

14th

AICT

ASIAN INTERVENTIONAL CARDIOVASCULAR THERAPEUTICS
THE OFFICIAL CONGRESS OF APSIC

Antegrade Wire Escalation, Wiring Technique, Parallel Wire and What Not

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Conflicts of Interest

Speaker's name : Masahiko Ochiai

I have conflicts of interest as follows.

Consulting and Speaker's bureau: Abbott Vascular, Asahi Intecc, Boston Scientific and Terumo.

CTO PCI

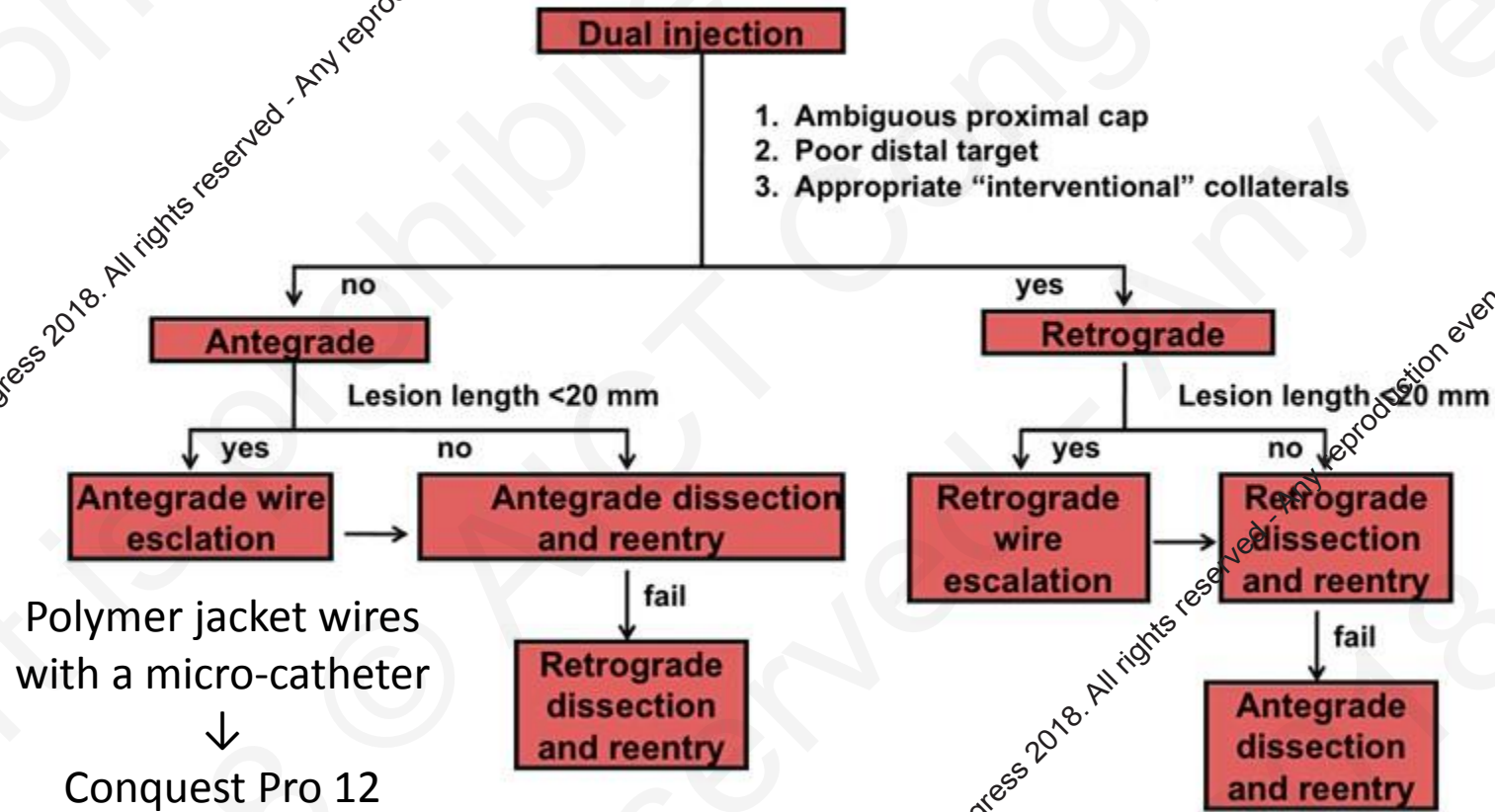
- PCI strategies for CTO are diverse.
- We should try as many strategies as possible within limited radiation exposure and dye consumption. One of them will be successful.
- Do not spend a lot of time for one particular strategy.
- Appropriate wire (or required penetration force) is different in each case.
- **If retrograde set up is completed** (=successful delivery of retrograde micro-catheter into distal vessel), **we expect the highest possibility of final success.**

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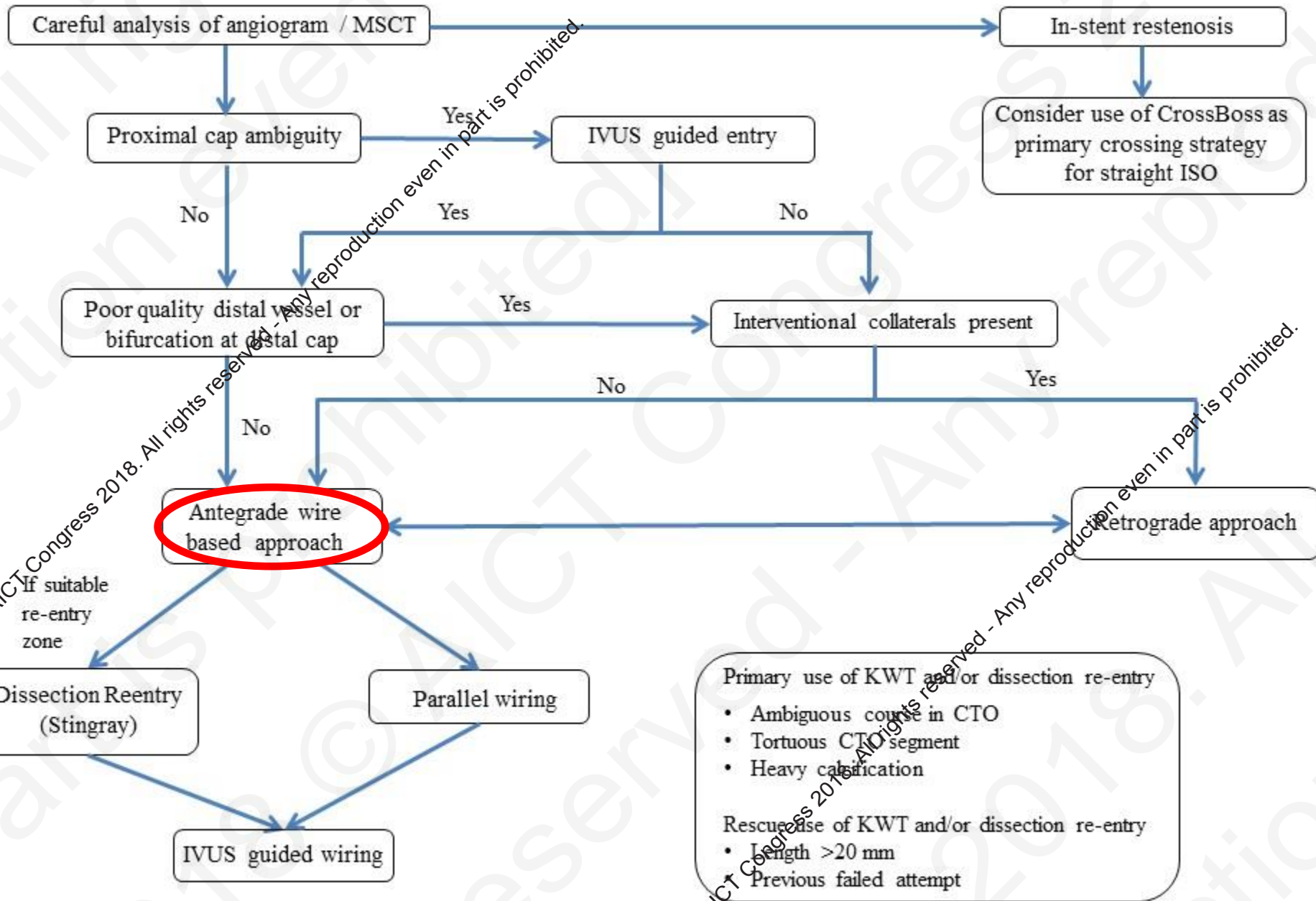
The Hybrid Algorithm for CT0 PCI



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Asian Pacific CTO Club

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In-stent restenosis
 Consider use of CrossBoss as primary crossing strategy for straight ISO

Antegrade wire based approach

- Primary use of KWT and/or dissection re-entry
- Ambiguous course in CTO
 - Tortuous CTO segment
 - Heavy calcification
- Rescue use of KWT and/or dissection re-entry
- Length >20 mm
 - Previous failed attempt

Consider stopping if >3 hours, 3.7 x eGFR ml contrast, Air Kerma > 5 Gy unless procedure well advanced

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Deflection Control

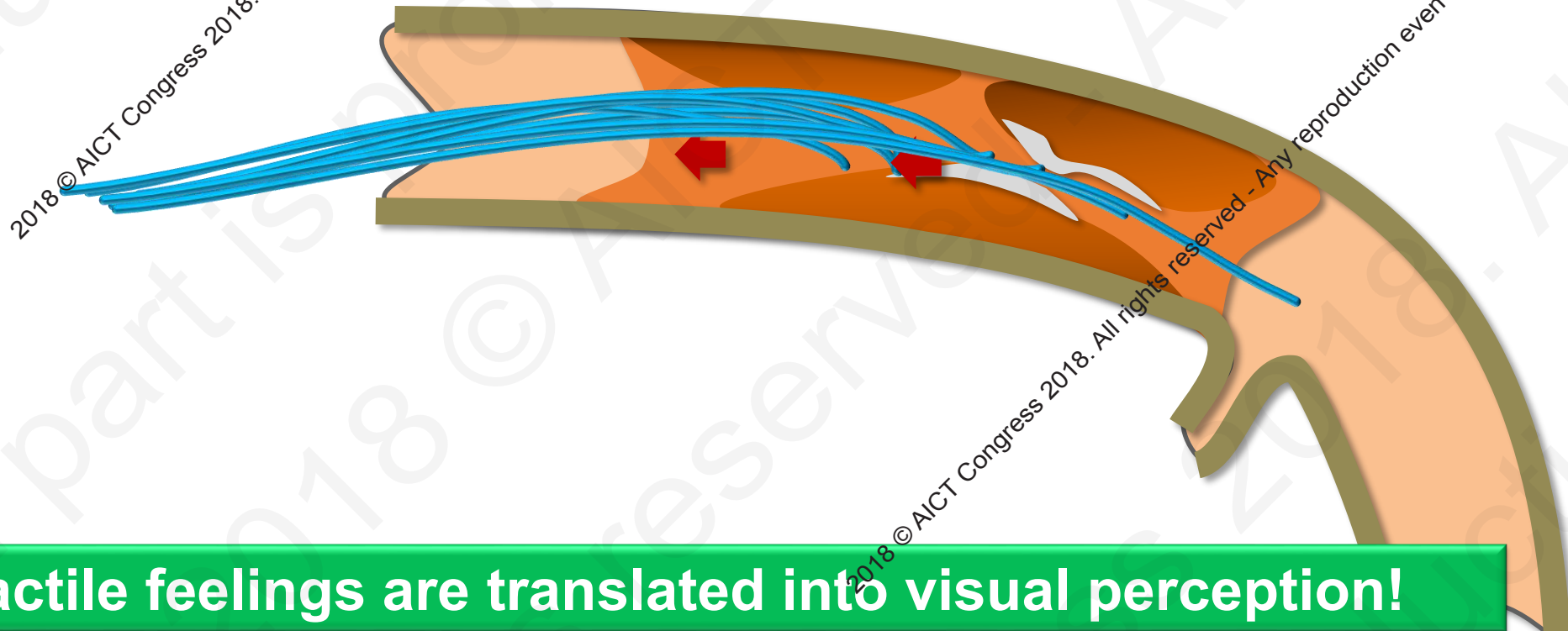
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Concept of Deflection Control with Gaia Wires

✓ When the wire tip is deflected, it is directed towards sub-intimal space.

✓ If you push too much, the knuckled tip will dissect the vessel.

➔ It's important 1) to change the wire direction or 2) to increase the tip force "keeping the wire tip straight".

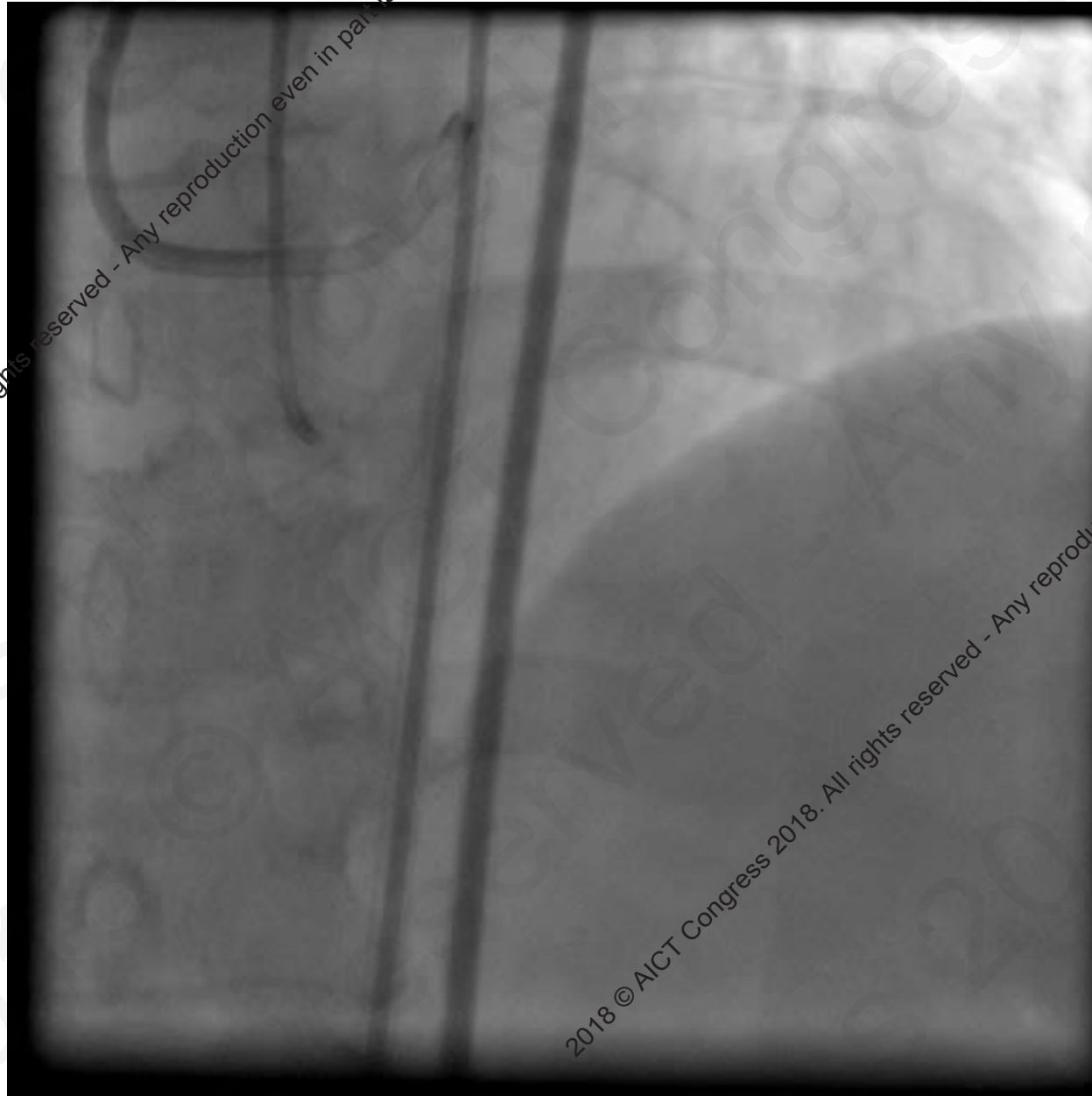


Tactile feelings are translated into visual perception!

AP, 66 years, female: LAD Ostial CTO

8Fr Brite-tip
JL4.0-SH

5Fr diagnostic
IM



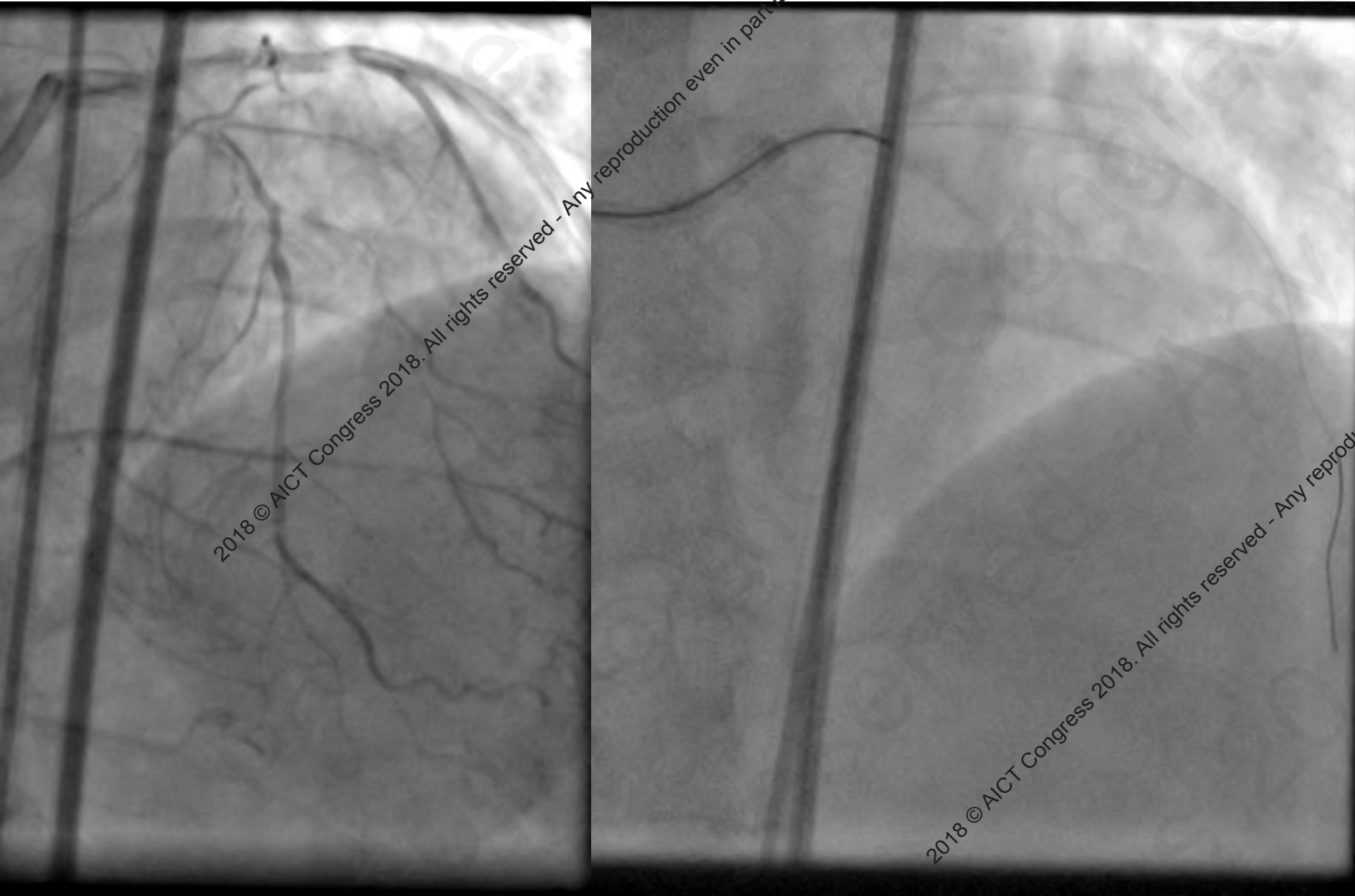
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Gaia 1st was Advanced Furthermore



Loose Tissue Tracking with Gaia 1st



Use of DLC (Dual Lumen Catheter) in CTO-PCI

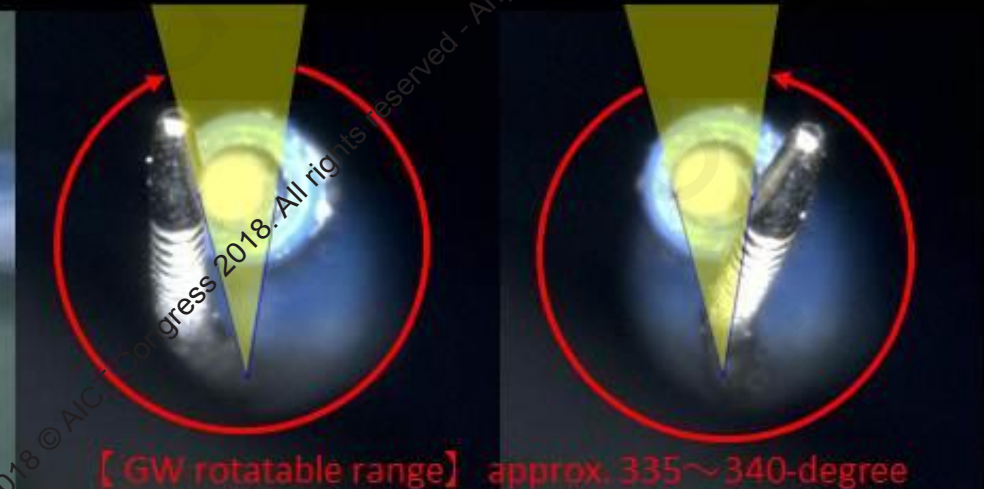
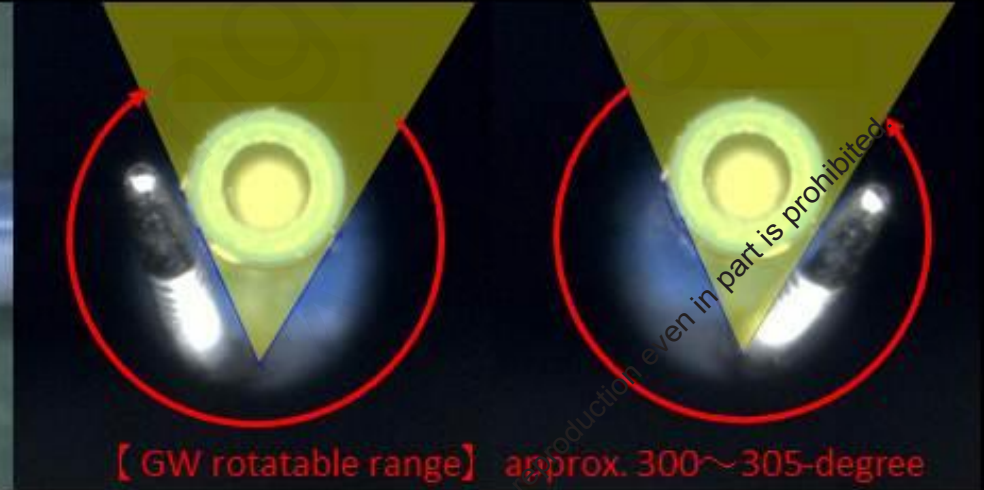
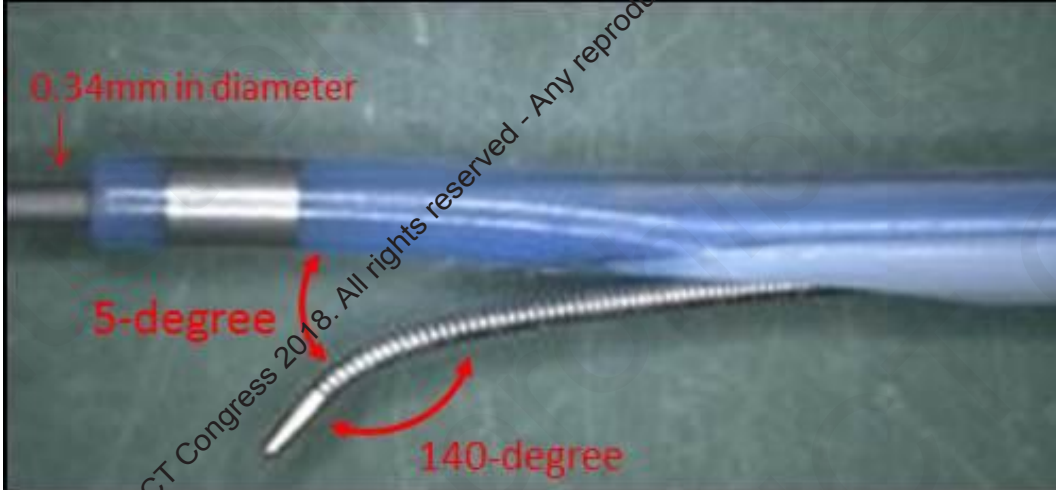
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Rotatable range of OTW lumen GW

<Angle and position of distal part of GW>

<GW rotatable range>

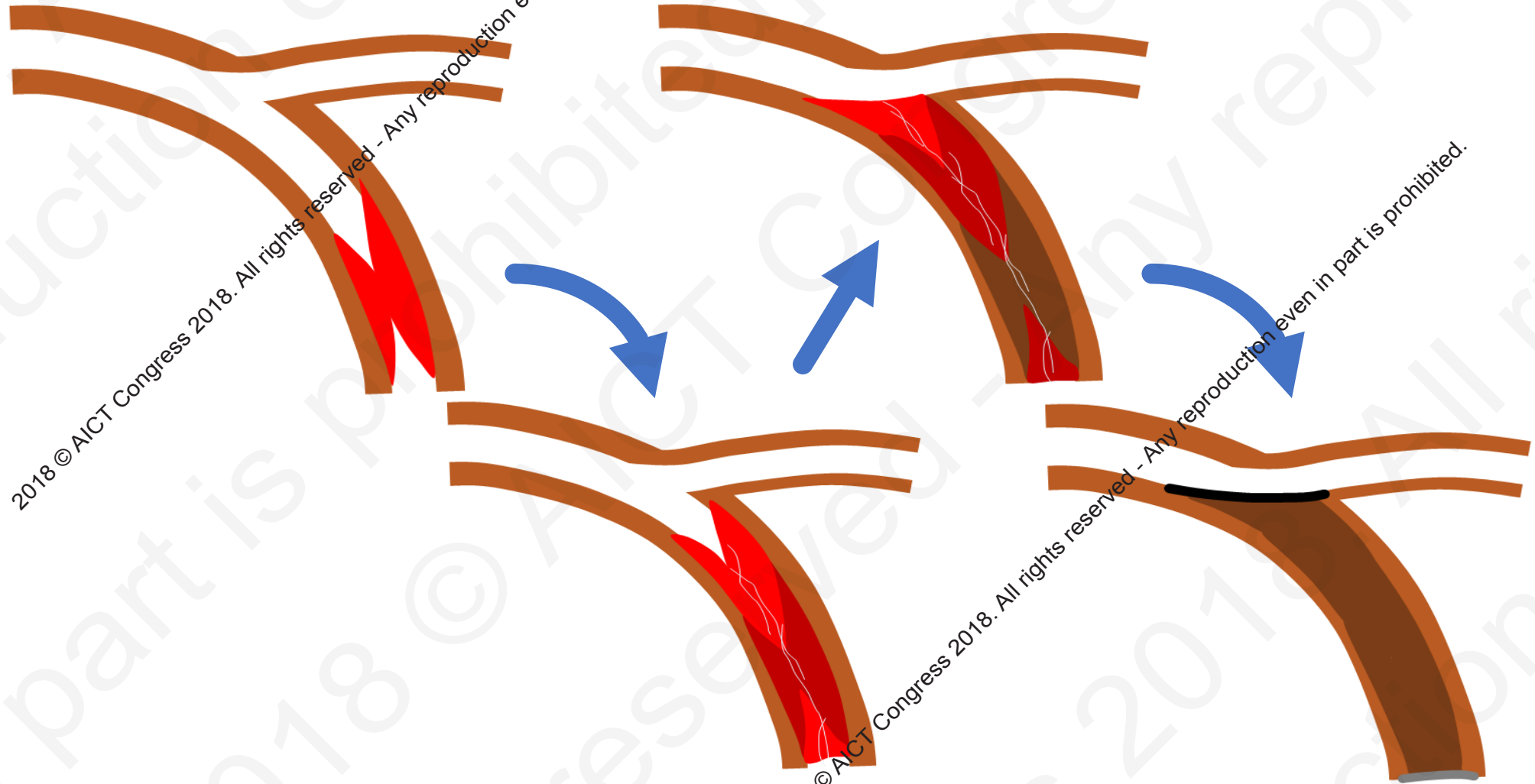


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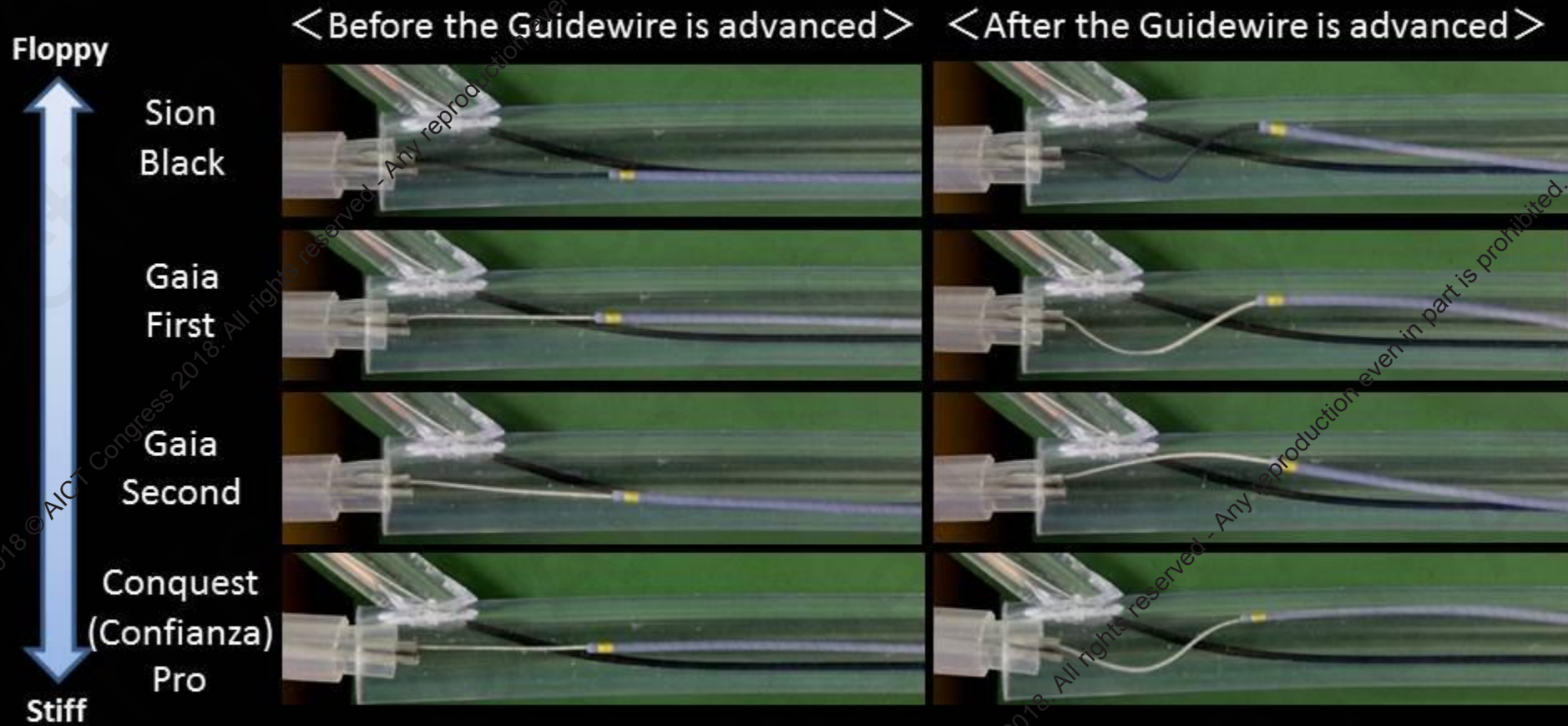
Side Branch DLC

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Evolution of CTO: Extension and Organization of the Thrombus

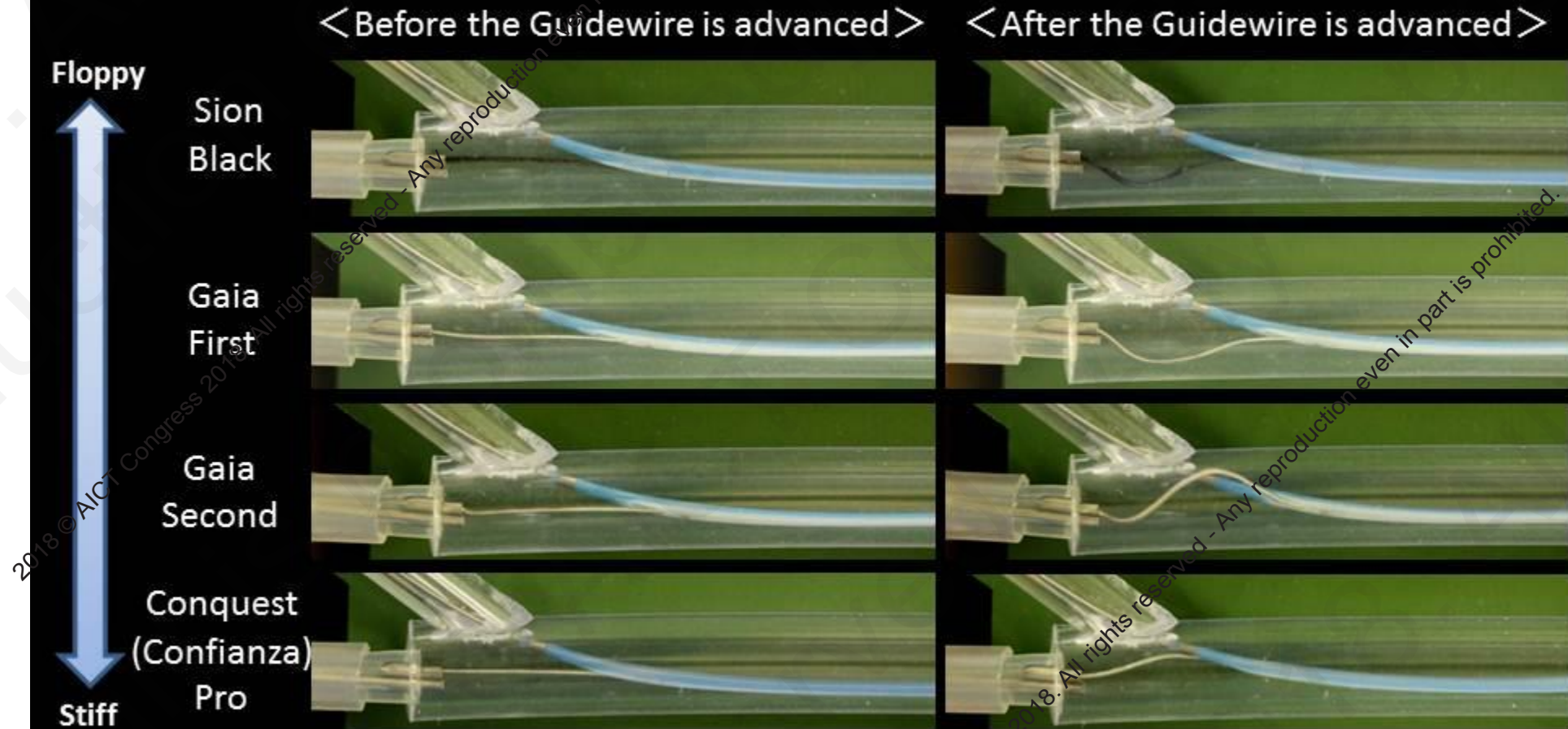


Evaluation of coaxial maneuvering (Microcatheter)



Microcatheter cannot maintain coaxial position toward true lumen with all the guidewire evaluated.

Evaluation of coaxial maneuvering (Crusade)



Crusade is maintaining coaxial position toward true lumen with all the guidewire evaluated.

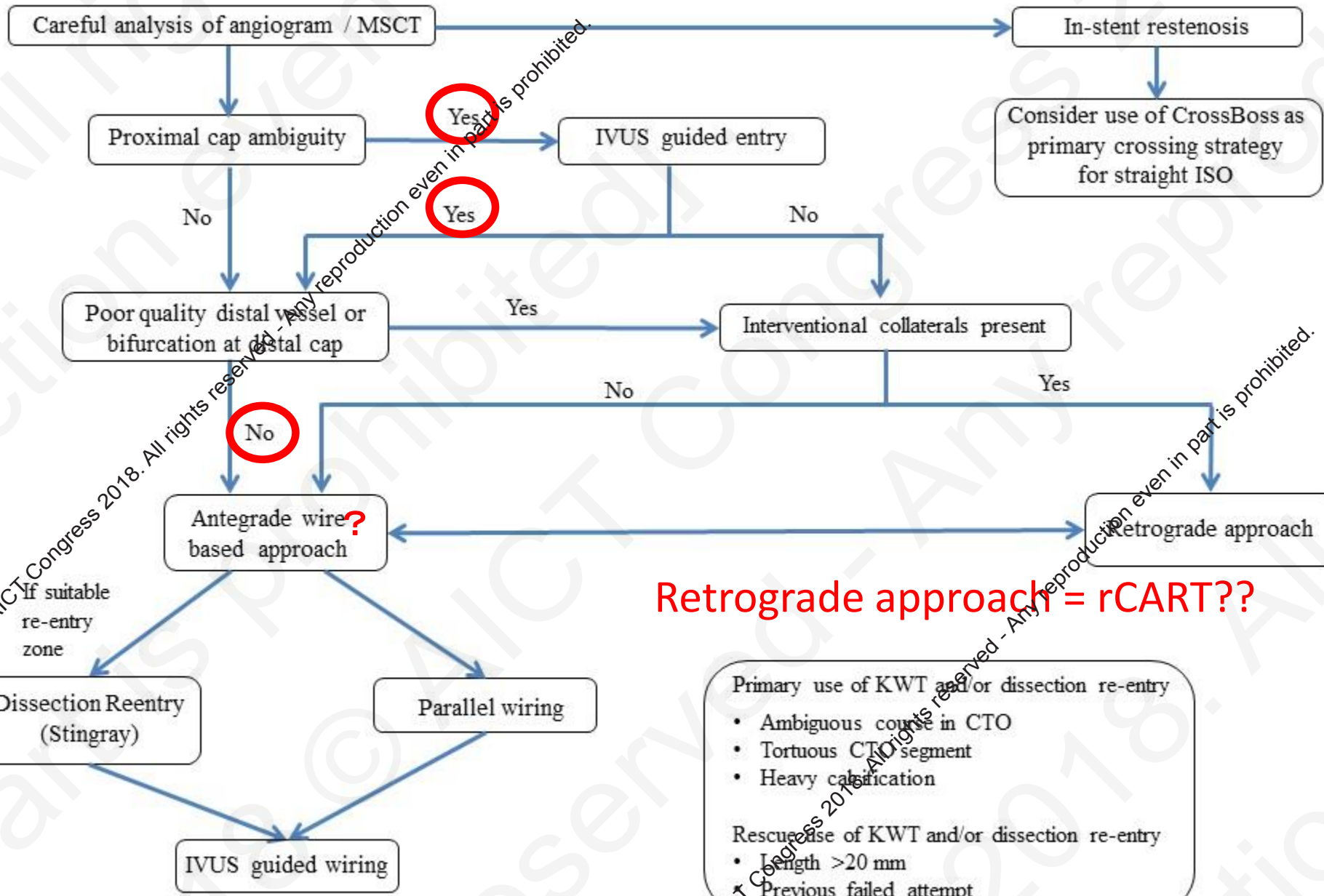
The outcome of the evaluation

- Guidewire support -

| Guidewire Stiffness | Guidewire | GW pushing force / gf | |
|--|---------------------------------|-----------------------|---------------|
| | | Crusade | Microcatheter |
| Floppy  Stiff | Sion Black | 1.2 | 0.6 |
| | Gaia First | 2.3 | 0.7 |
| | Gaia Second | 6.4 | 1.5 |
| | Conquest Pro (Confianza Pro) | 13.5 | 1.6 |

【Summary】

- The GW pushing force of Crusade is higher than that of Microcatheter.
 - When stiff guidewire is advanced into the true lumen (inside OTW lumen of Crusade), Crusade ensures adequate pushing force.
- ⇒ When RX guidewire is inserted deeply into bifurcation model, stiff part of RX guidewire can be placed inside Crusade. Therefore Crusade prevents shaft bending and the highest pushing force is ensured when stiff guidewire is advanced in true lumen (inside OTW lumen of Crusade).



Retrograde approach = rCART??

- Primary use of KWT and/or dissection re-entry
- Ambiguous course in CTO
 - Tortuous CTO segment
 - Heavy calcification
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CTO PCI

- Final procedural success is highly expected after successful delivery of retrograde gears into the distal vessel of CTO.
- Retrograde gears are the best landmark of antegrade wire manipulation.
- Antegrade kissing wire, antegrade rendez-vous and retrograde wire crossing are worth trying when you are confident about vessel course of CTO.
- Intimal tracking at proximal cap with a large side branch is important to preserve its patency. Direction of wire crossing is not important at all.

AP, 46 years, male: Proximal LAD CTO



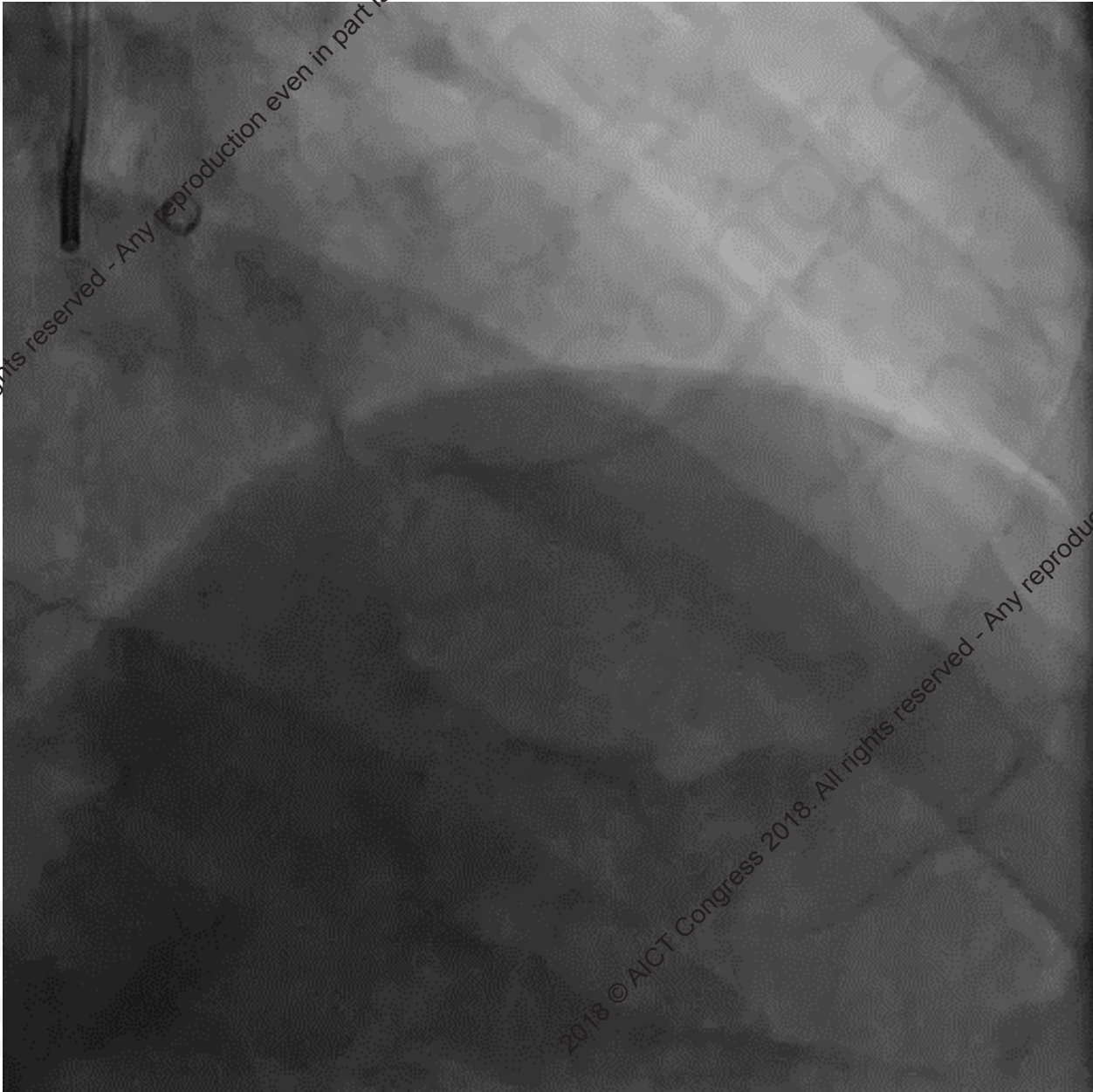
AP, 46 years, male: Proximal LAD CTO



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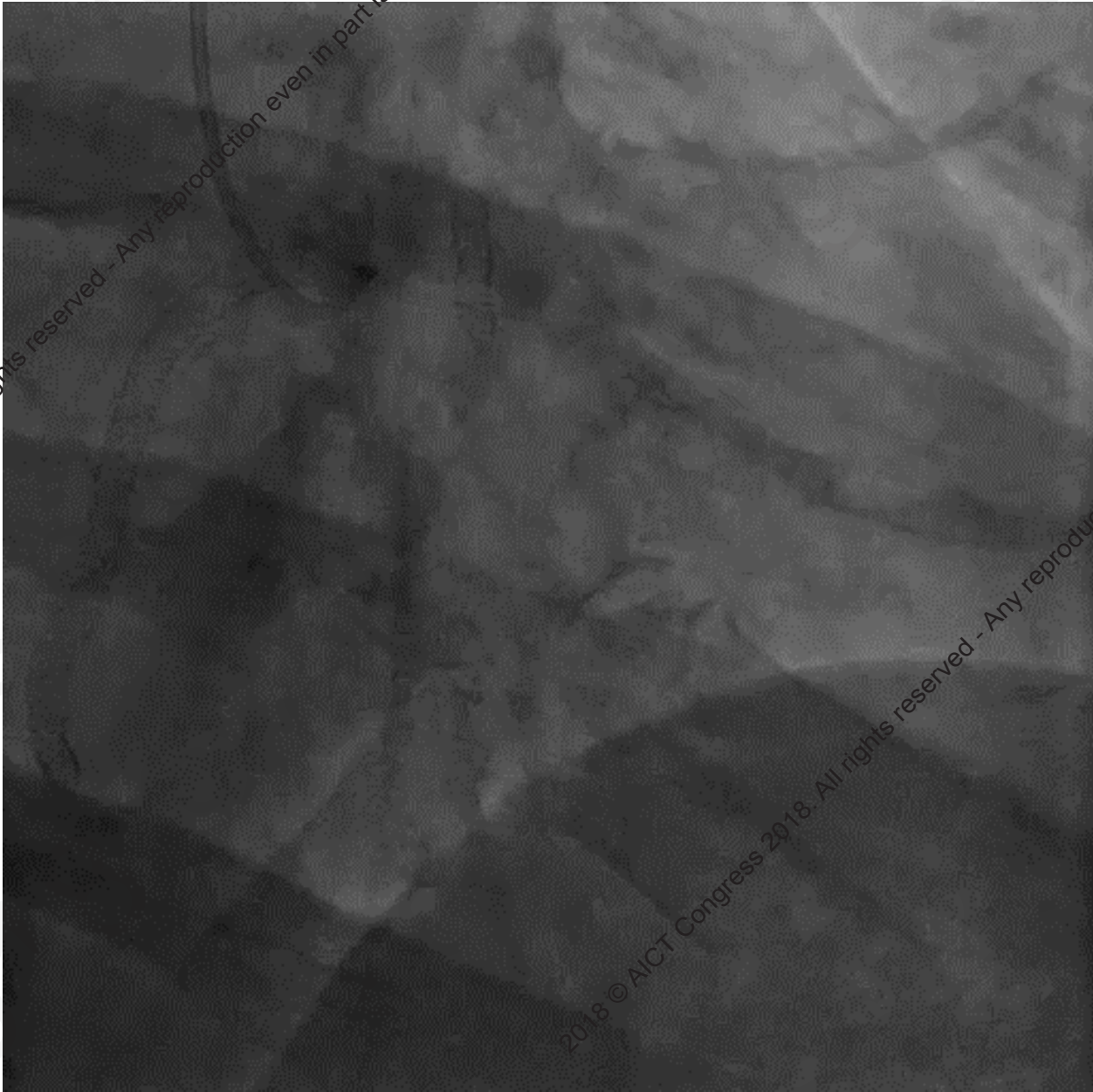
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AP, 46 years, male: Proximal LAD CTO



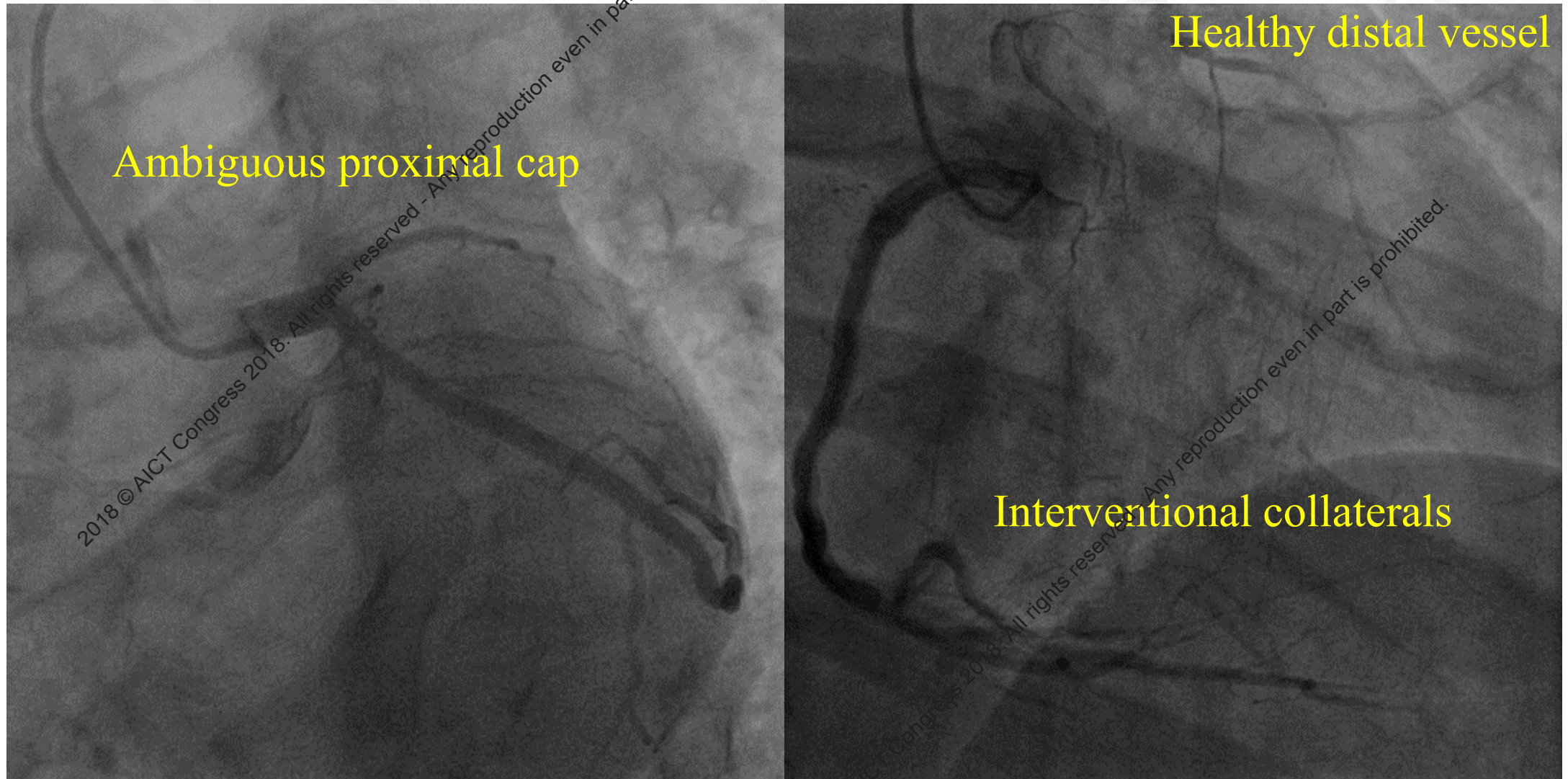
AP, 46 years, male: Proximal LAD CTO



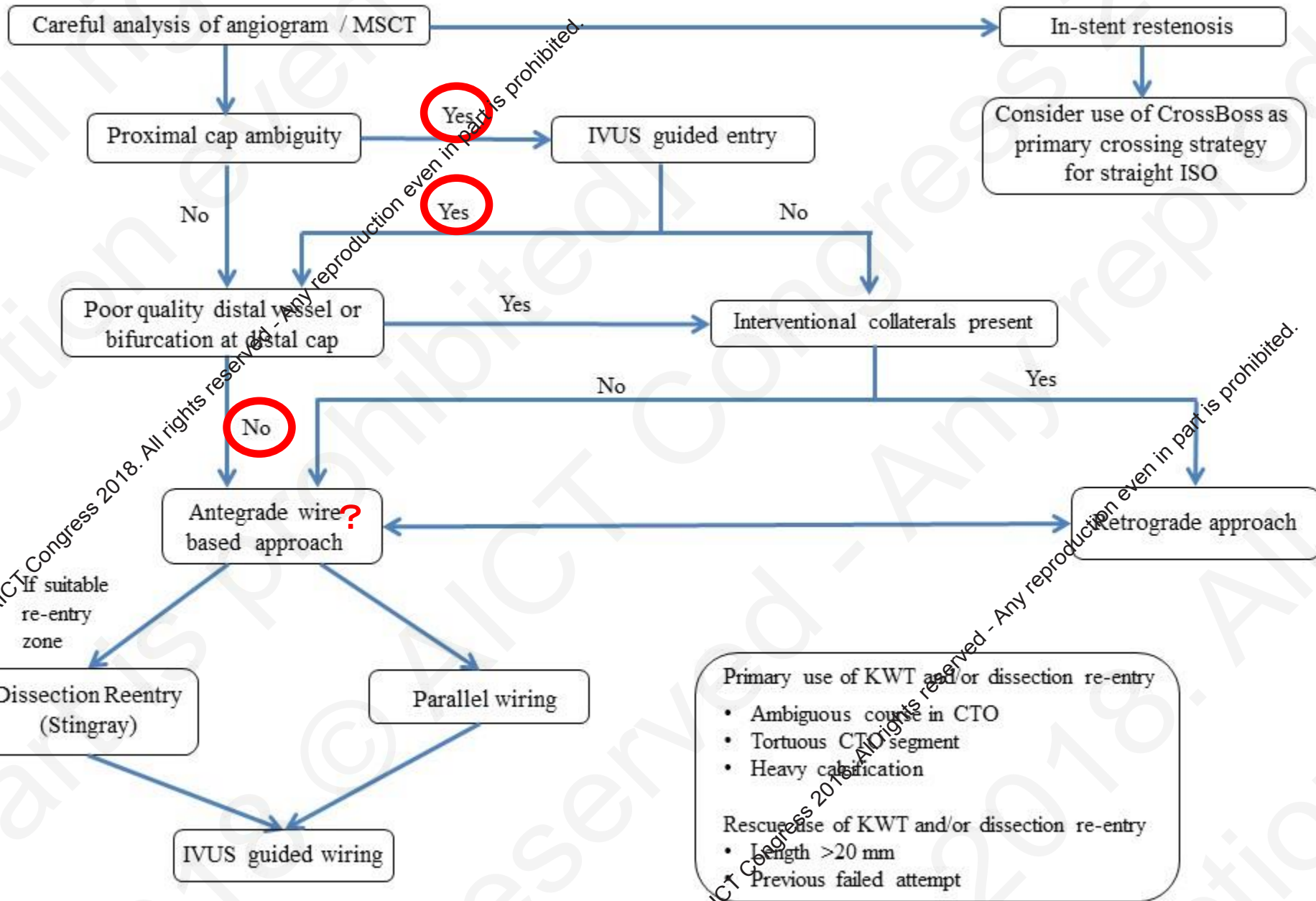
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AP, 46 years, male: Proximal LAD CTO



J-CTO Score 1



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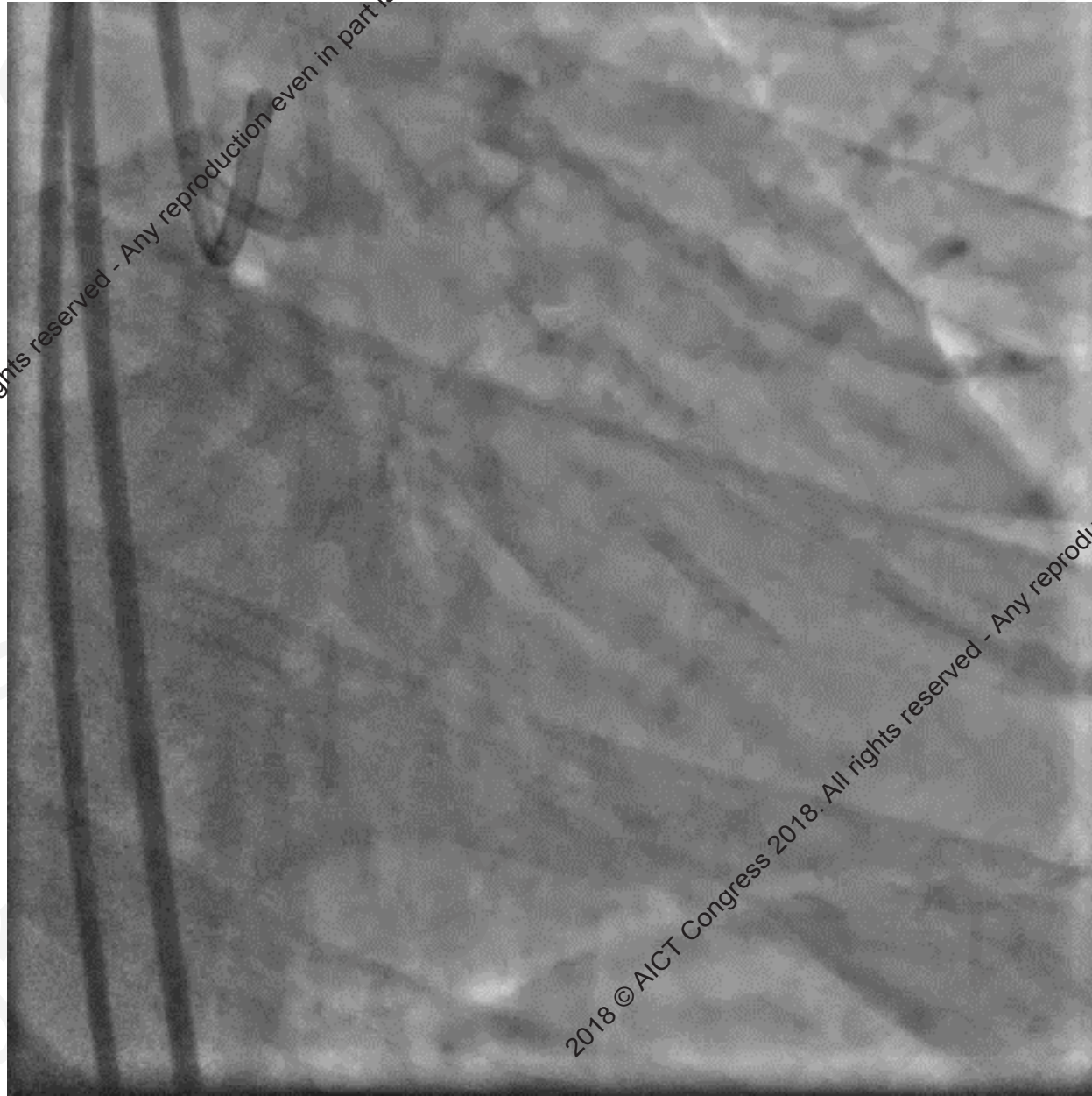
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AP, 46 years, male: Proximal LAD CTO

8Fr Brite-tip
XB3.5-SH

7Fr Heart-rail²
BR4.0-SH



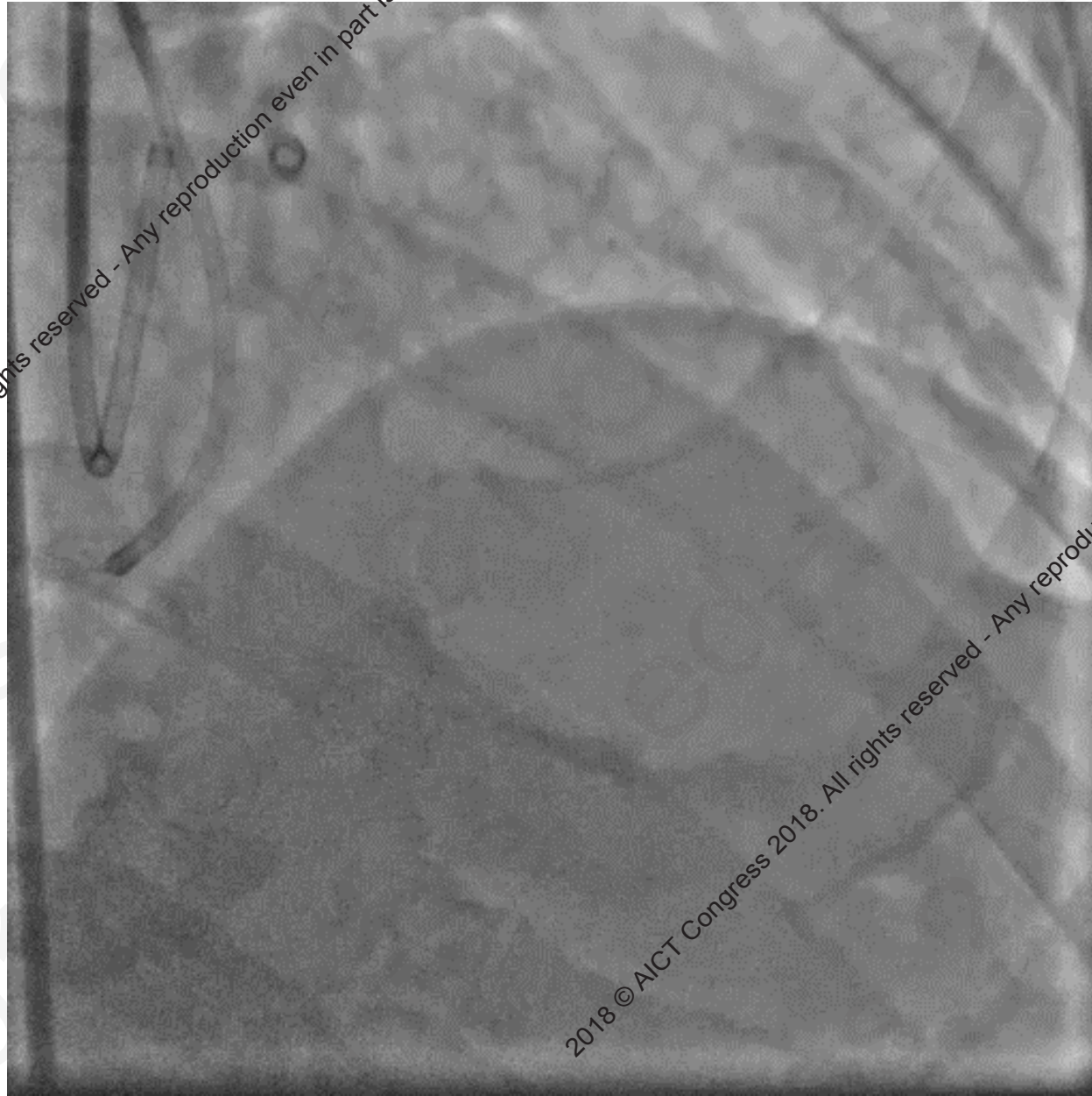
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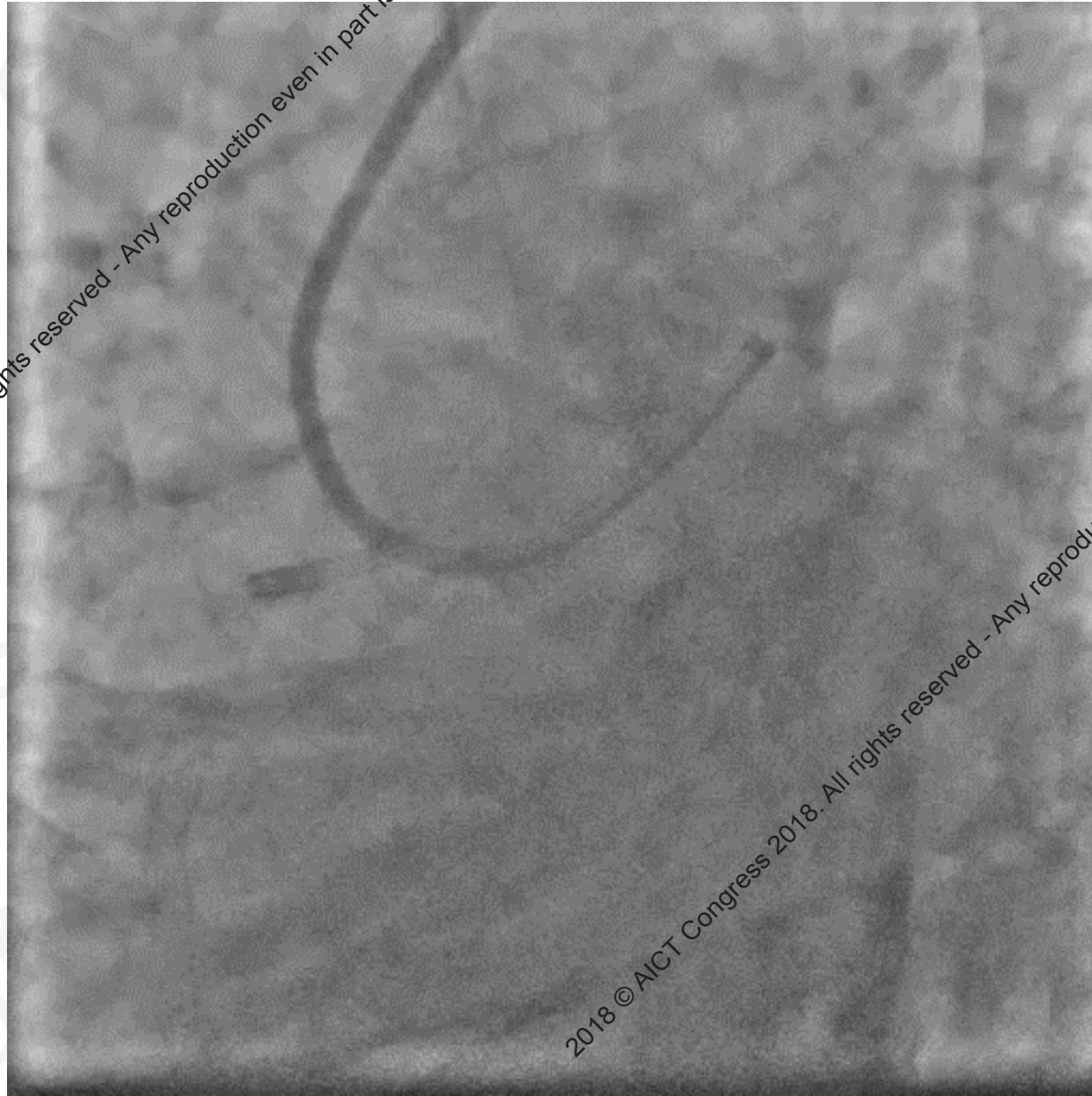
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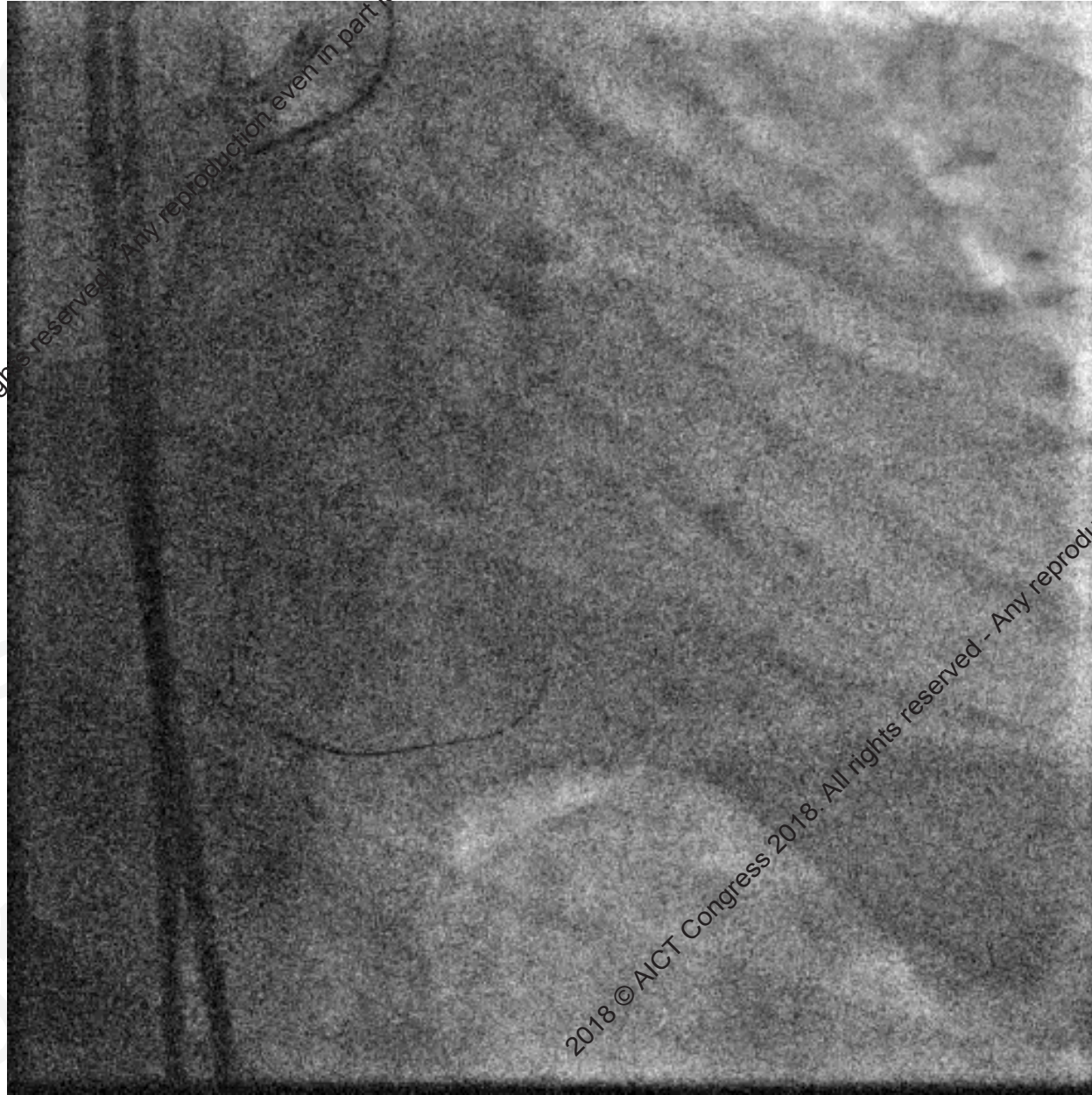
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Retrograde wire crossing under IVUS guidance from D1
would be much easier than antegrade wiring.

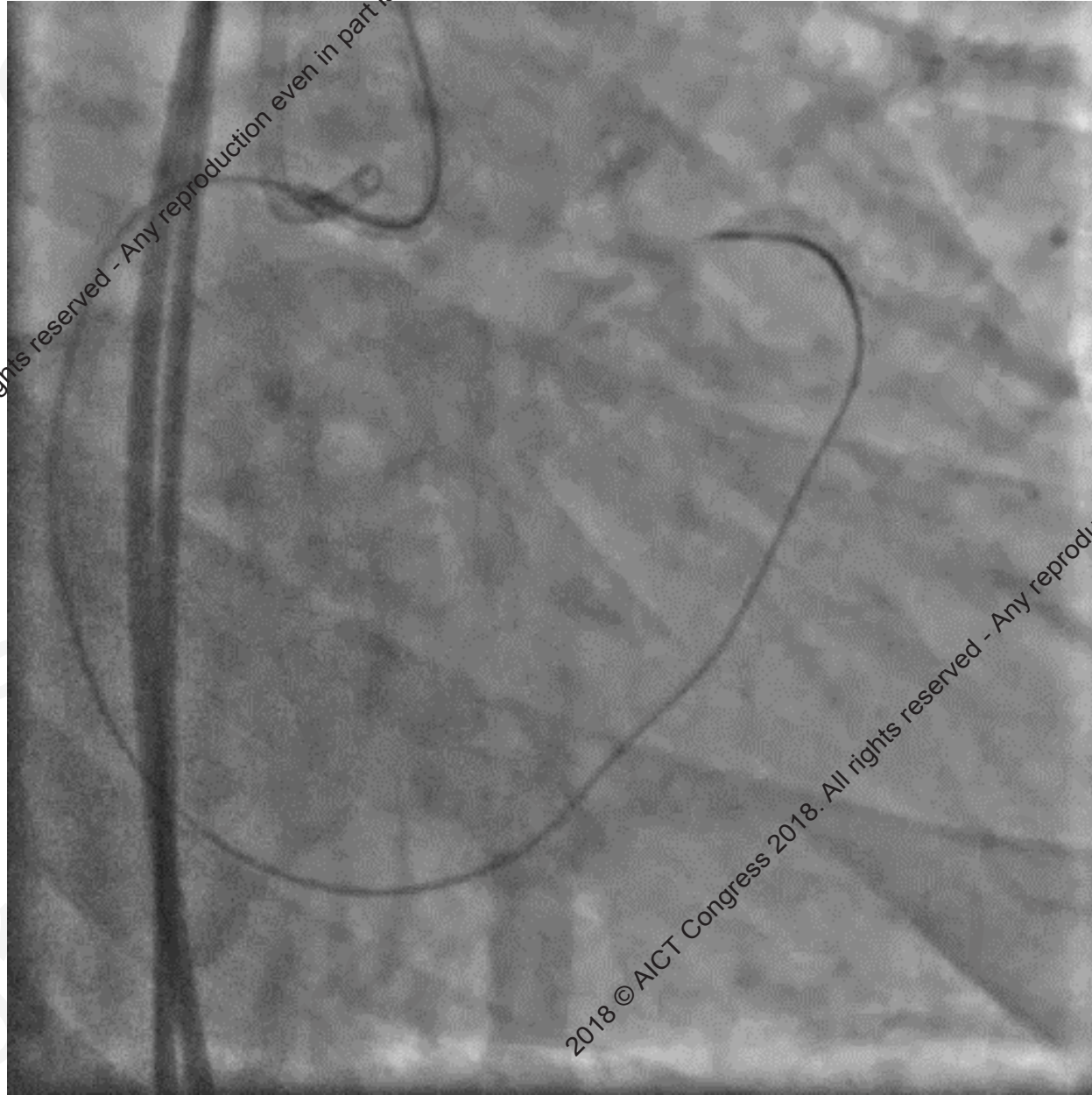
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Septal Channel Tracking with Sion Blue



Bi-lateral Injection with Caravel



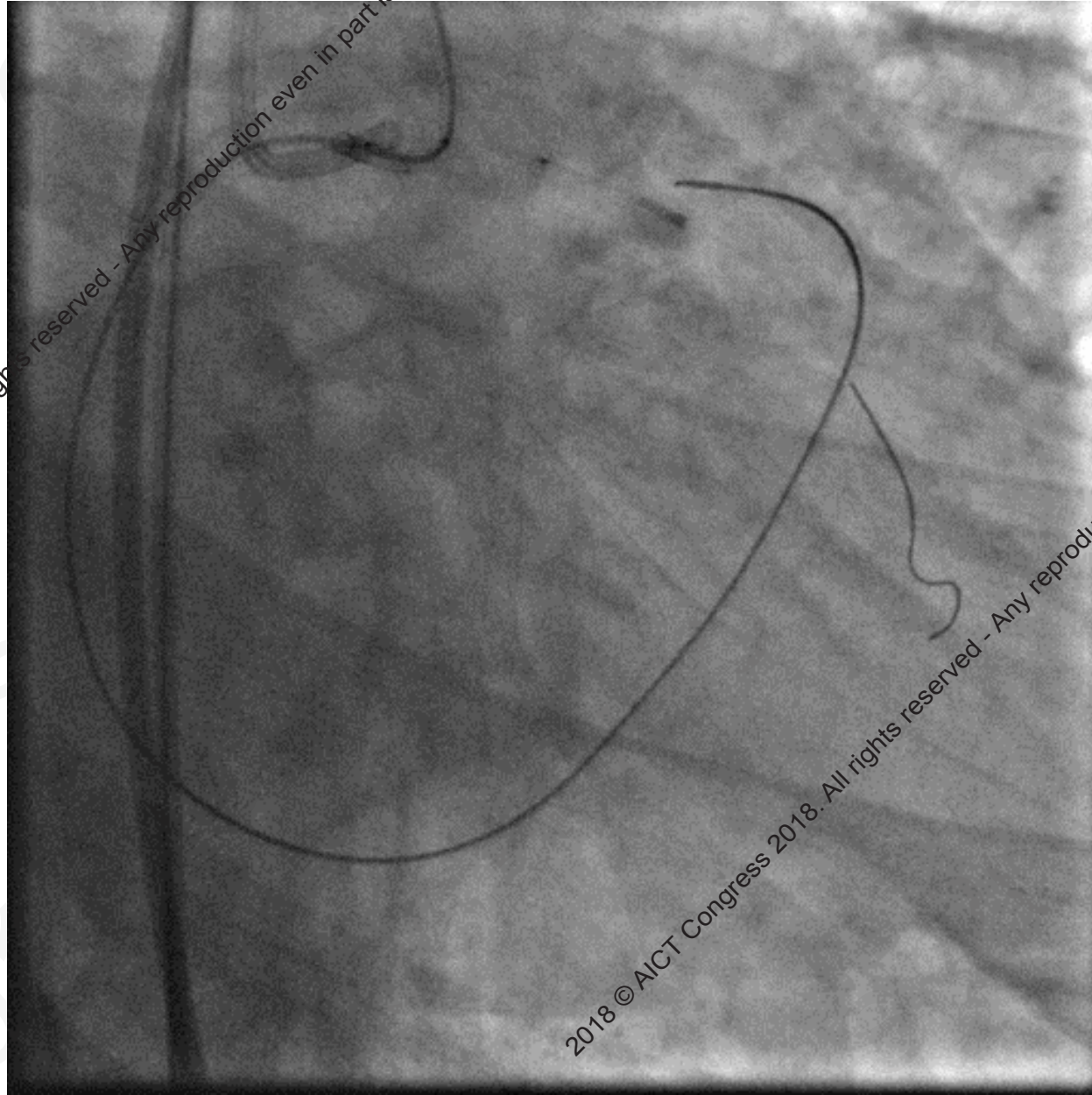
Bi-lateral Injection with Caravel



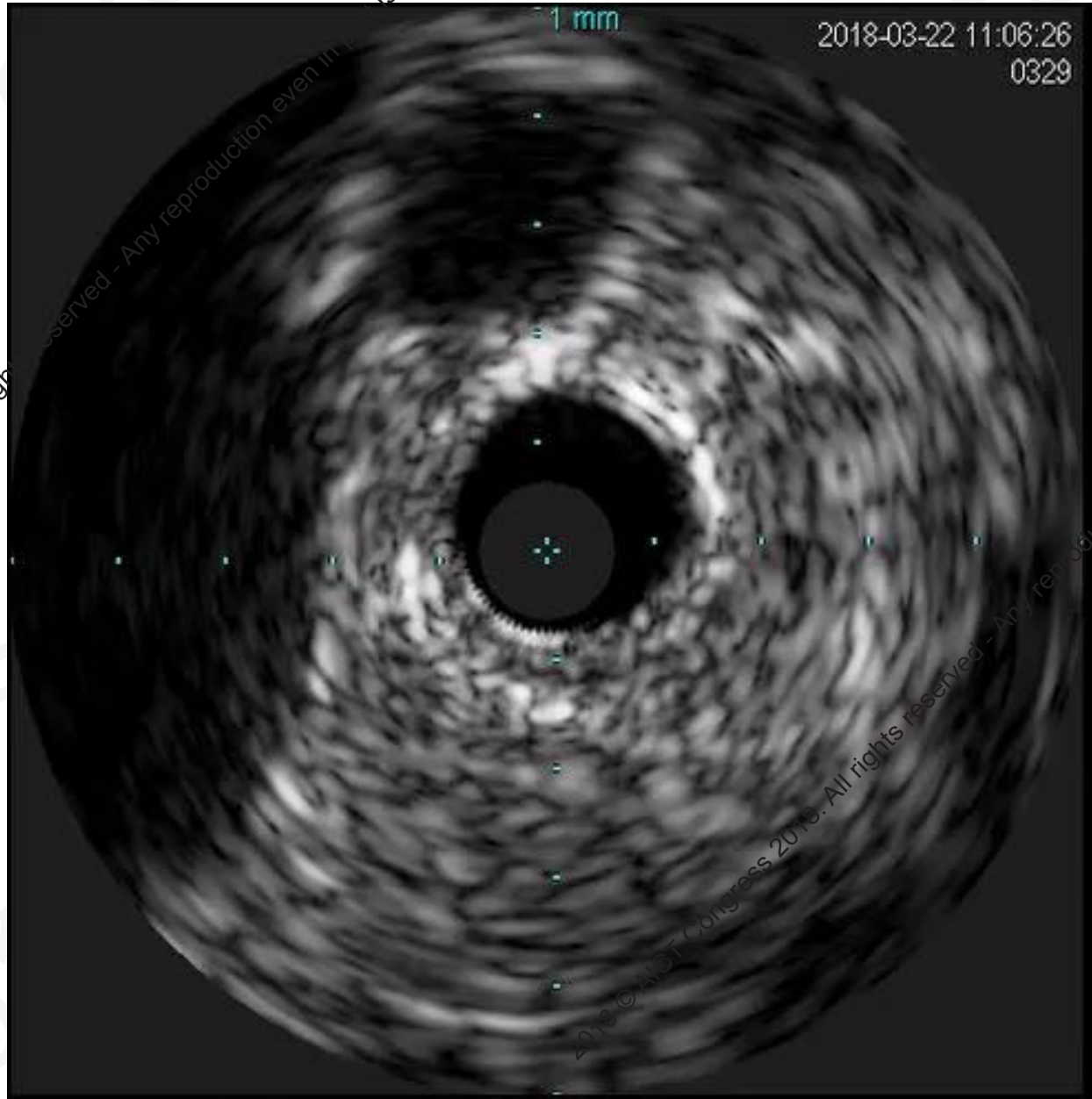
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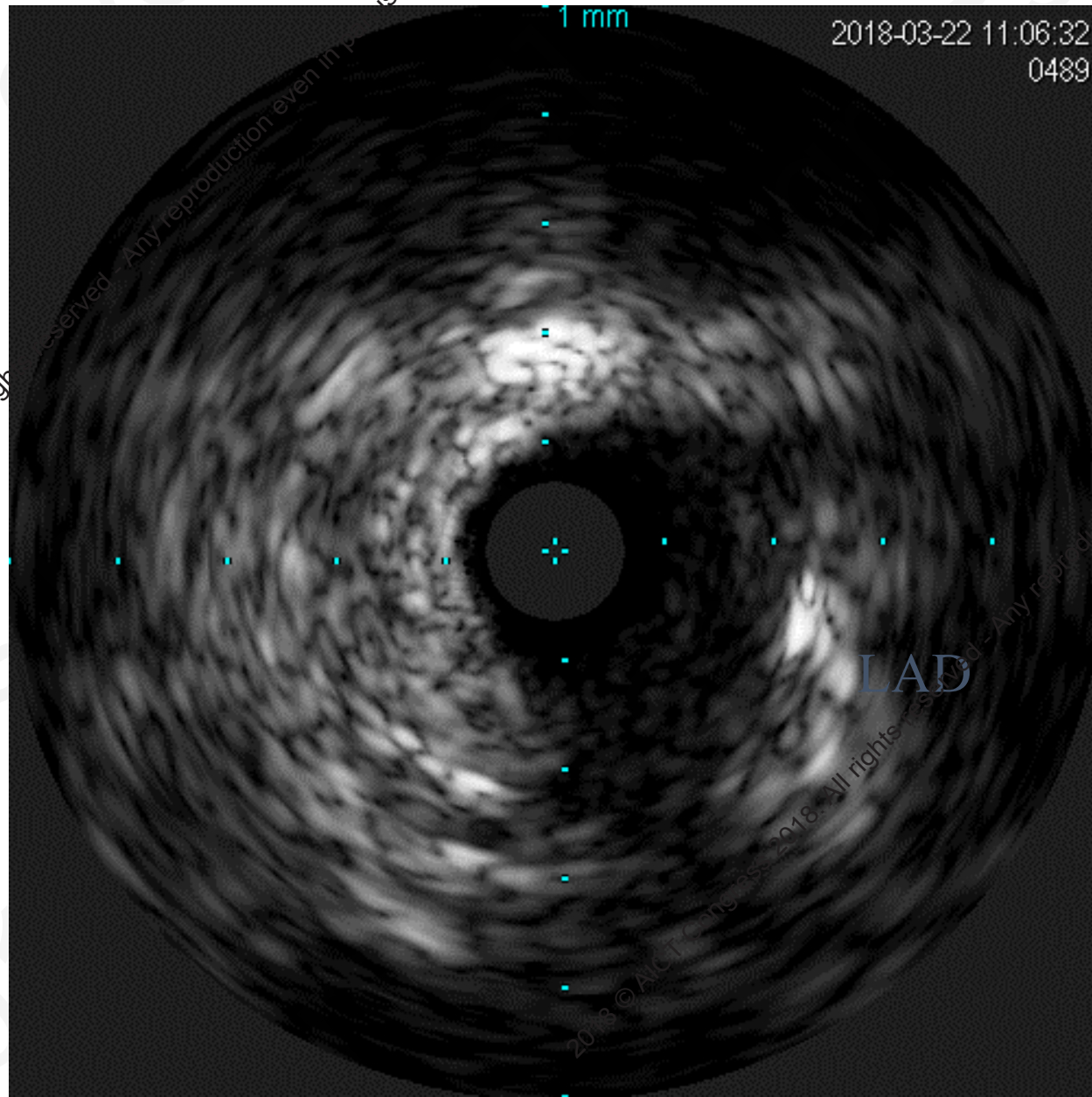
IVUS Examination from D1



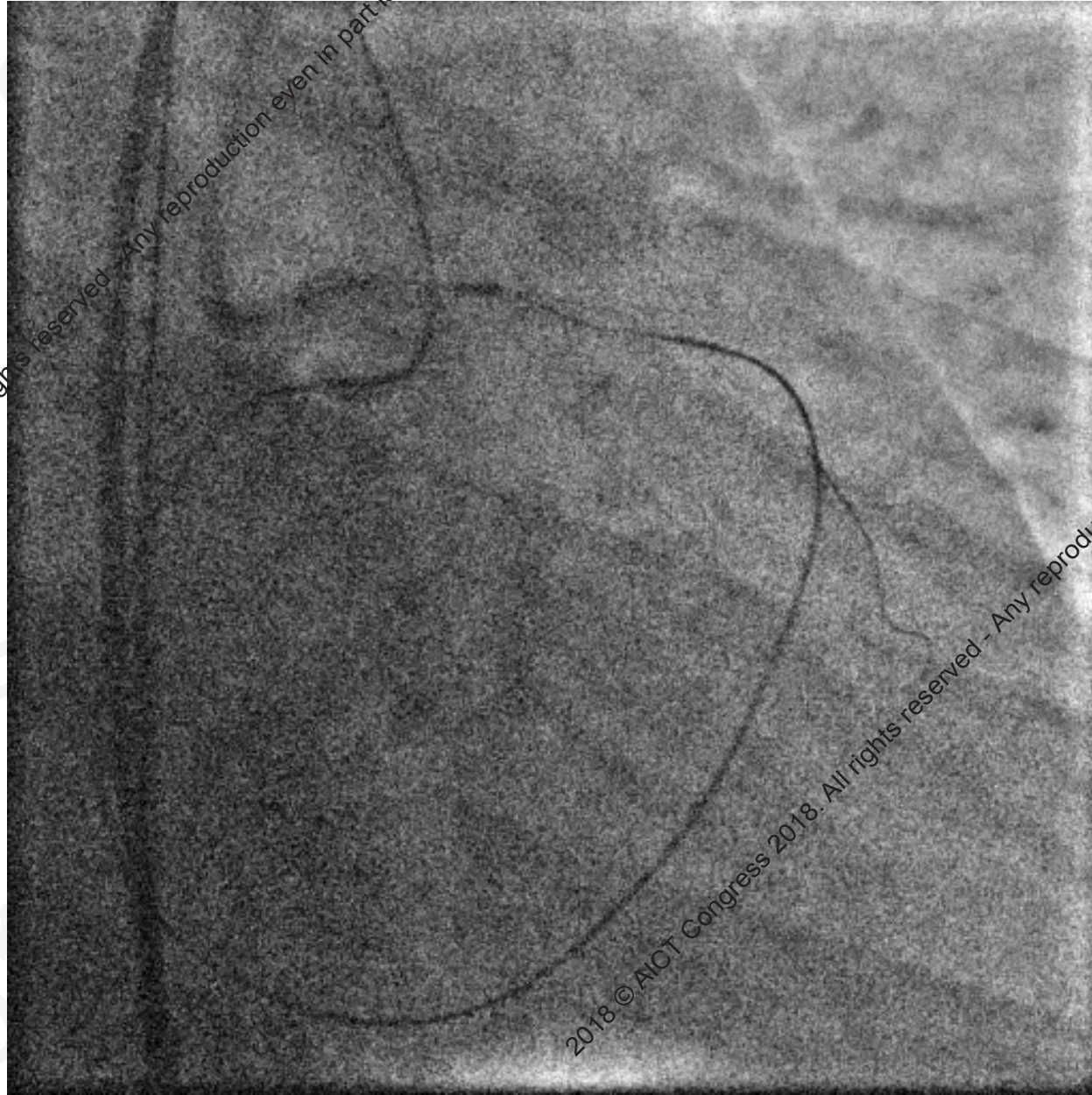
IVUS Examination from D1



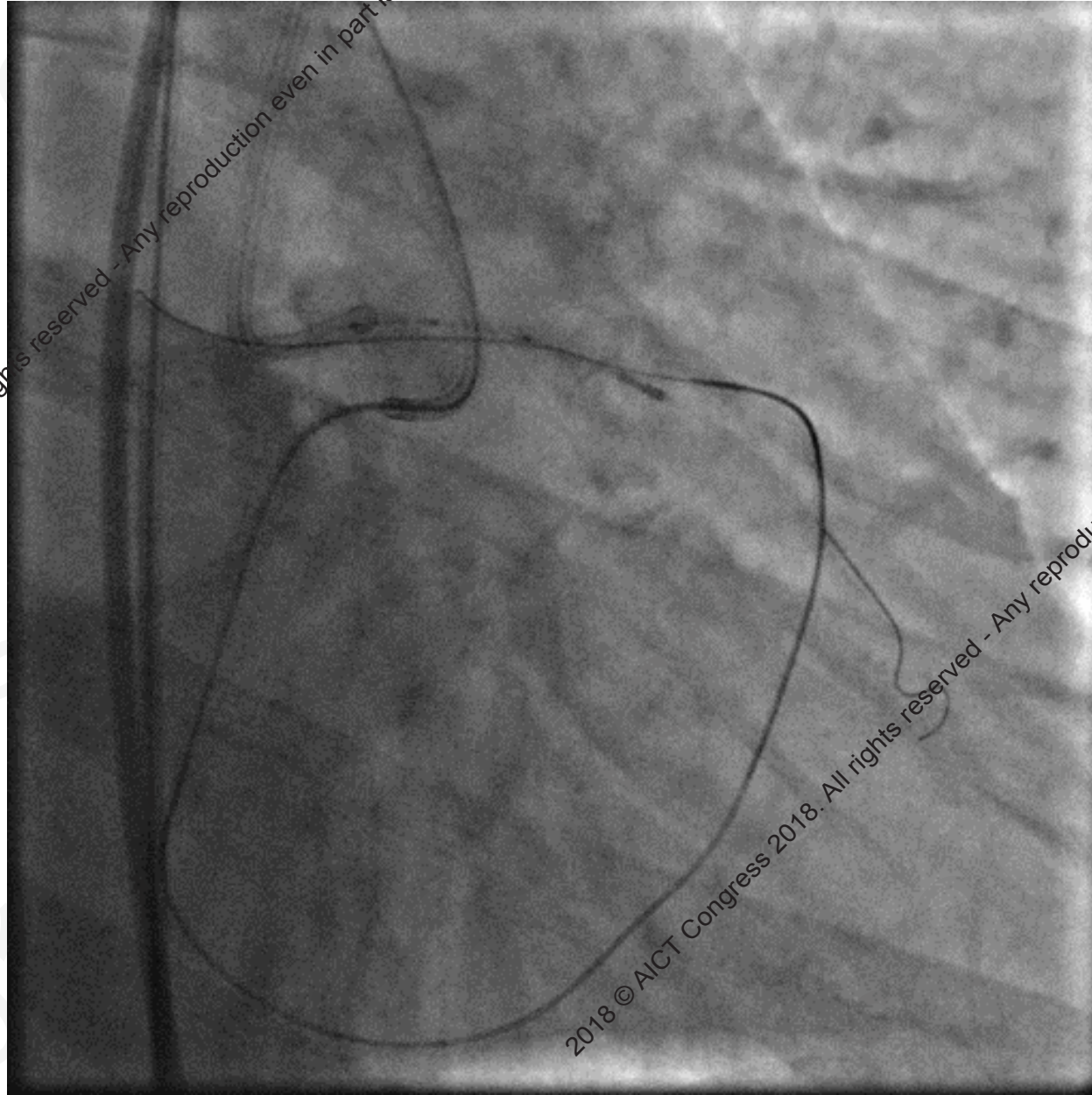
IVUS Examination from D1



Retrograde Wire Crossing with Next 3rd



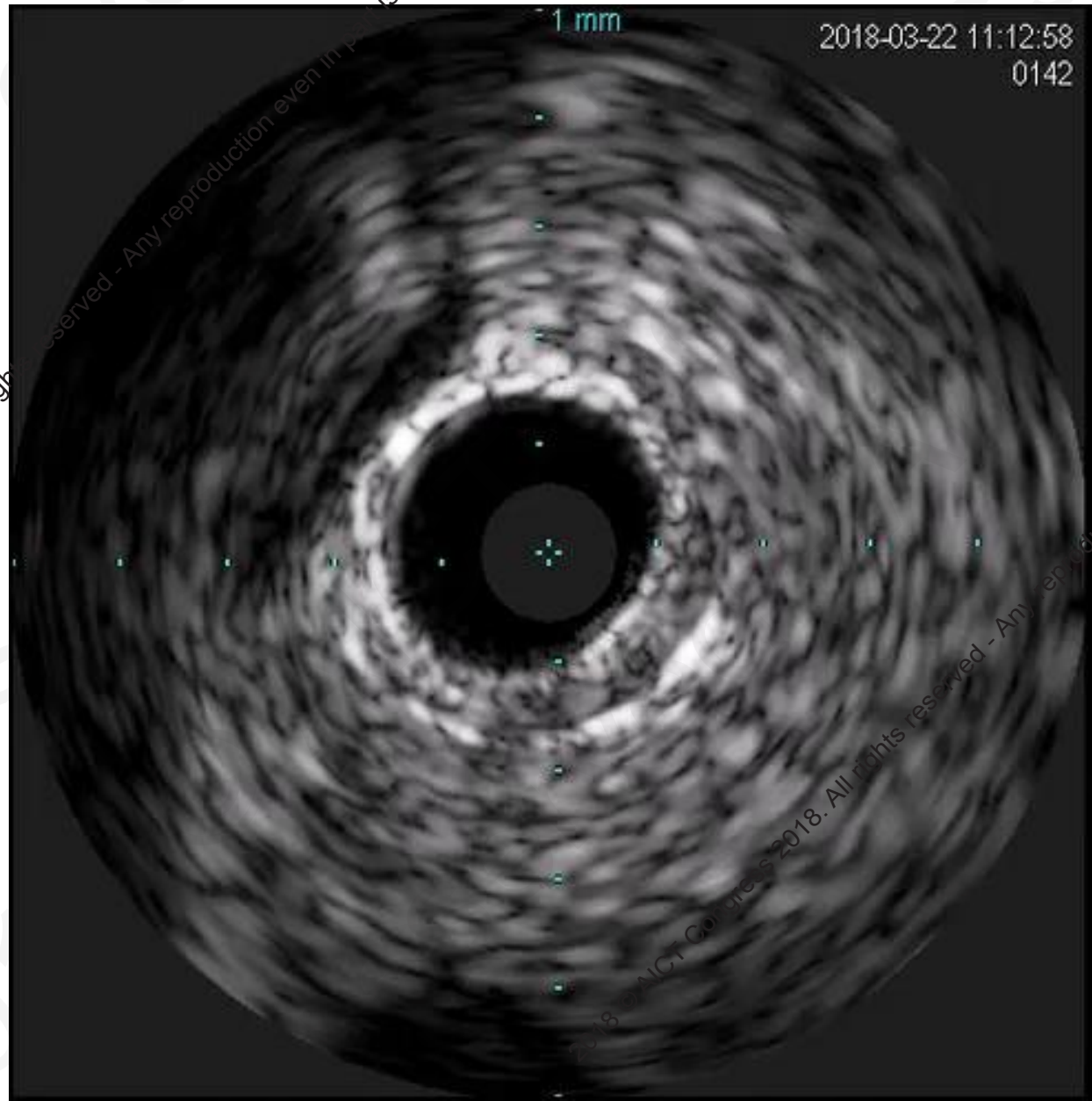
Repeated IVUS Examination from D1



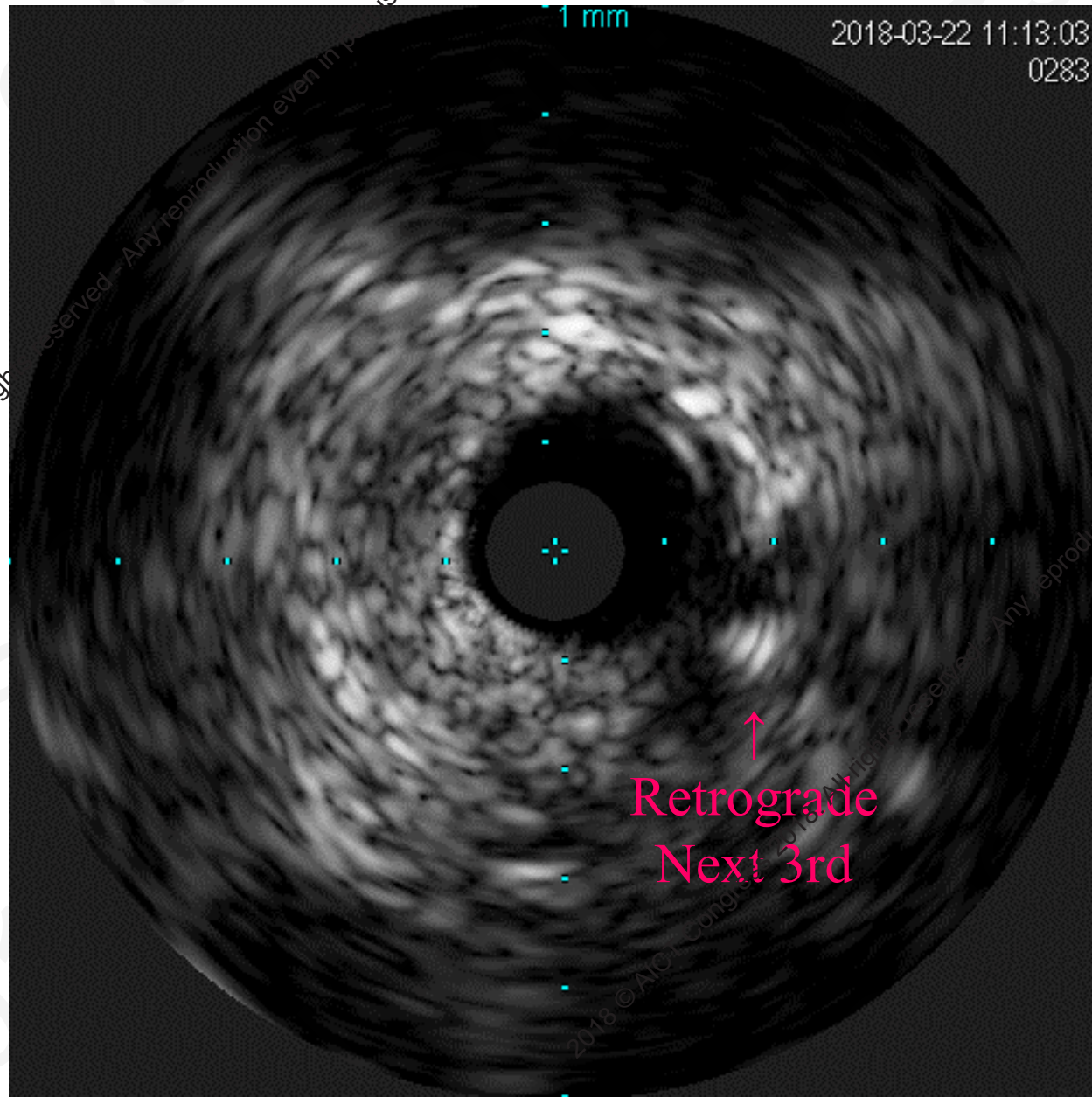
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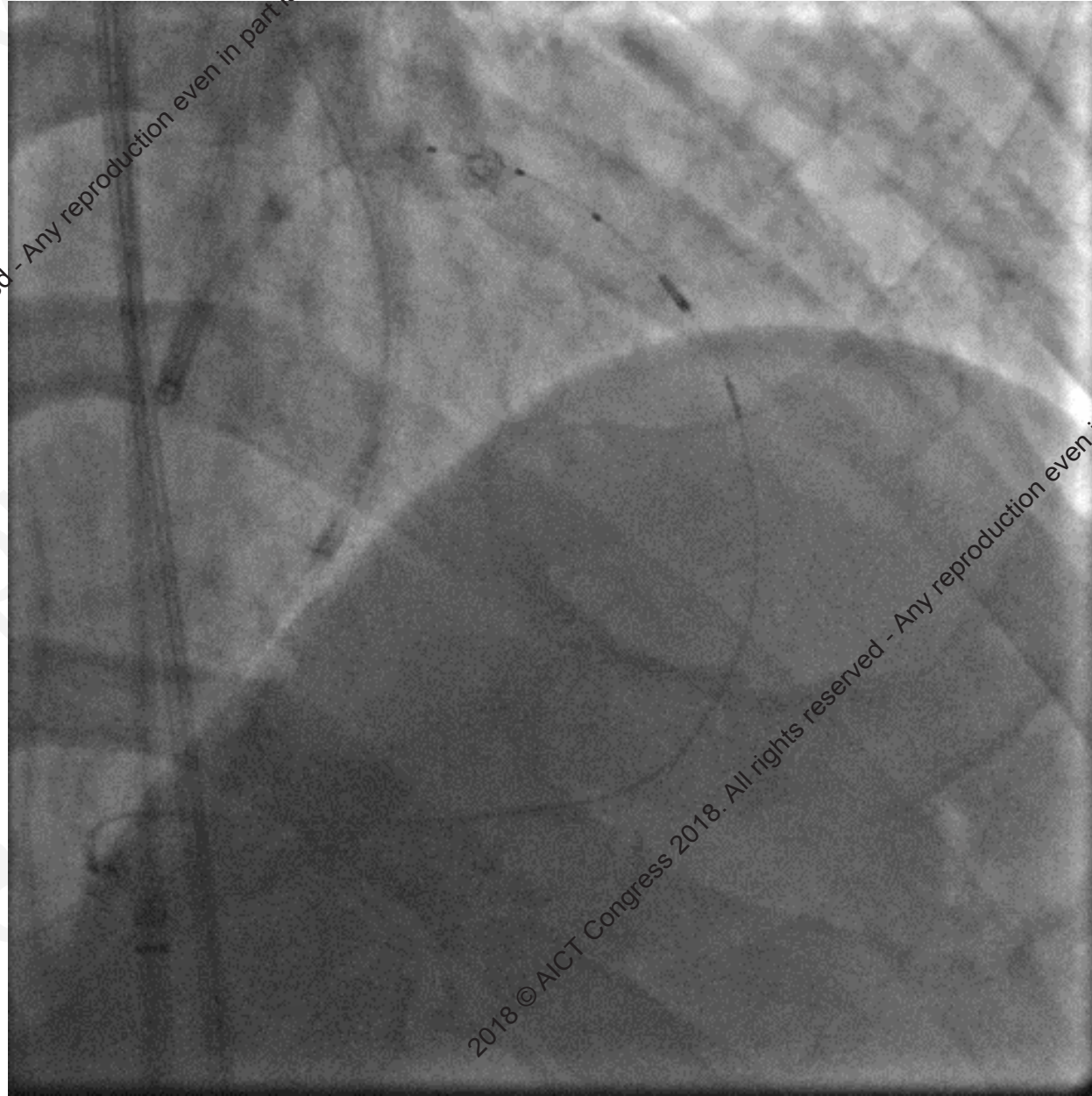
IVUS Examination from D1



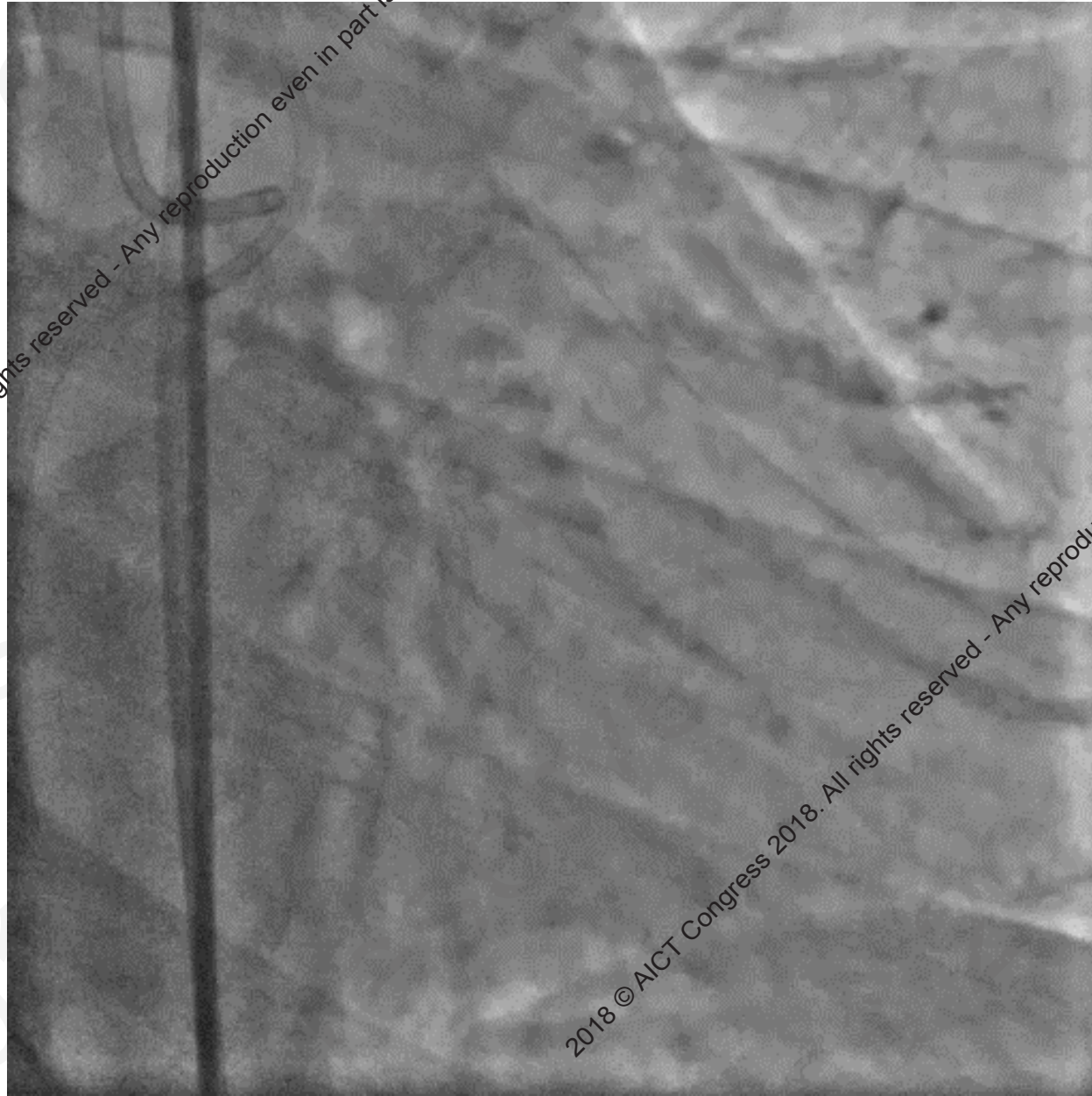
IVUS Examination from D1



Complete Intimal Tracking was Confirmed by IVUS
after Retrograde Wire Externalization with RG3



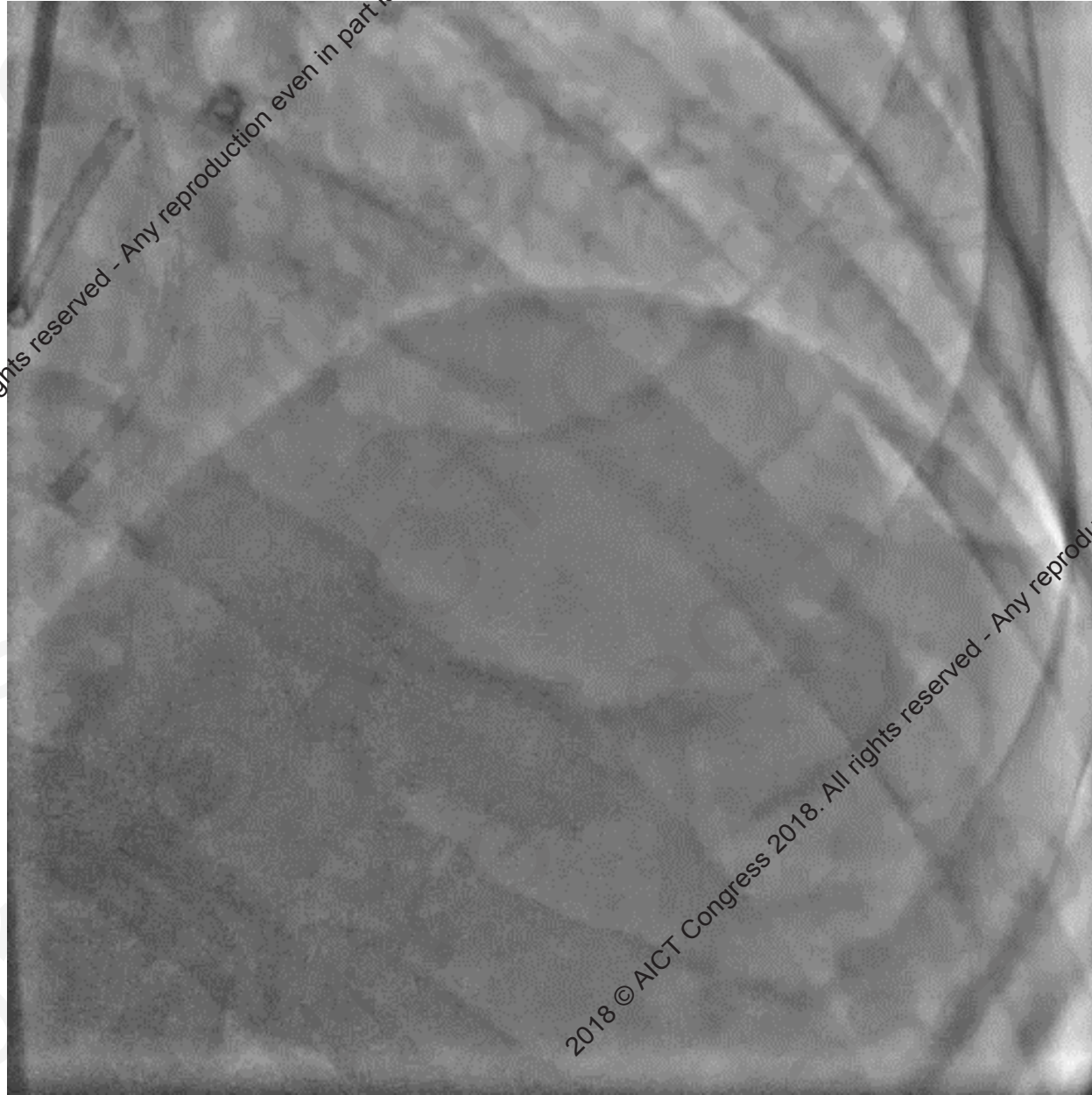
Final Results after Implantation of Xience Alpine 3.0-38mm



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Final Results after Implantation of Xience Alpine 3.0-38mm



Fluoroscopy Time: 25.2min
Contrast: 257ml

Primary retrograde approach and retrograde wire crossing are justified.

Conclusions

- PCI strategies for CTO are diverse.
- We should try as many strategies as possible within limited radiation exposure and dye consumption. One of them will be successful.
- Do not spend a lot of time for one particular strategy.
- Appropriate wire (or required penetration force) is different in each case.
- **If retrograde set up is completed** (=successful delivery of retrograde micro-catheter into distal vessel), **we expect the highest possibility of final success.**

We should not be sticky to antegrade approach.

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