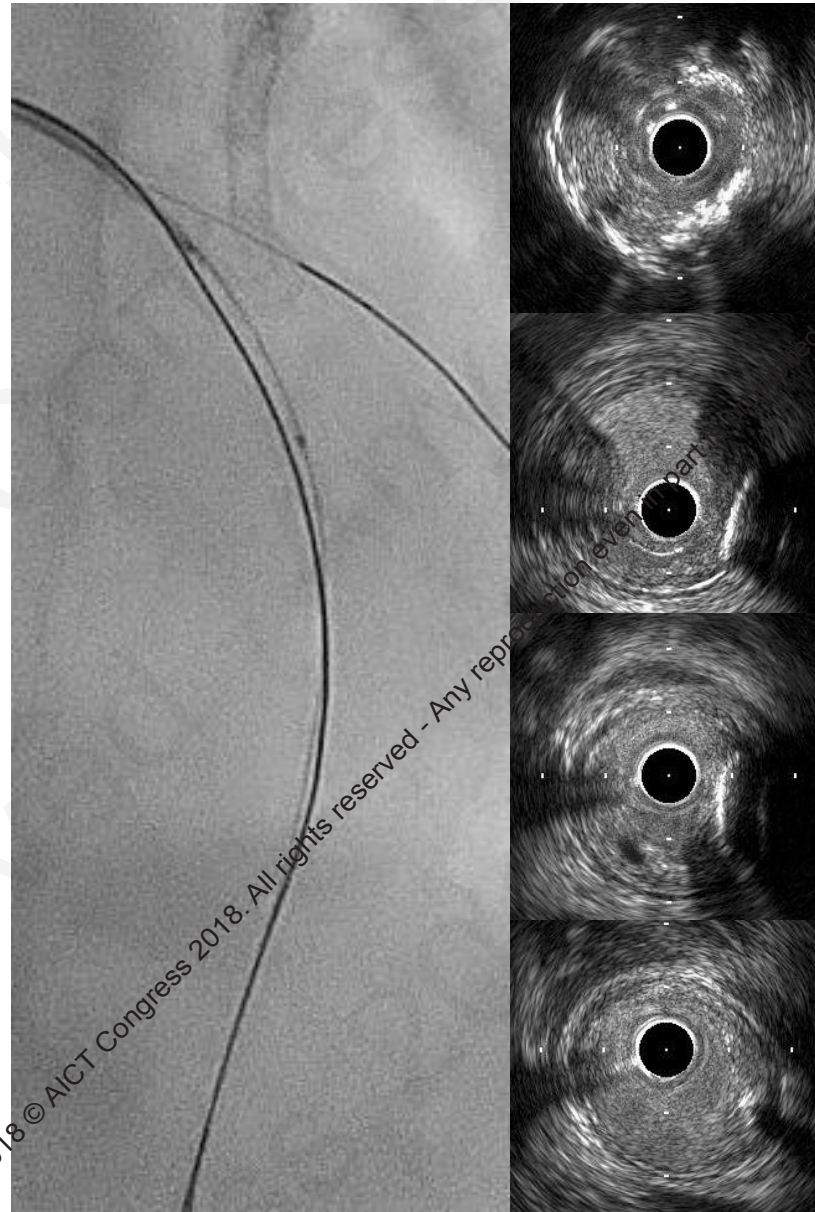
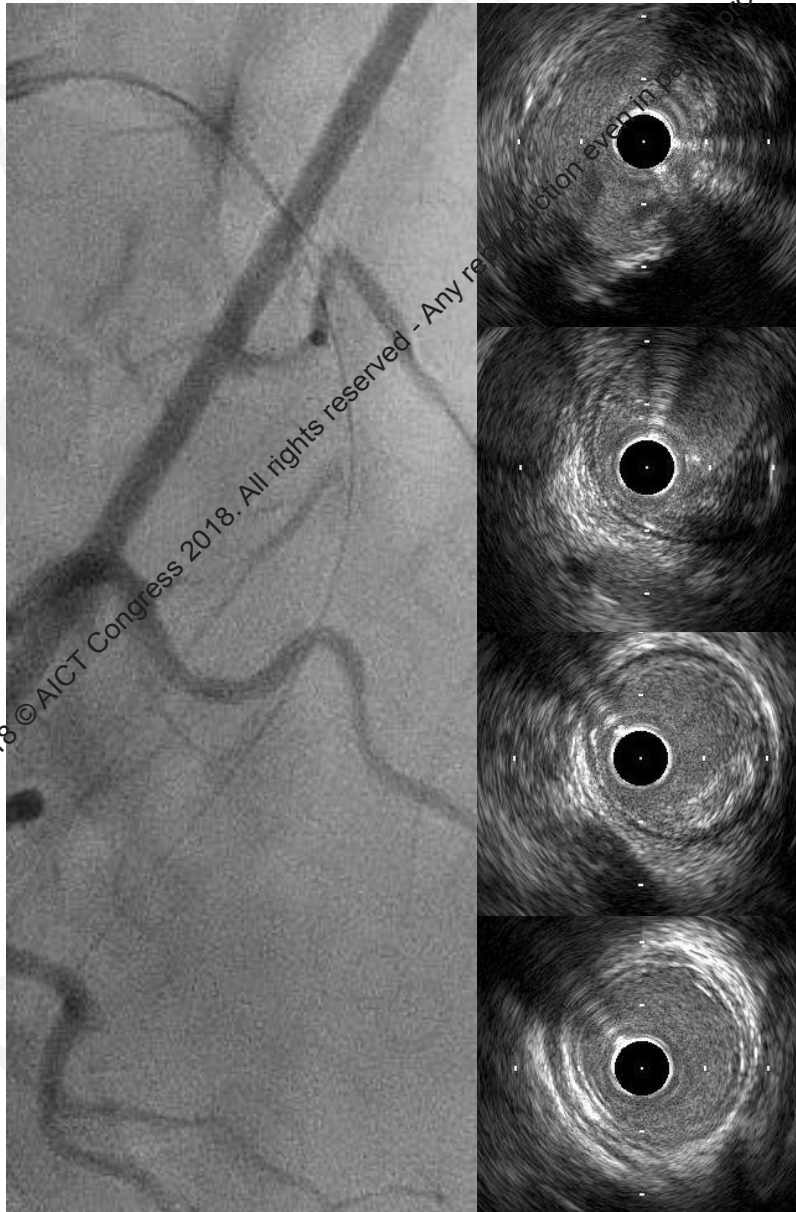
Case 3: LAD CTO: distal end has a hard "old CAP"

IVUS shows... Then we started IVUS guided Re-Wiring !!!



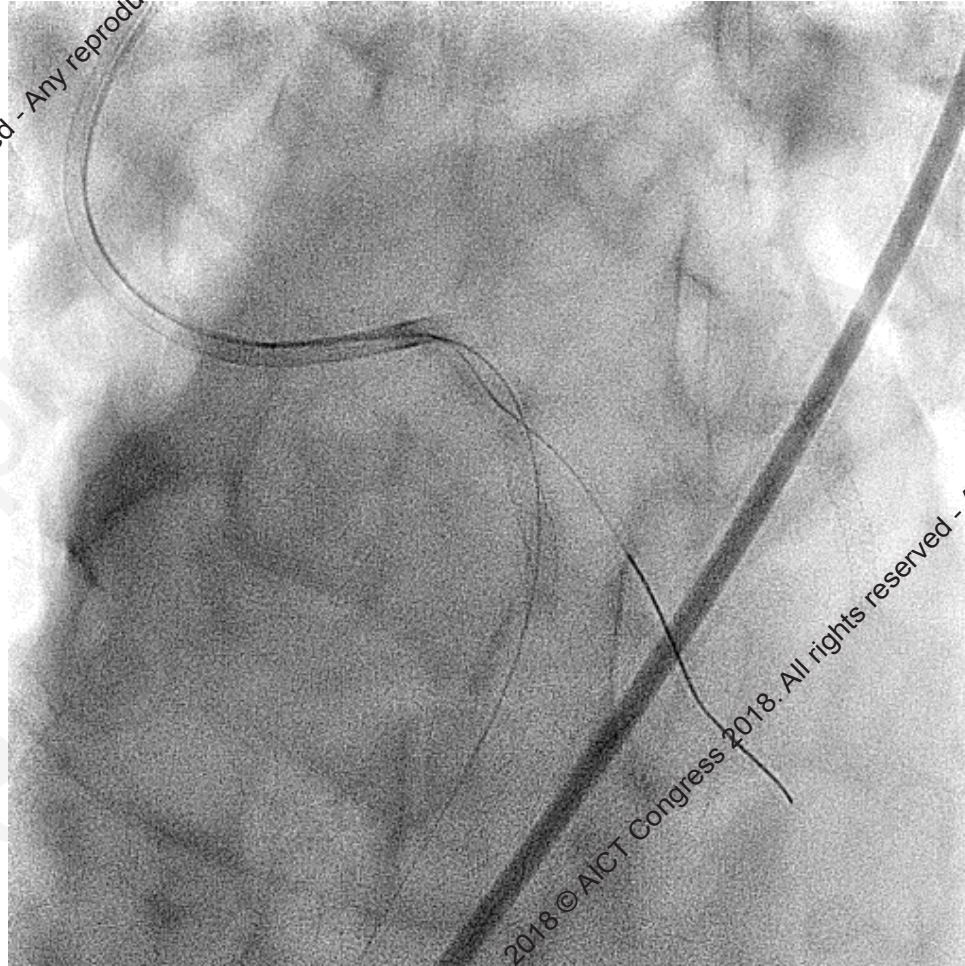
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After several manipulating the GW... We could get true lumen and confirmed.



Case 3: LAD CTO: distal end has a hard "old CAP"

Final Angiogram



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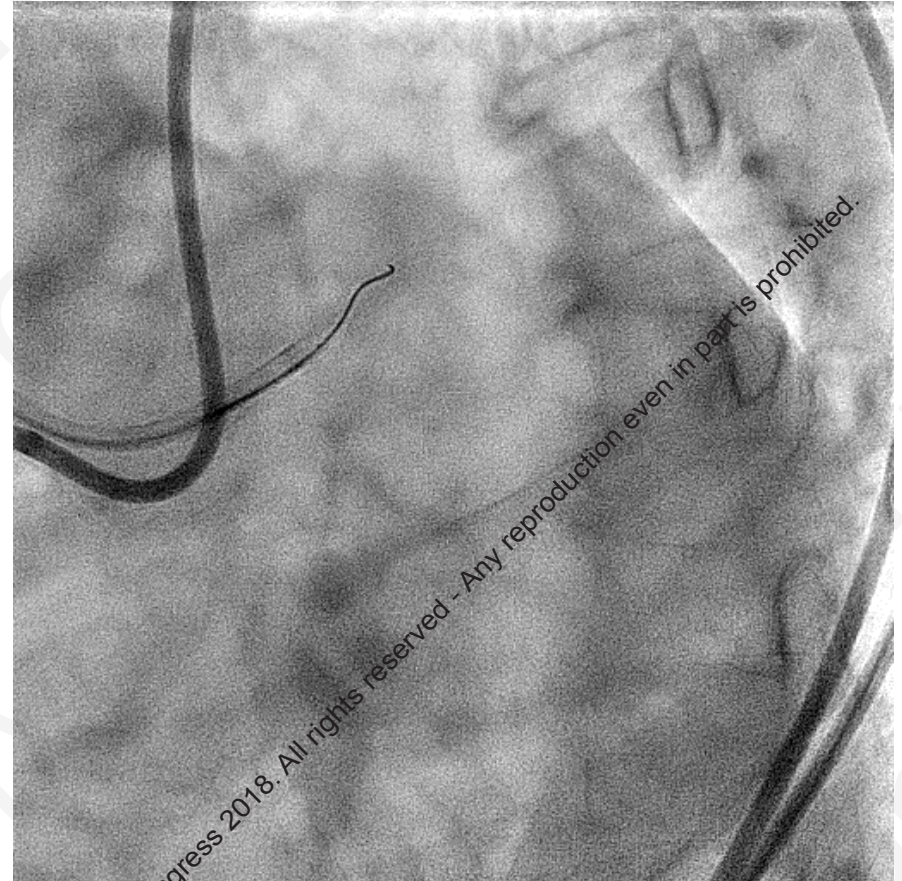
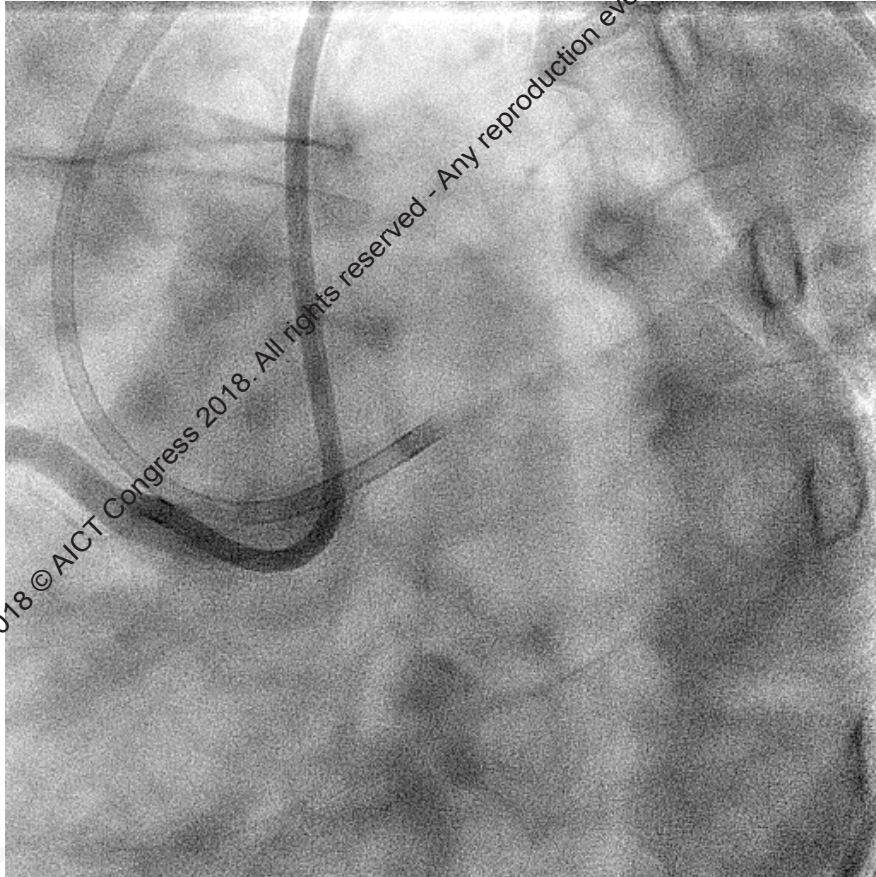
Technical Tips and Tricks

- Antegrade Approach Technique – 6 important factors
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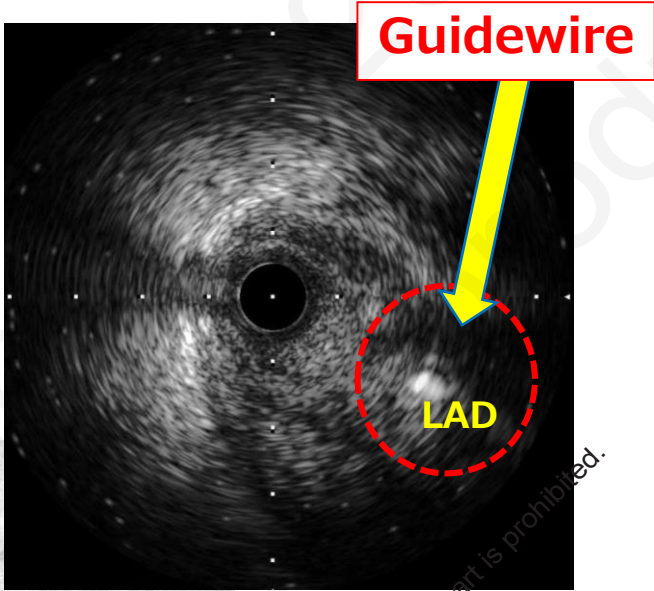
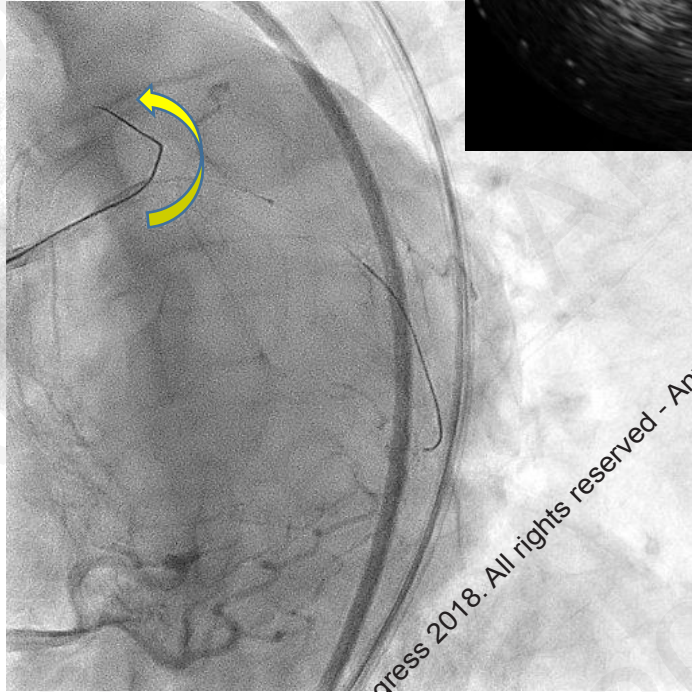
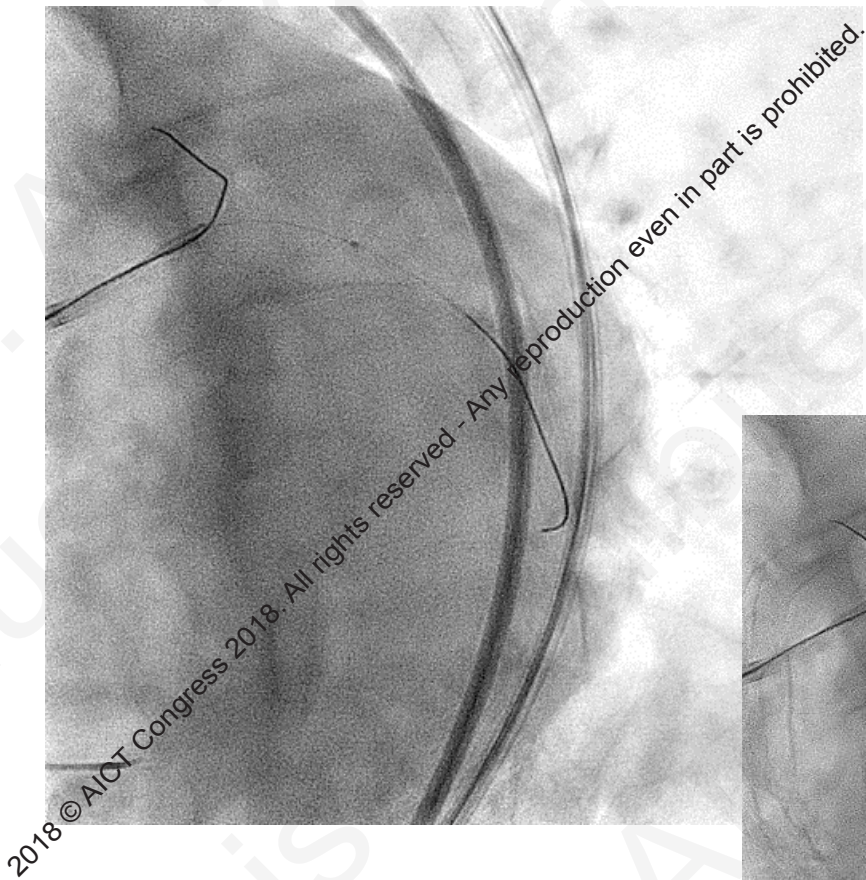
4 IVUS guided approach

CRYSTAL of laborious effort : Antegrade A

Case 4 : LAD CTO with LMT(LCX ost.) stenosis

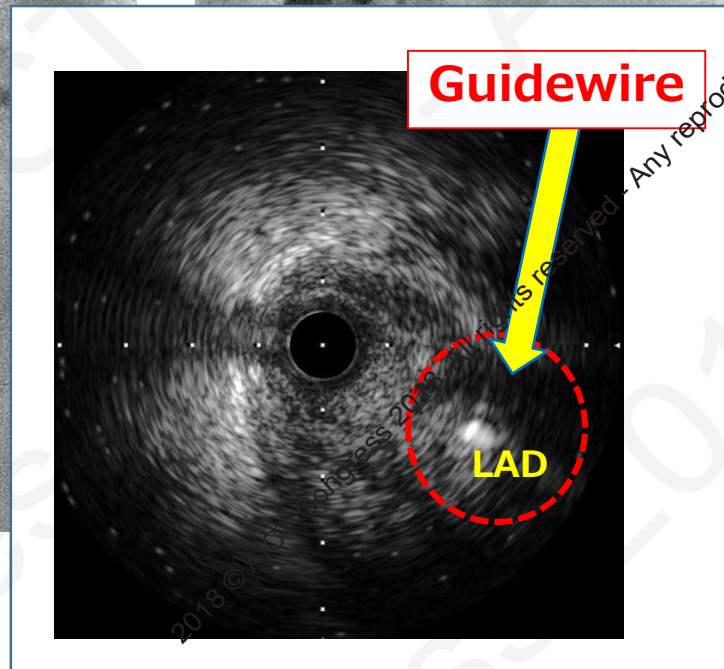
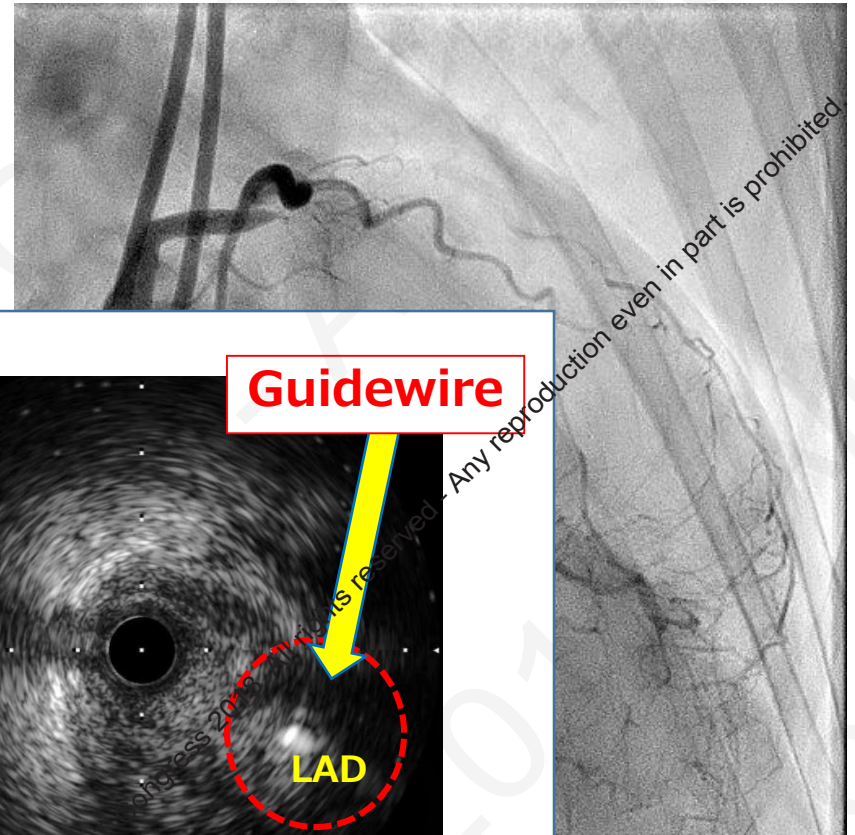
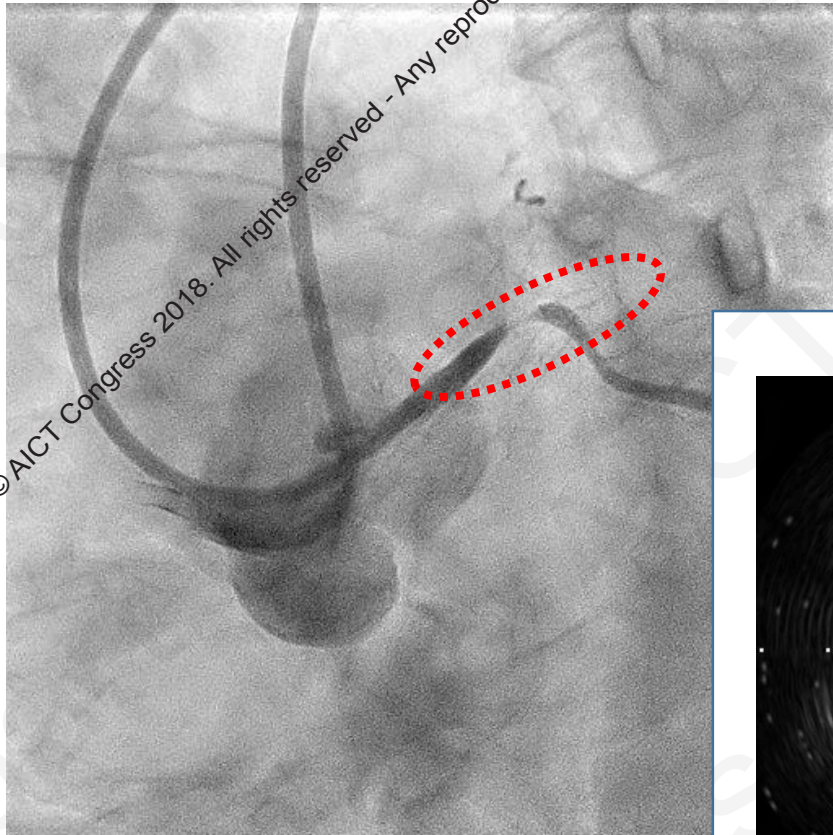


LAD CTO with LMT severe stenosis(LCX ost. stenosis)
At first, attempting Antegrade Approach, but no guarantee



So we start IVUS guided wiring for entering LAD CTO. In some cases, it is difficult because of the big space of LMT.

Because of the narrowing of the LMT bifurcation area, we have a chance to find out ENTRY POINT of CTO

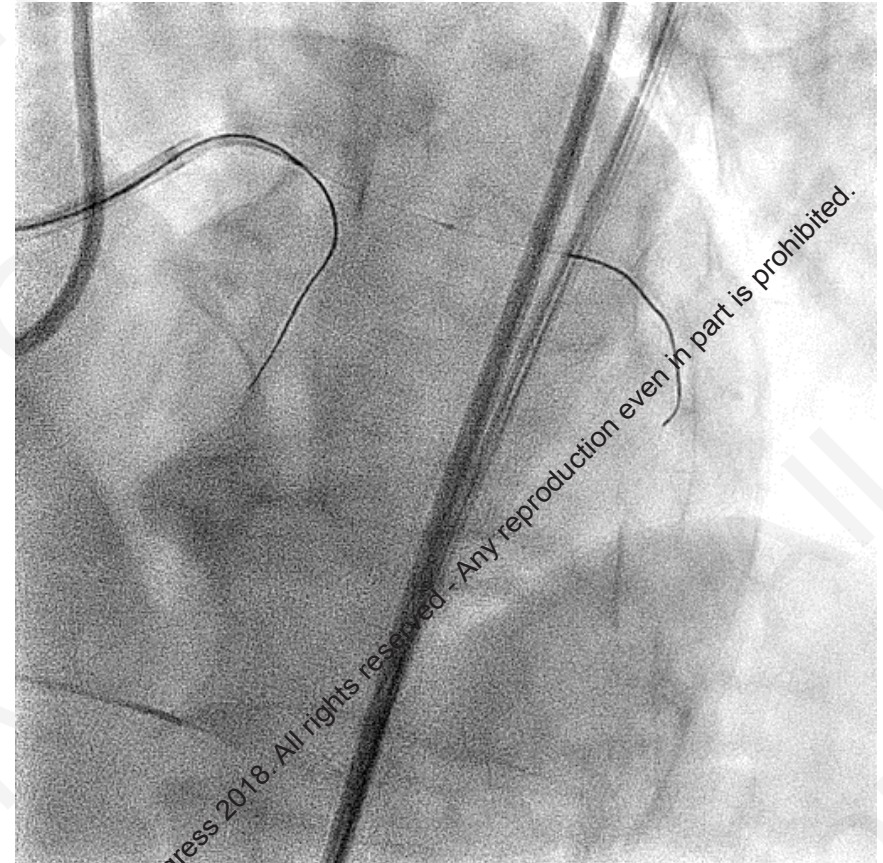
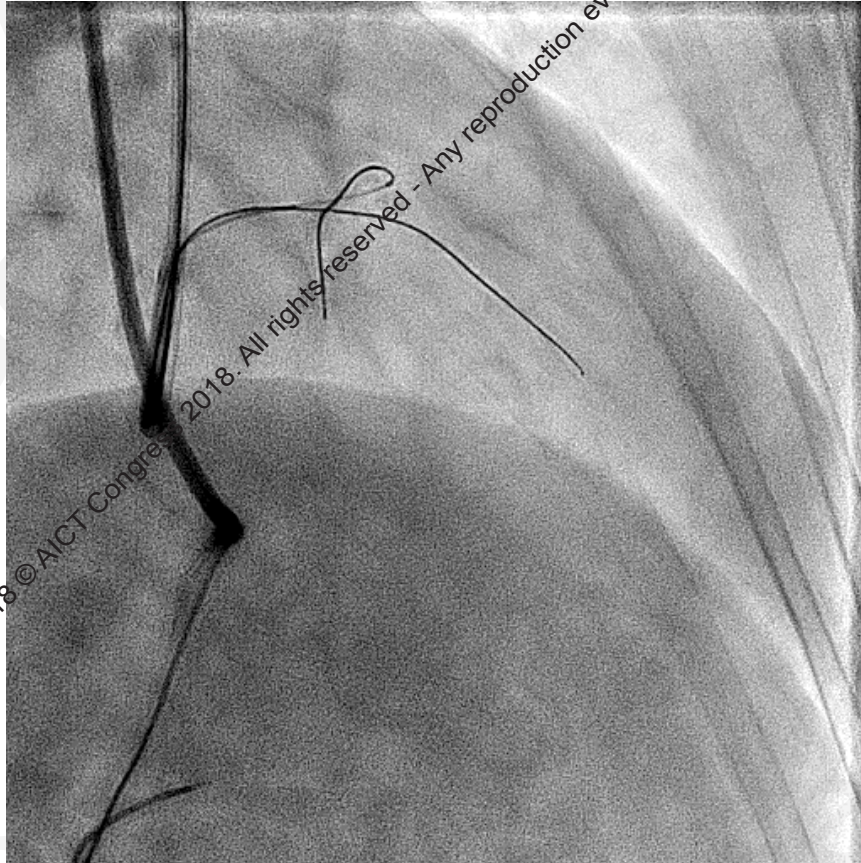


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Guidewire

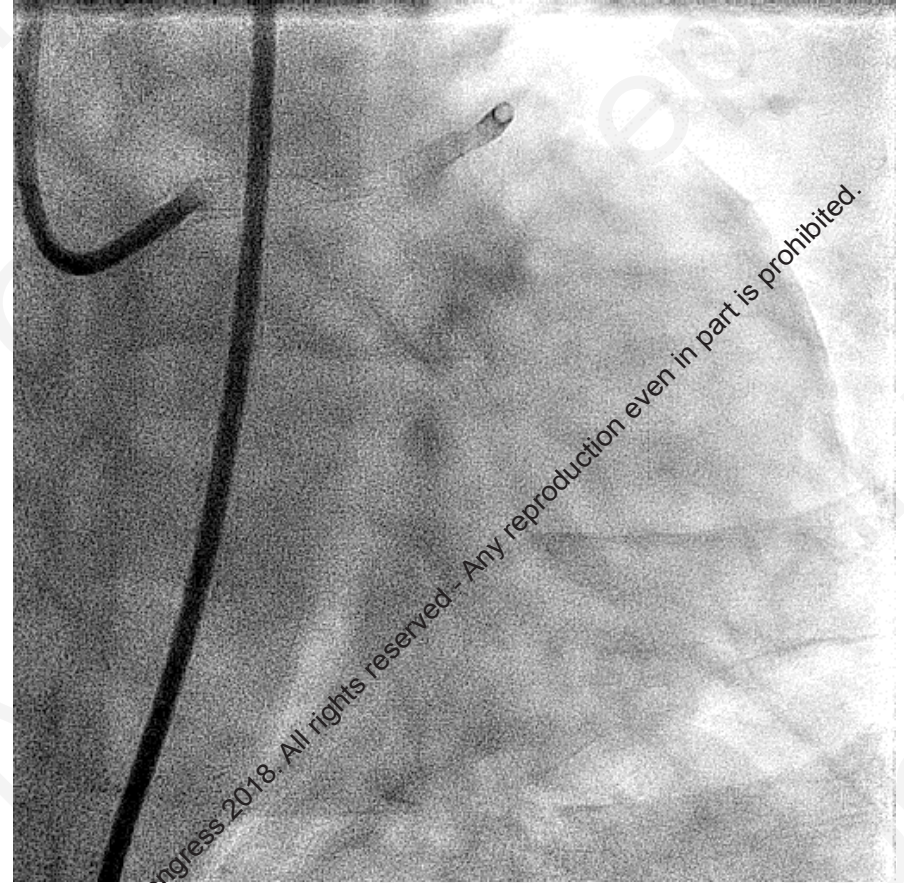
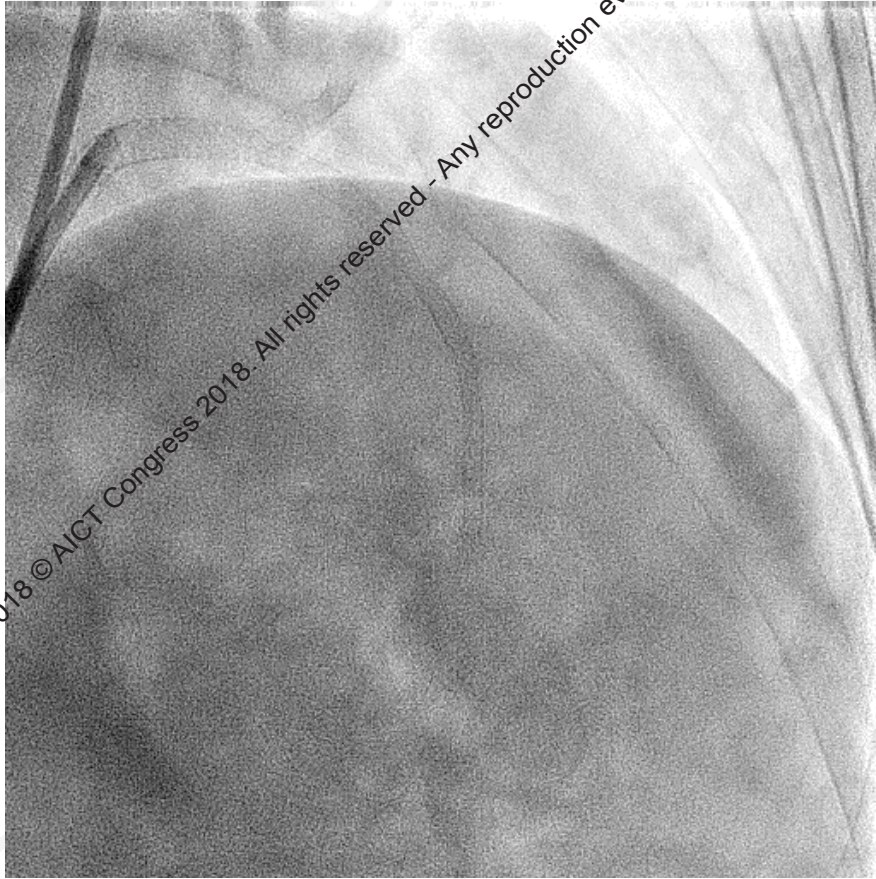
LAD

Case 4 : LAD CTO with LMT(LCX ost.) stenosis



Of course, we need to check GW position by several projection.

Case 4 : LAD CTO with LMT(LCX ost.) stenosis

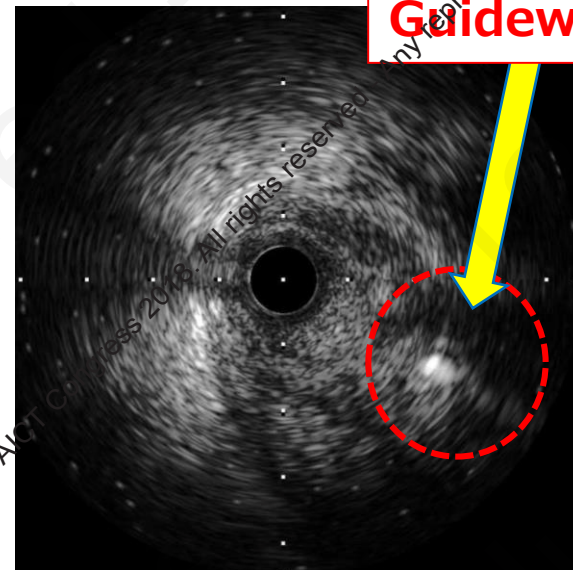
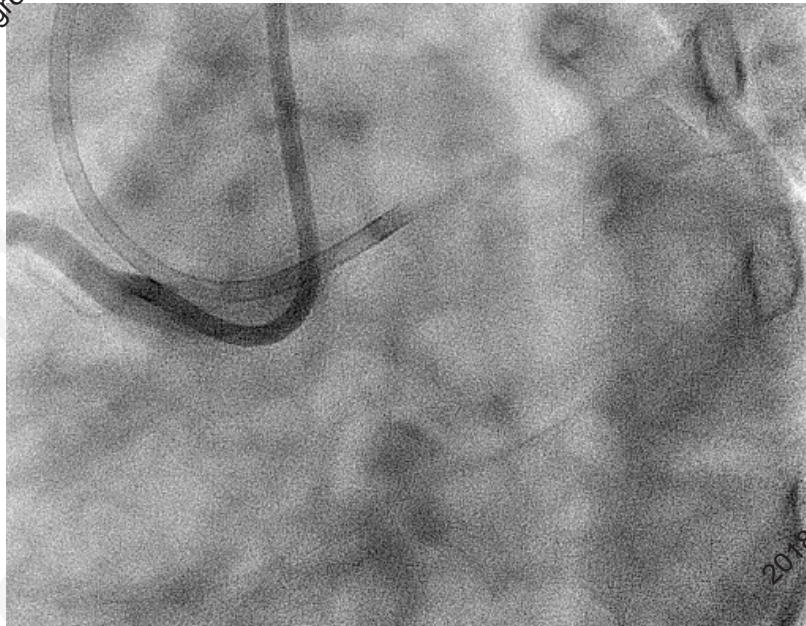


Finally... We are good enough to do TAP stenting in LMT

Key Message 1: IVUS guided approach

In case of LAD no stump CTO, sometimes, we can not see the entry point by IVUS, because of the big space of LMT-LCX.

However, if you have a narrowing of the LMT,
You have a chance to see **ENTRY POINT** of CTO



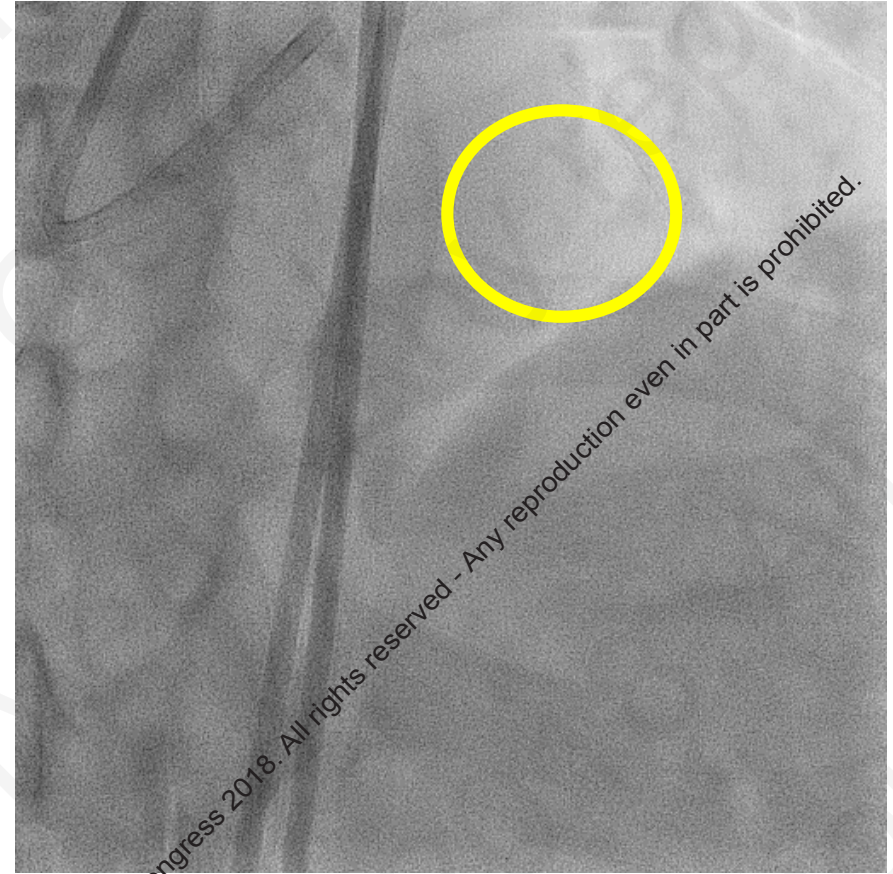
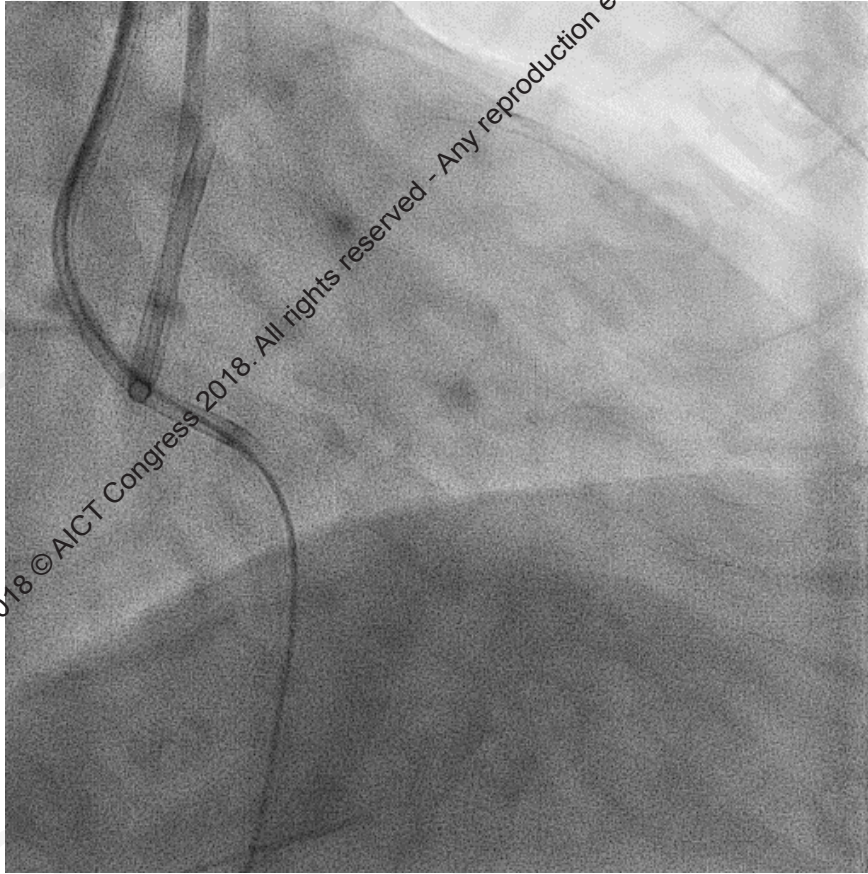
Technical Tips and Tricks

- Antegrade Approach Technique – 6 important factors
-

5. IVUS guided approach

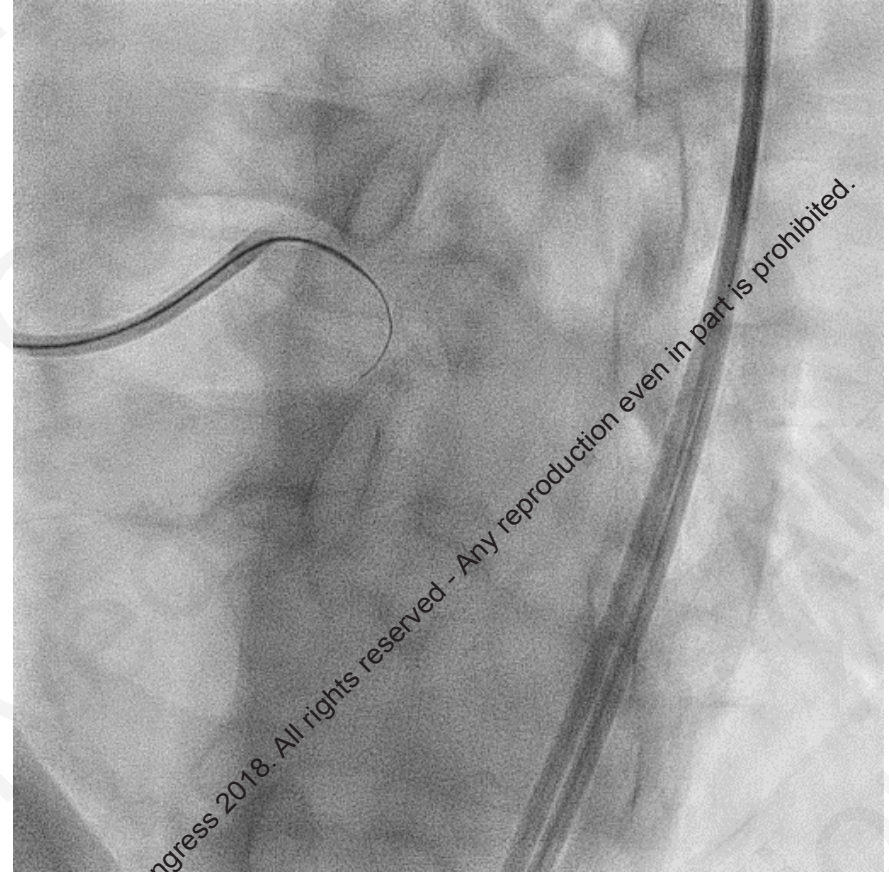
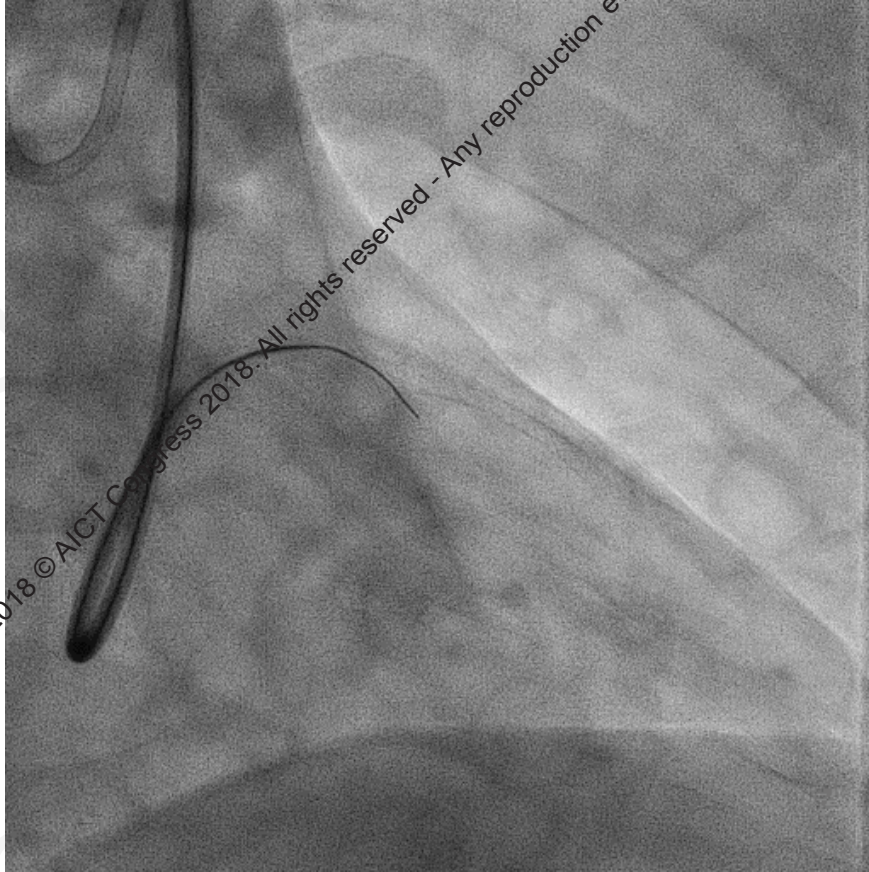
CRYSTAL of laborious effort : Antegrade A

Case 5 : LAD CTO with bridge collateral



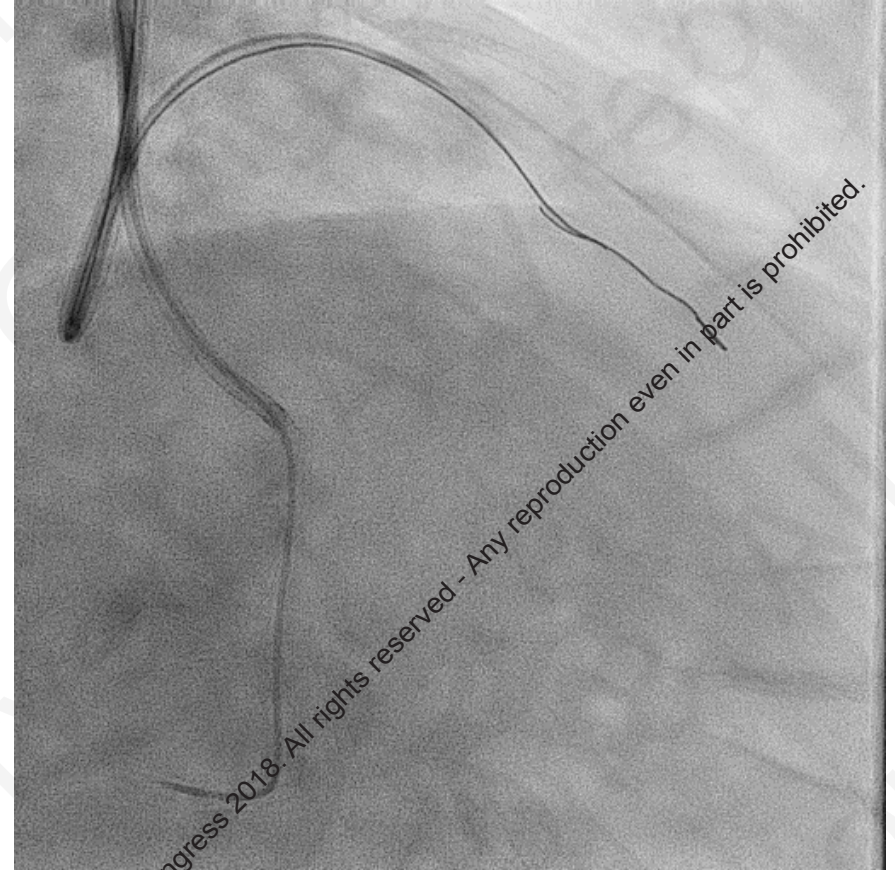
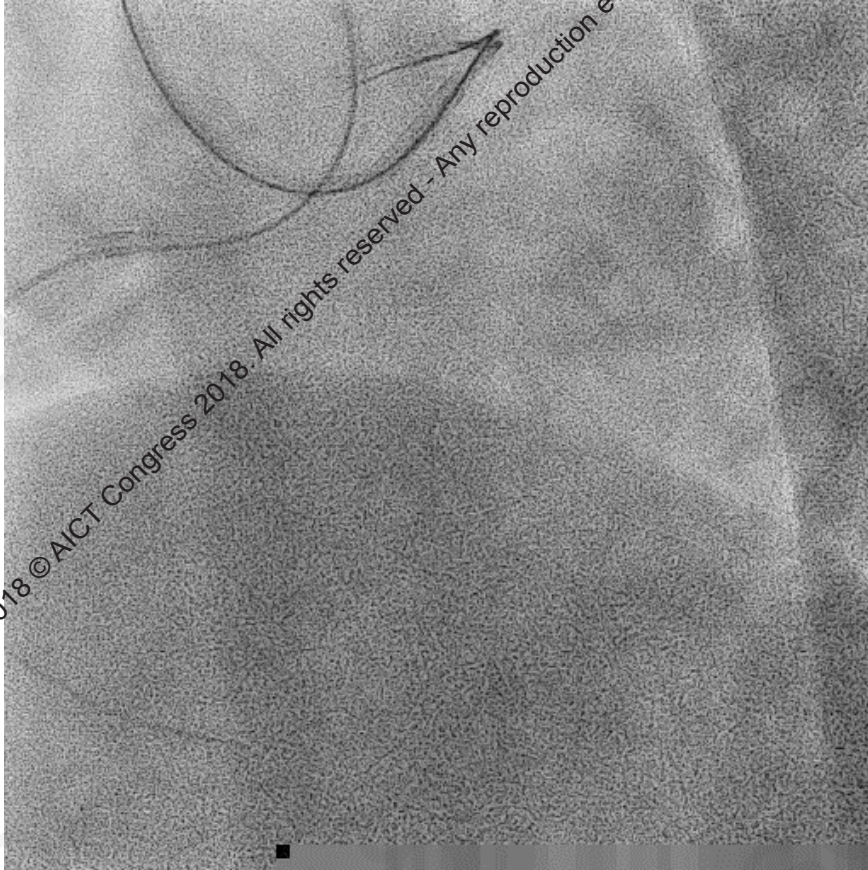
LAD CTO with bridge collateral and ambiguous collateral from RCA.

Case 5: LAD CTO with bridge collateral



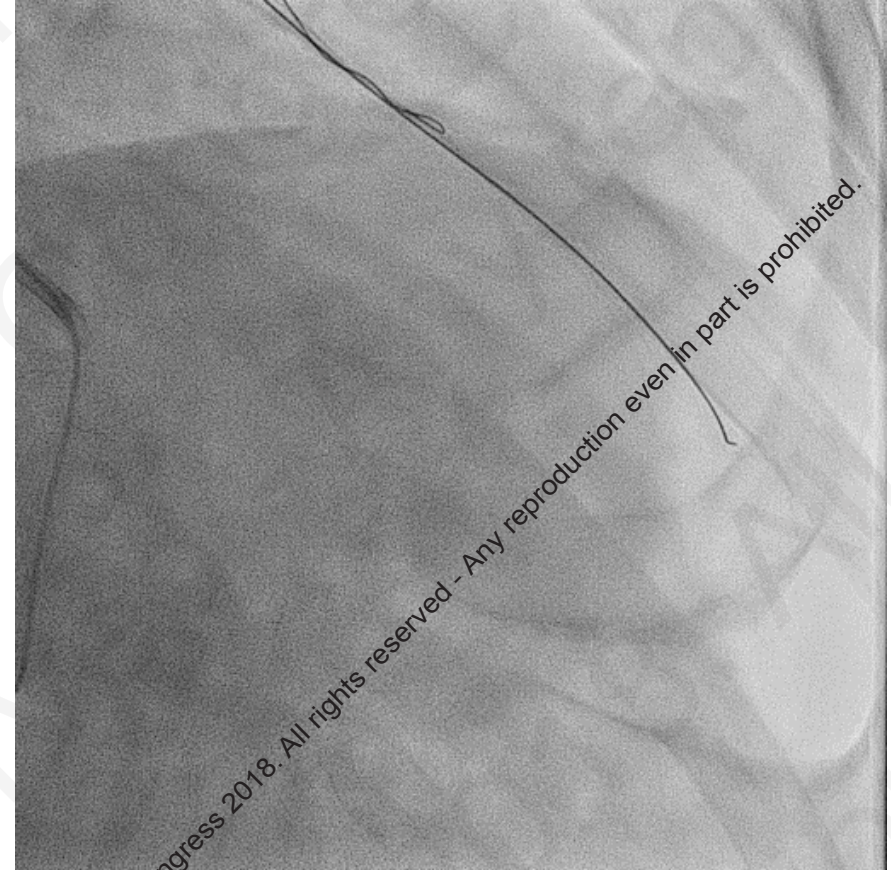
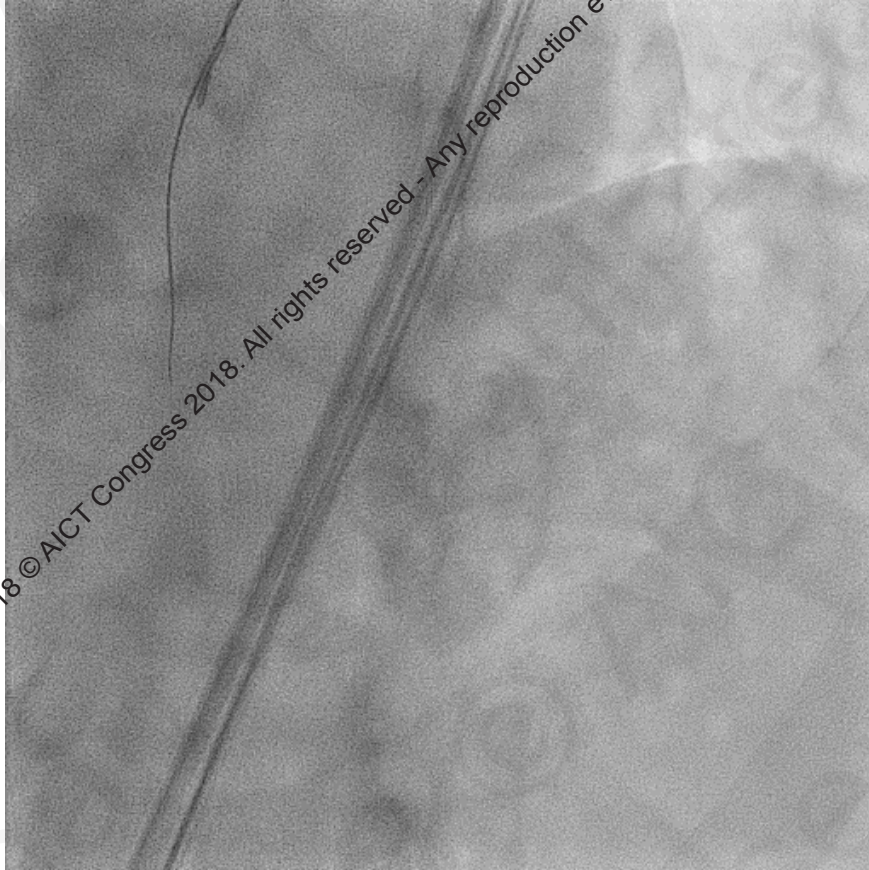
Advanced GW carefully by checking from appropriate multiple planes

Case 5 : LAD CTO with bridge collateral



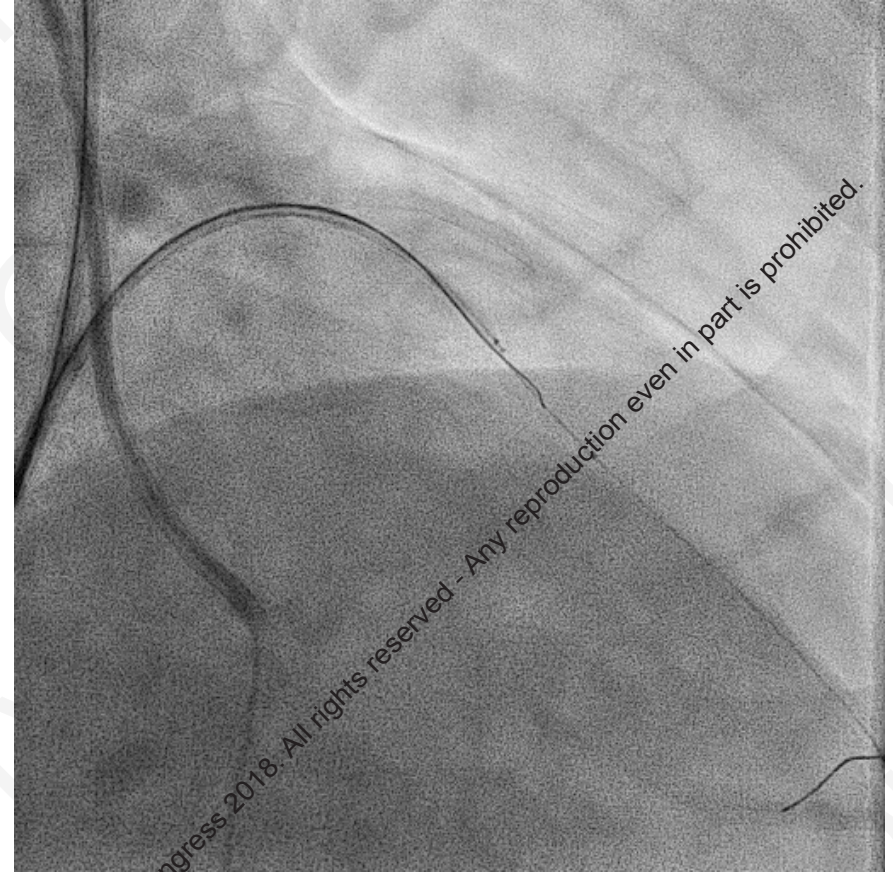
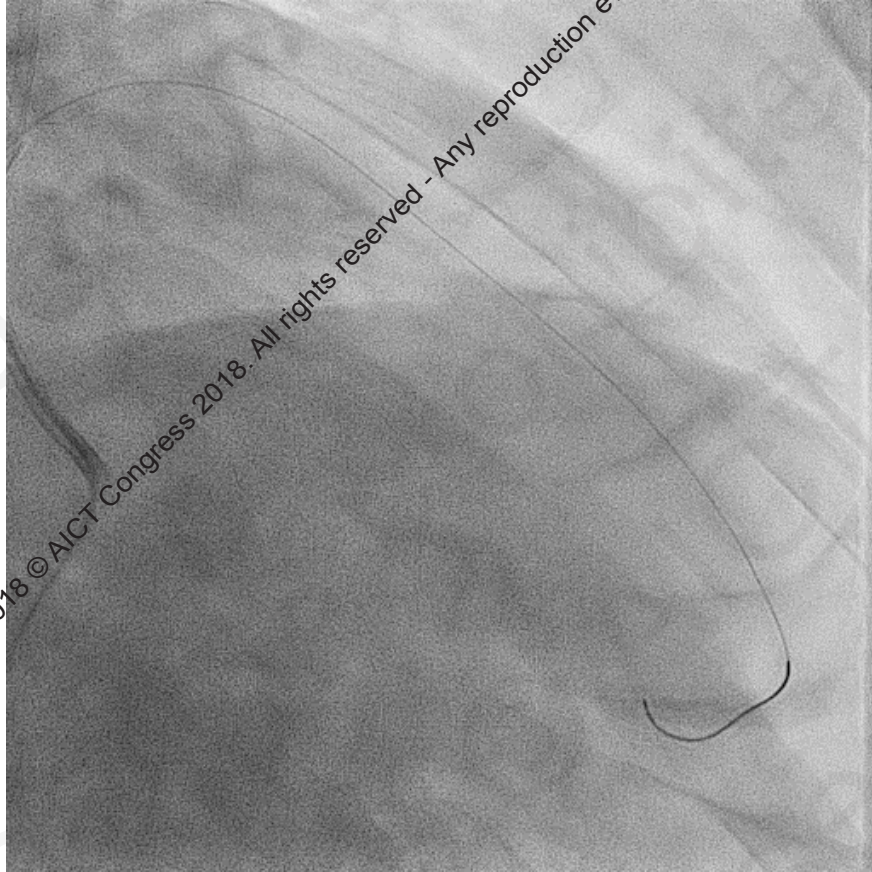
Returned back to antegrade approach. GW was tried to advanced.
Of course checking with multiple planes.

Case 5 : LAD CTO with bridge collateral



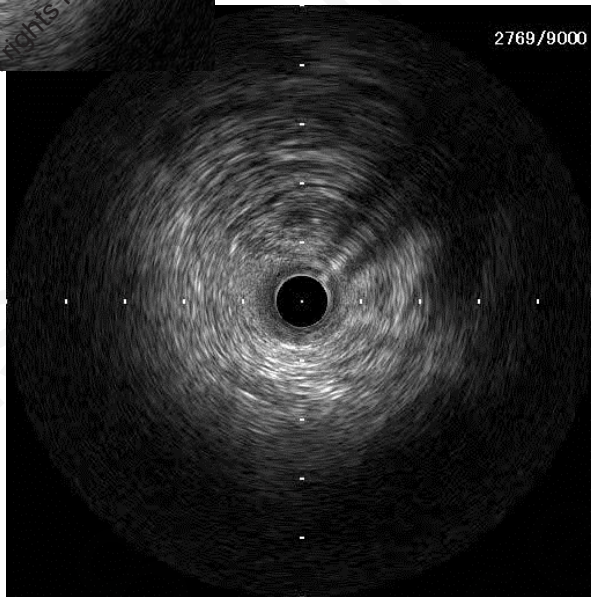
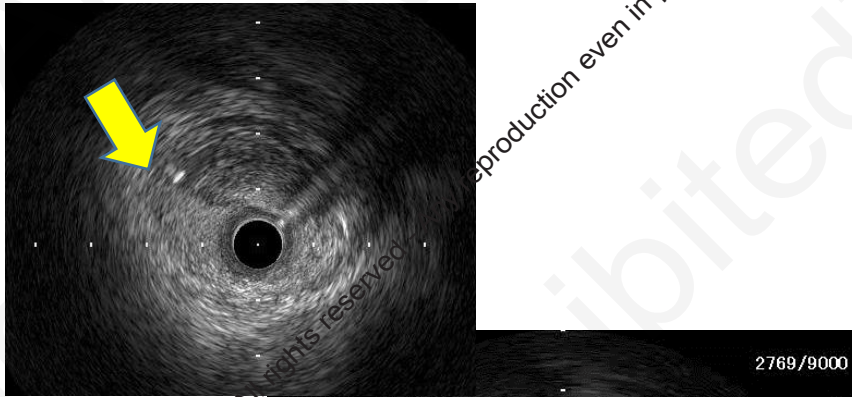
Finally, GW reached distal true lumen.

Case 5 : LAD CTO with bridge collateral

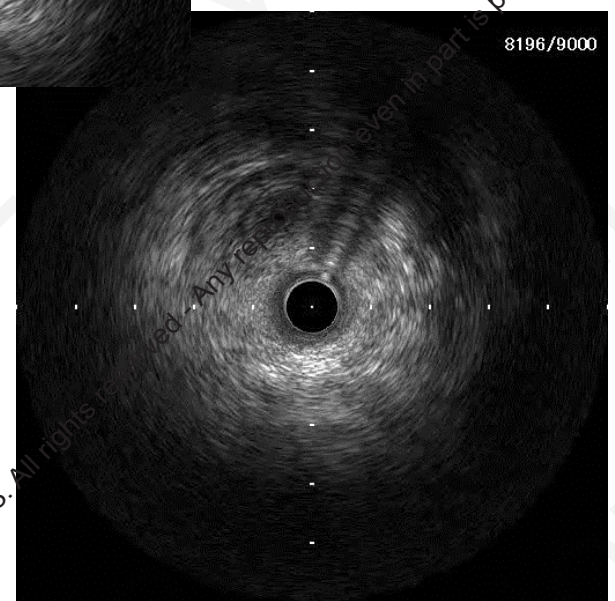
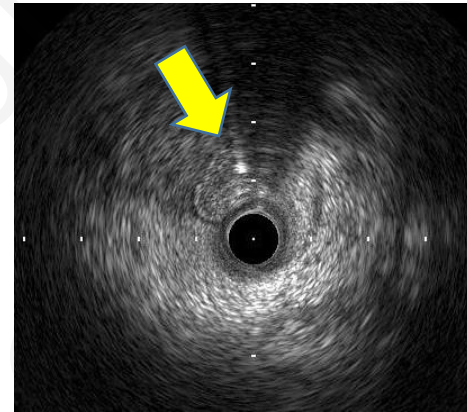


Since GW is at false lumen, Next we need to let it go back to the true lumen with IVUS guided approach.

Case 4 : LAD CTO with bridge collateral



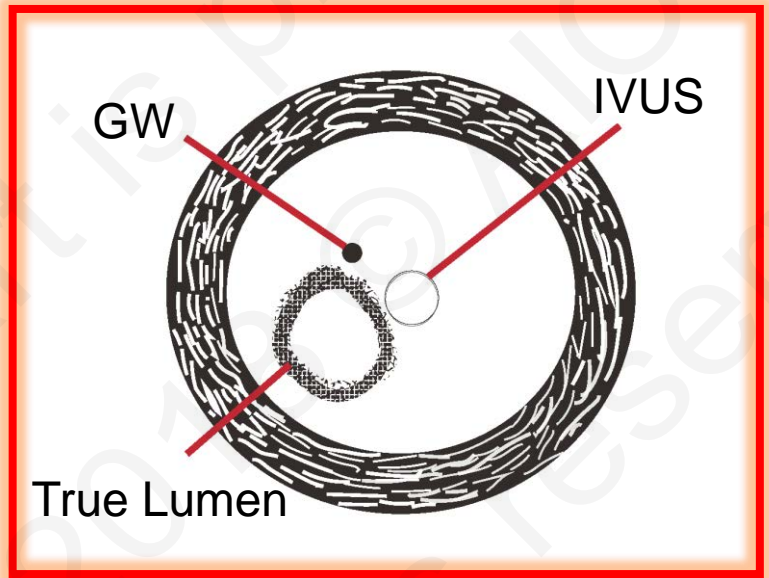
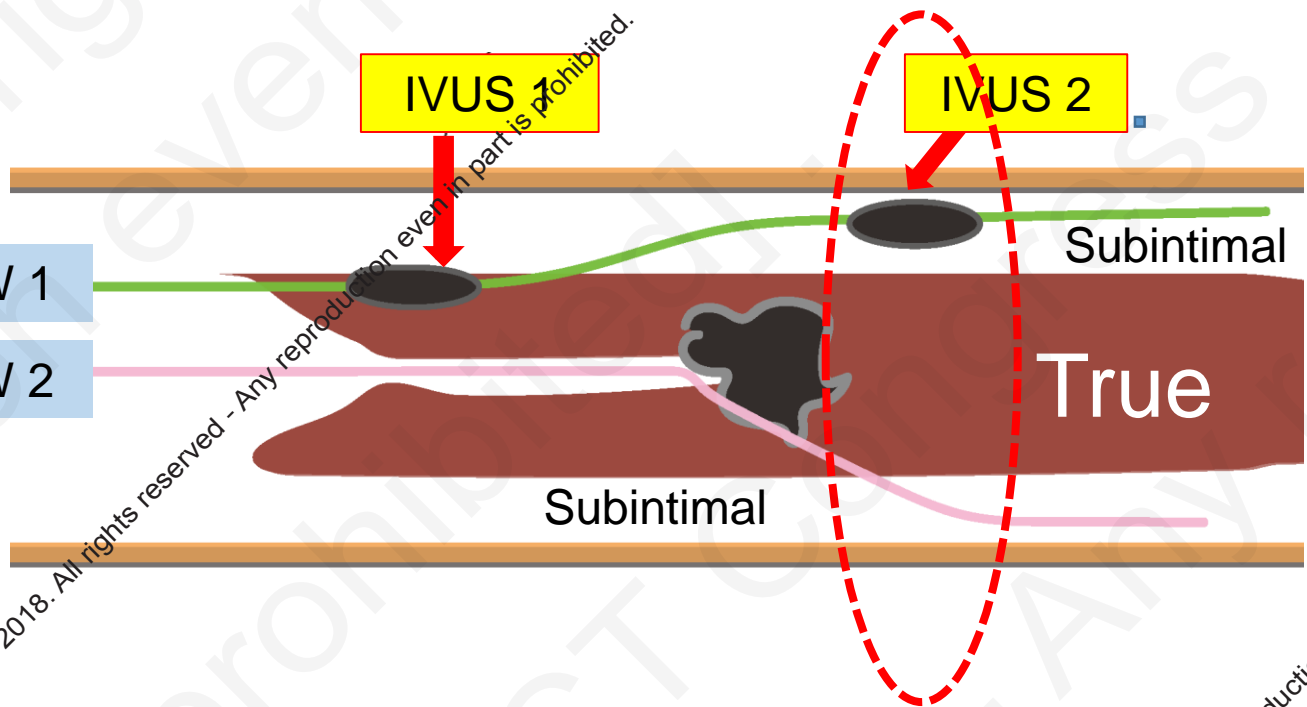
False Lumen



True Lumen

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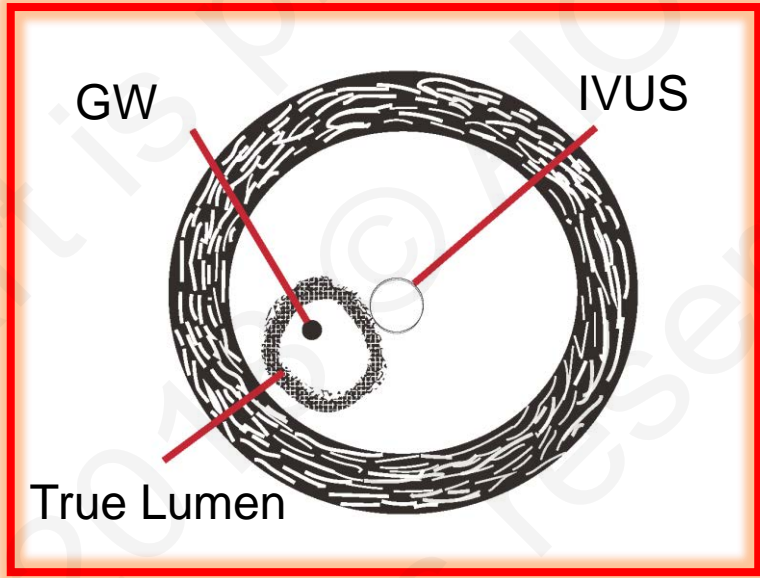
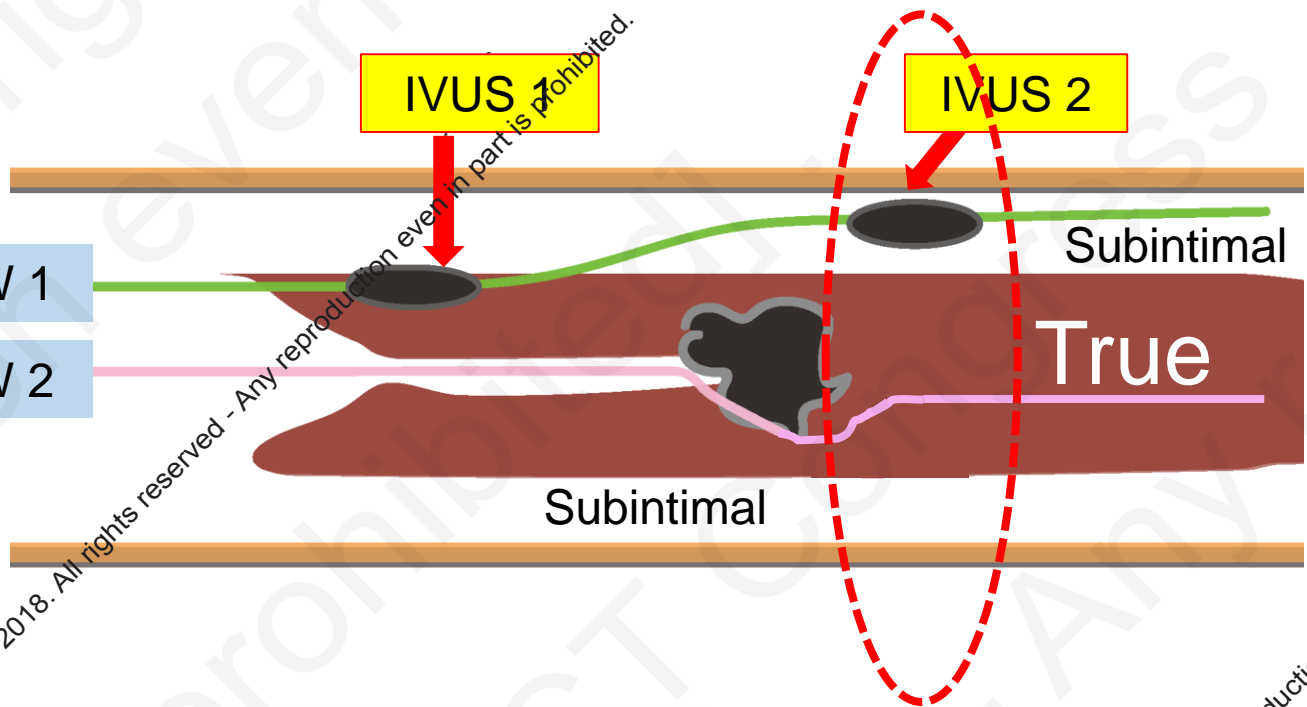
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**IVUS guided GW-ing
For searching CTO
true lumen**

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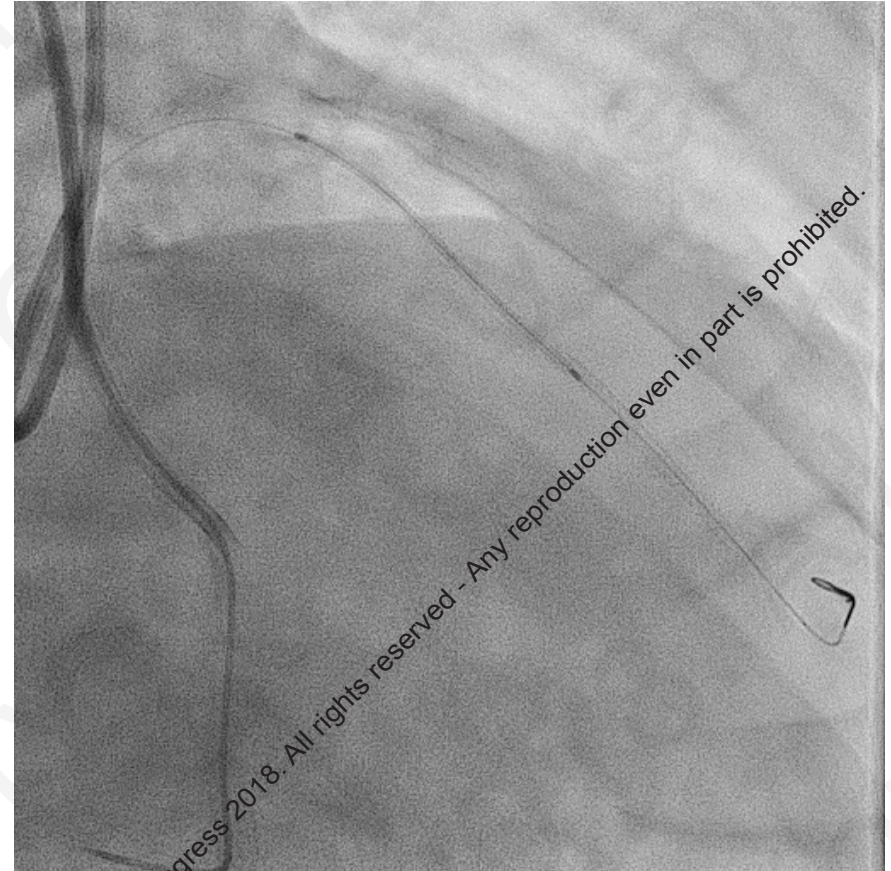
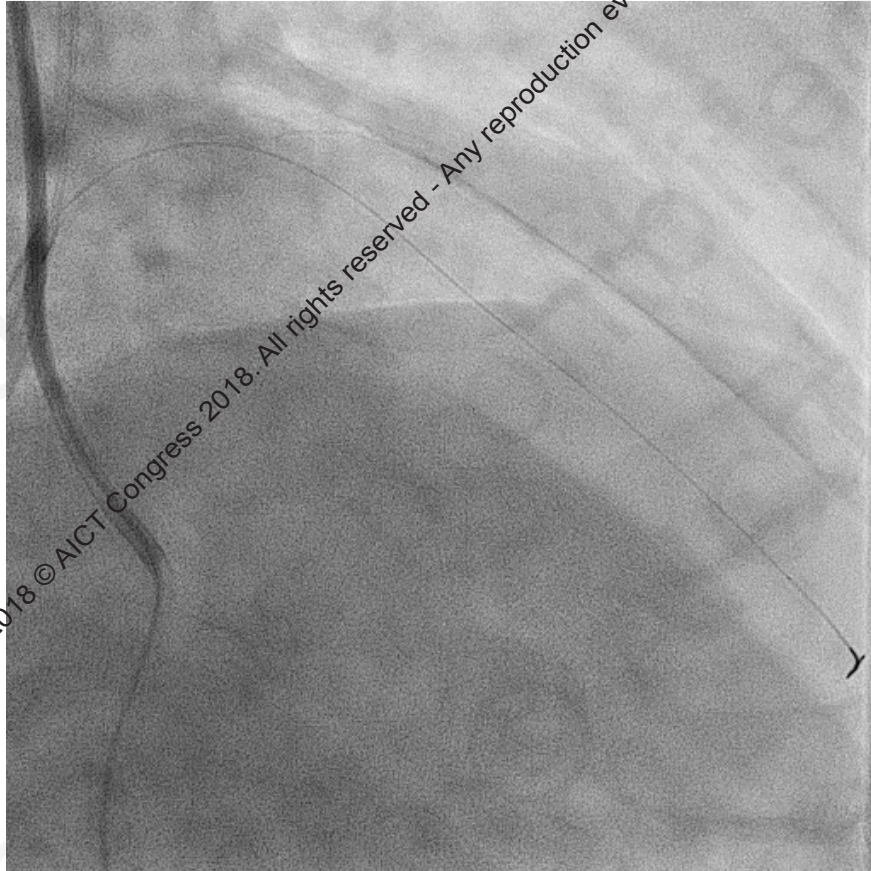


**IVUS guided GW-ing
For searching CTO
true lumen**

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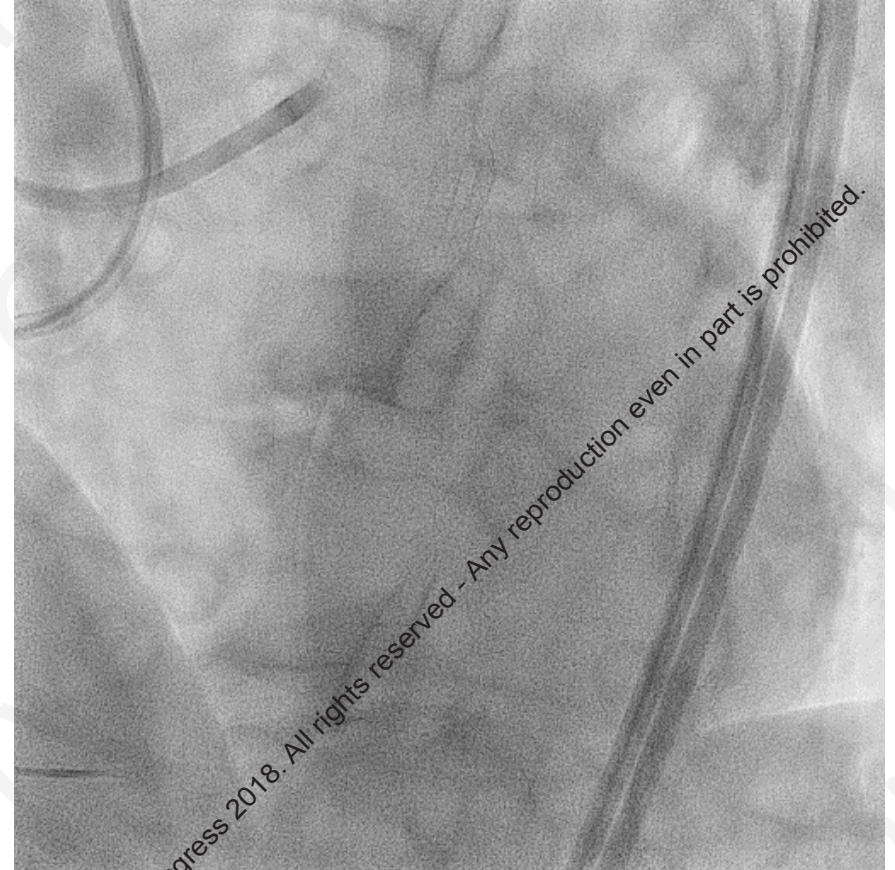
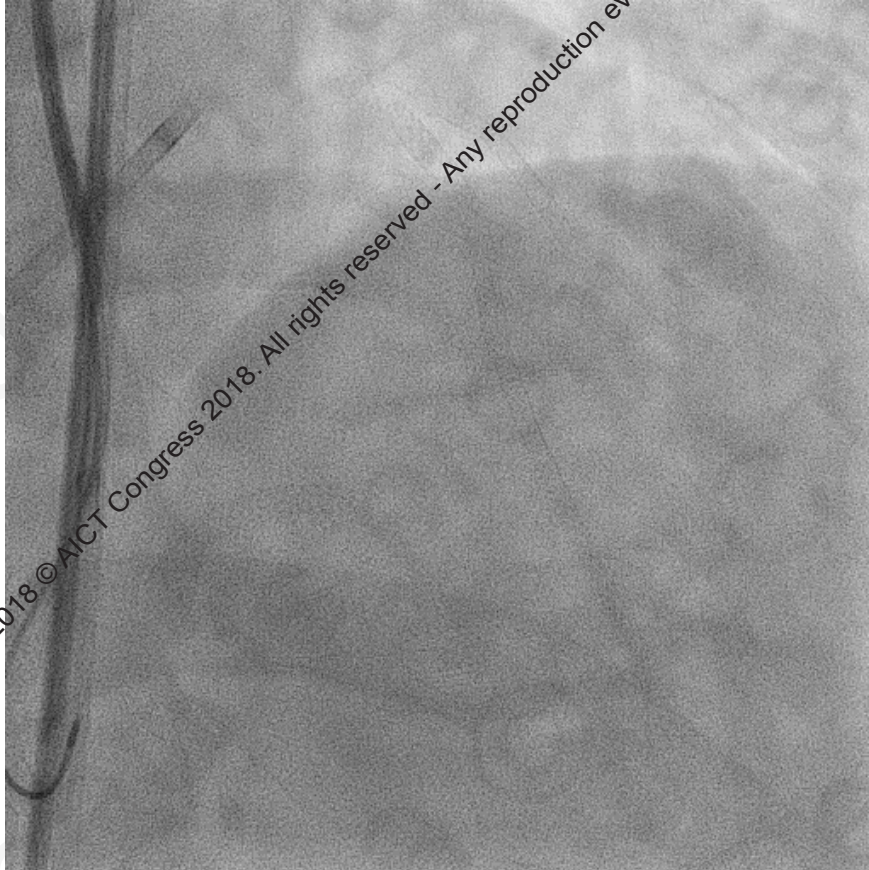
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Case 5 : LAD CTO with bridge collateral



Now GW is at true lumen, Next Stenting !!

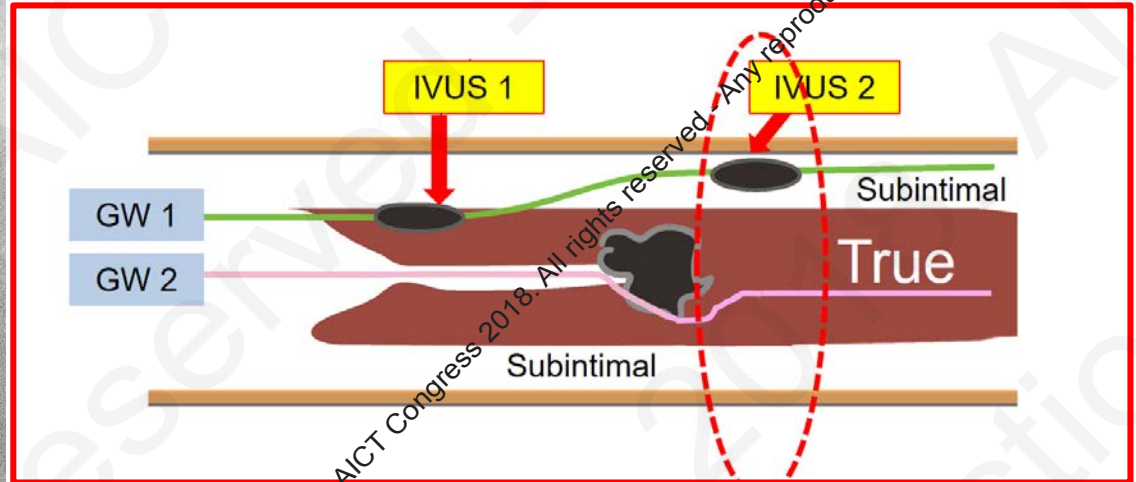
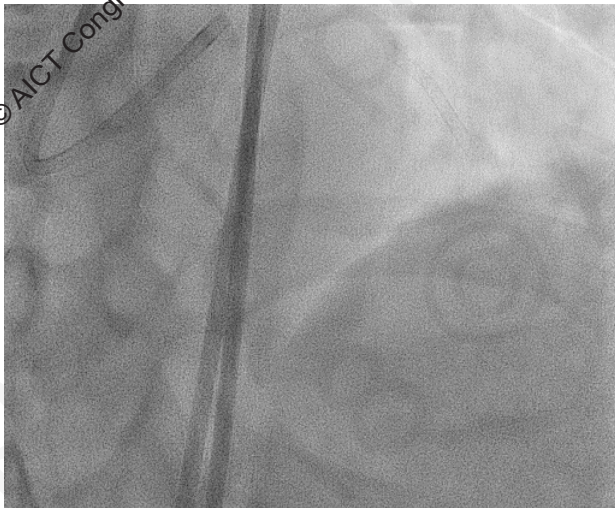
Case 4 : LAD CTO with bridge collateral



KBT at LAD-DX and this is a "Final Result"

Key Message 2 : IVUS guided approach

In case of IVUS guided approach for guide-wiring to make sure for entering false to true lumen, we need "GUT Feeling" to put in true lumen.



Technical Tips and Tricks

- Retrograde Approach Technique – 6 important factors
-

**6. How should we compromise
the difficult situation ??**

CRYSTAL of laborious effort : Retrograde A

Happy End... Not Always !!



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THE OFFICIAL CONGRESS OF APSIC

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