Parallel wire technique

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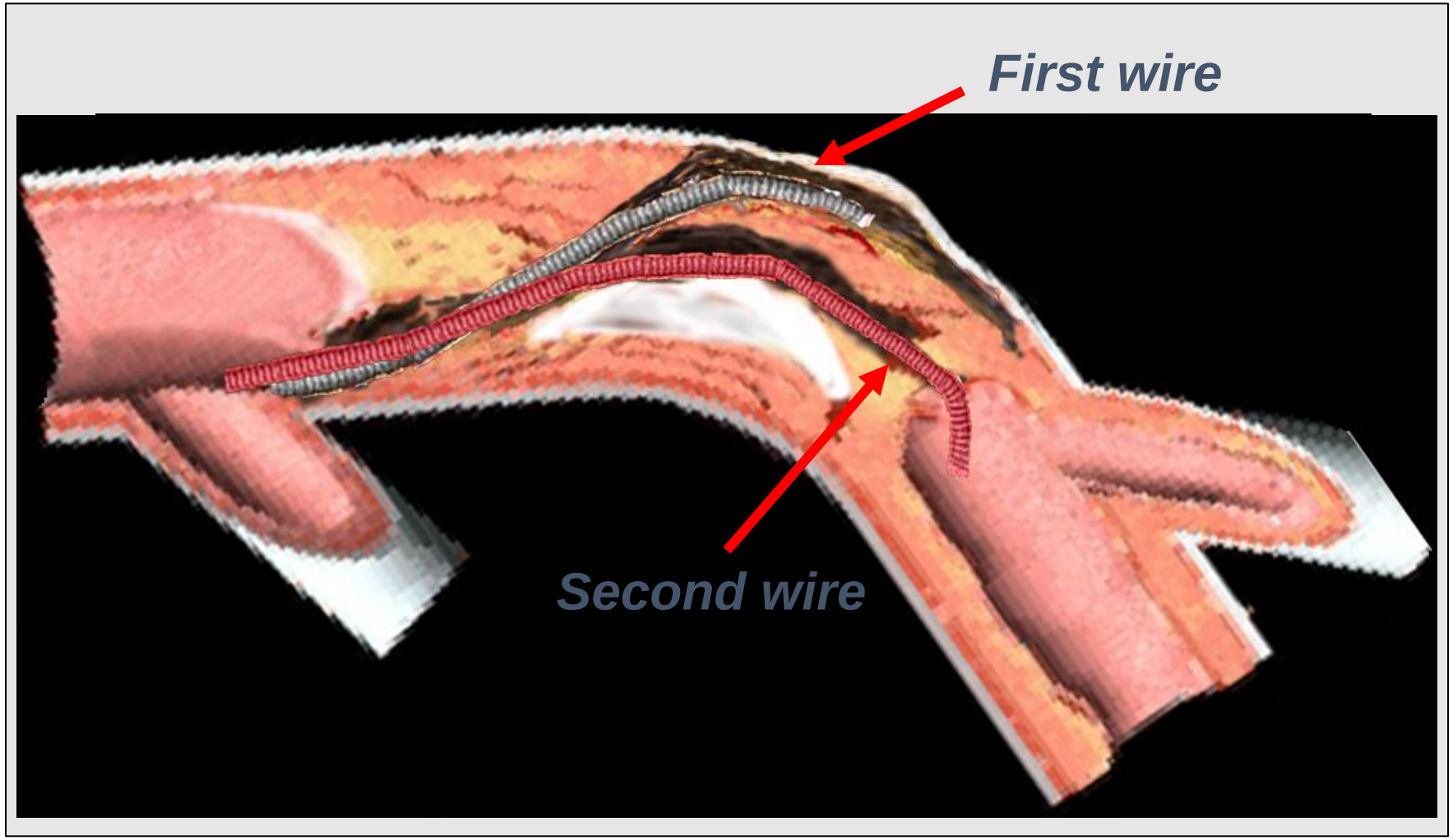
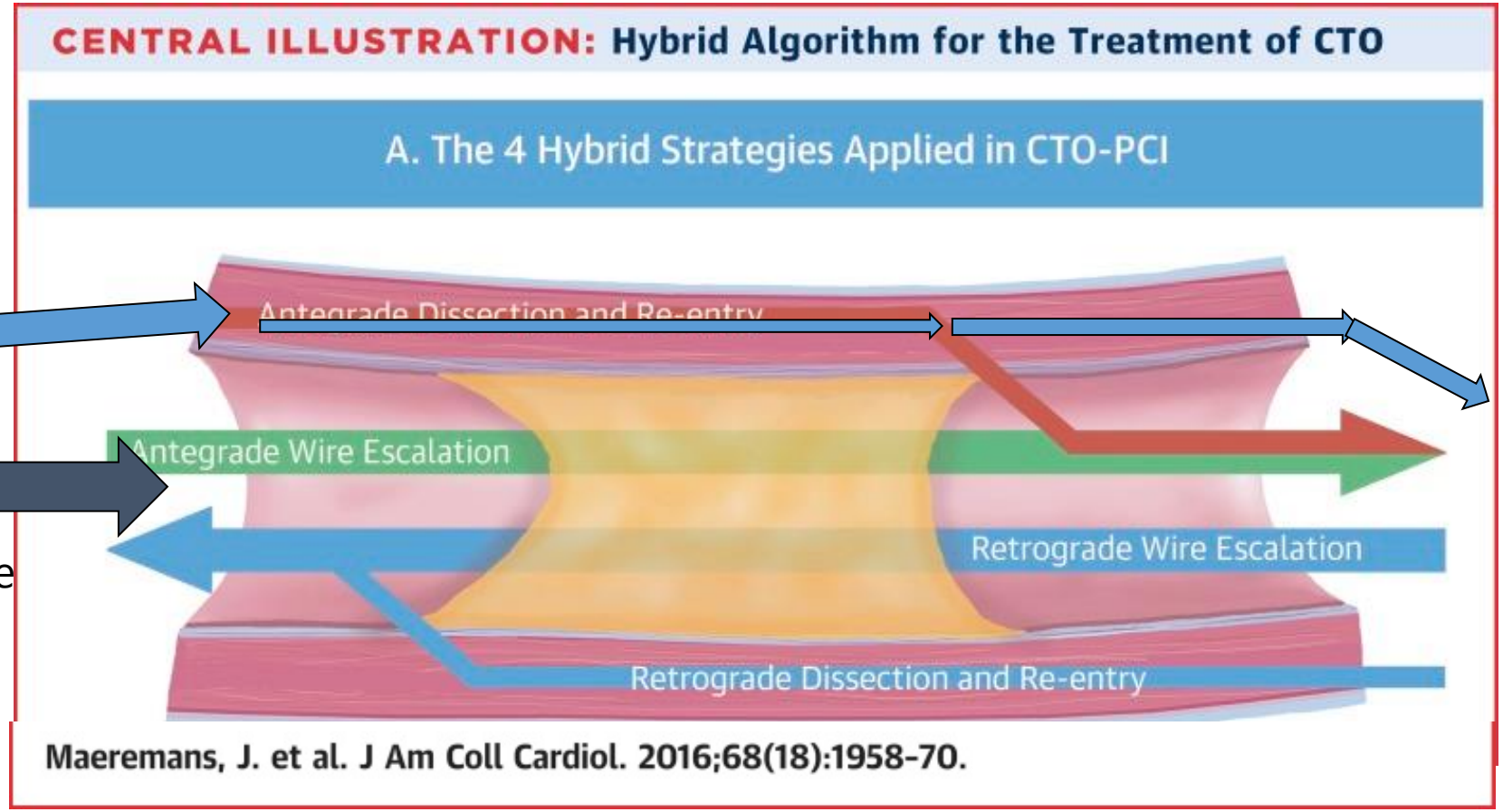
Parallel Wire Technique



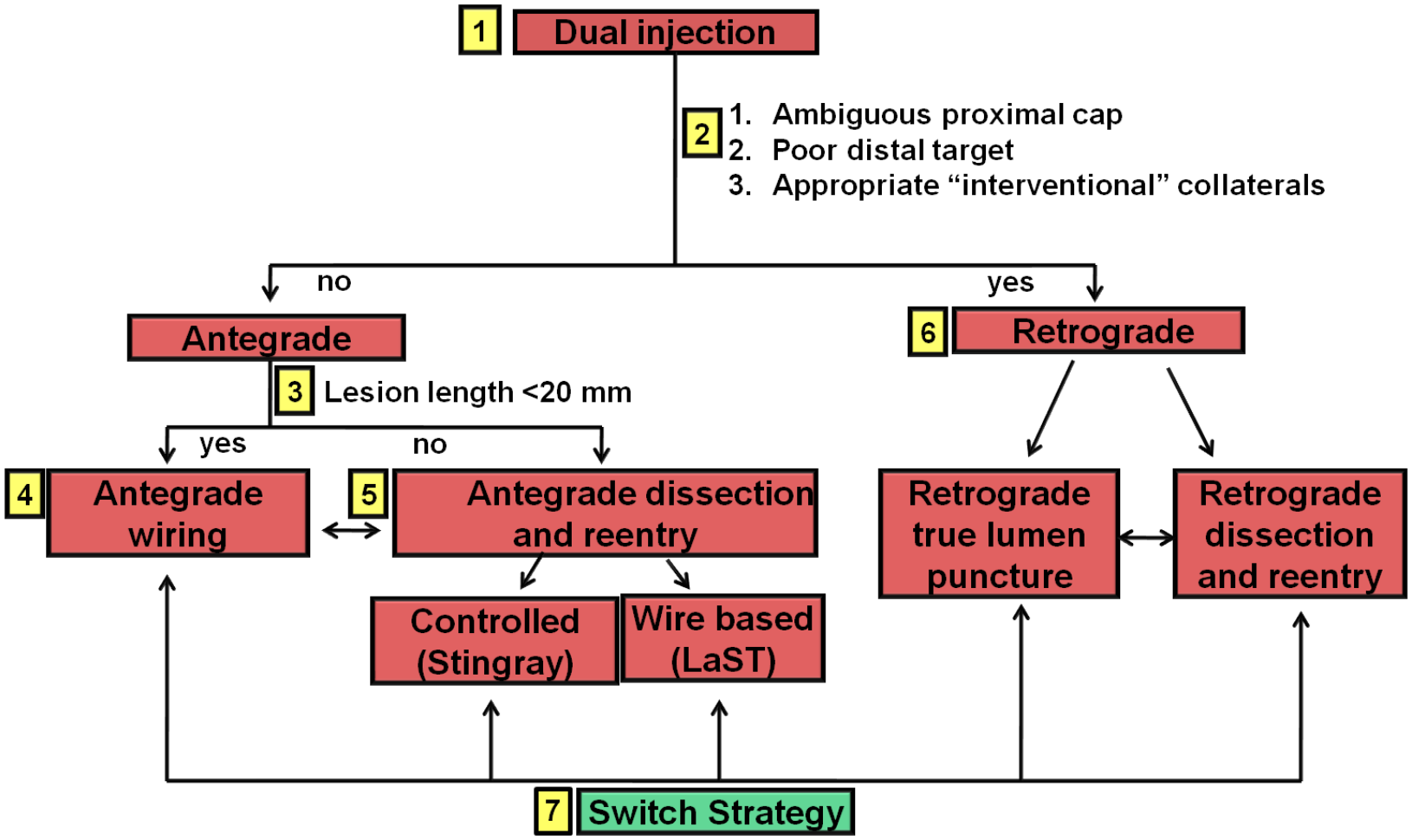
Current CTO Crossing Algorithm

Western Style

Korean (my) style
(Parallel)

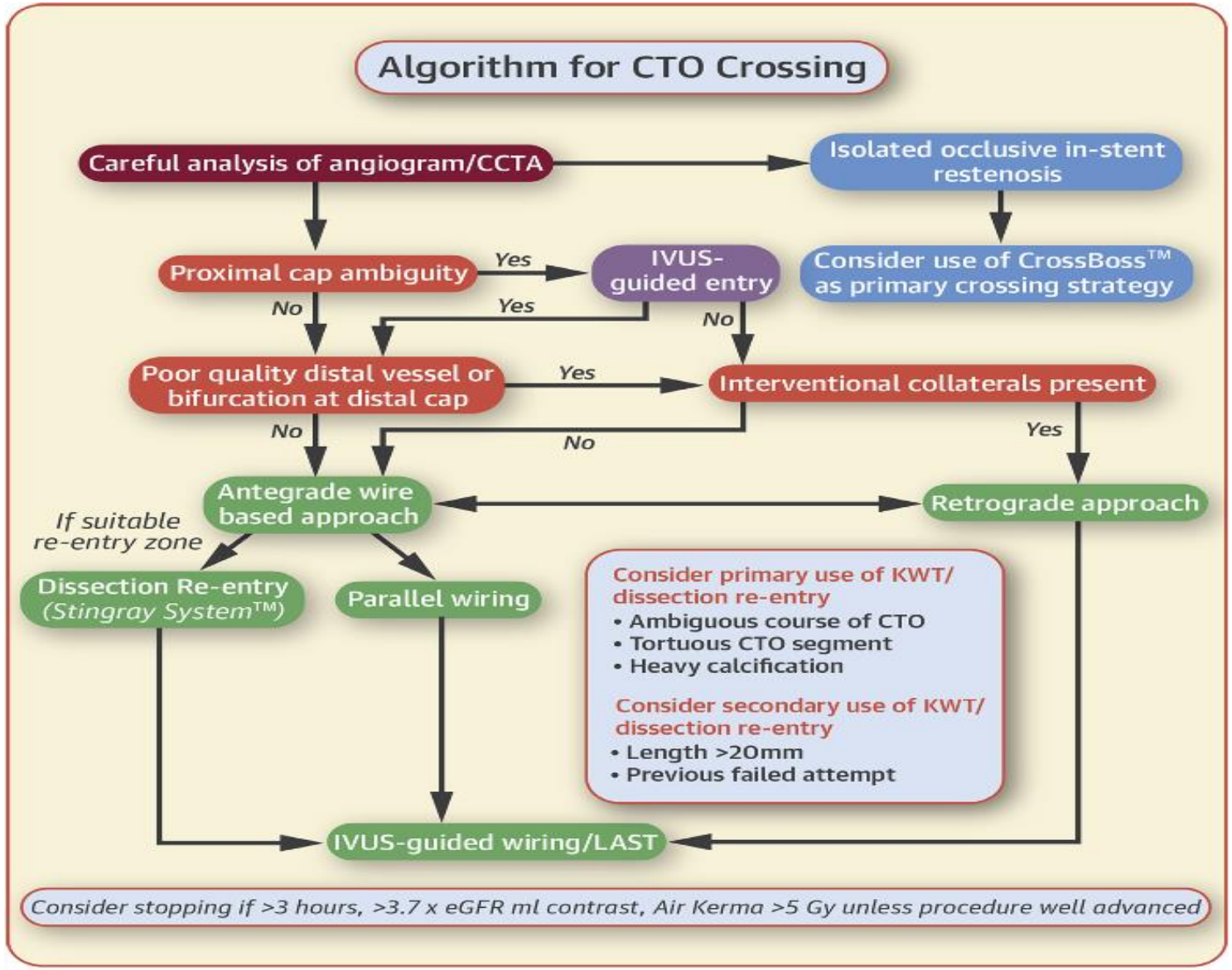


Current Hybrid CTO crossing algorithm

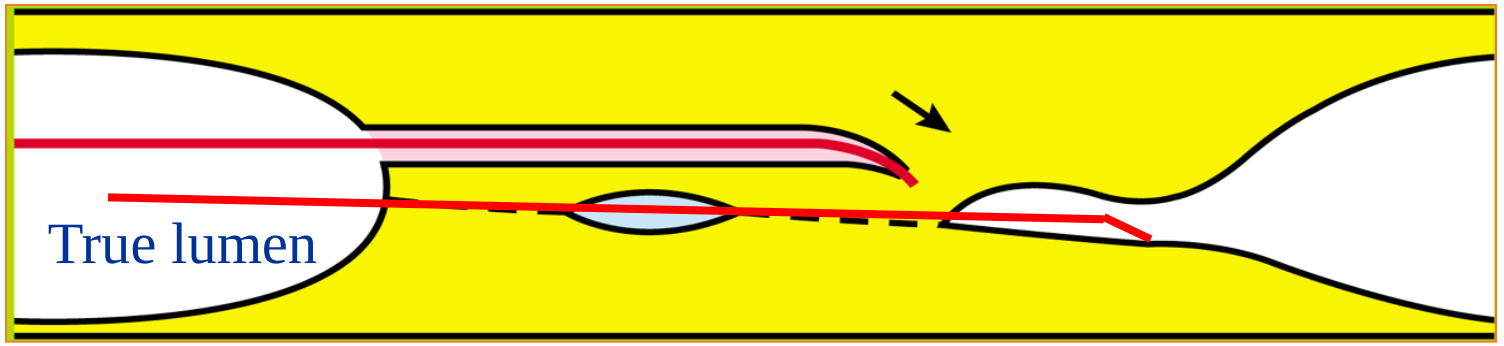


Brilakis, Grantham, Rinfret, Wyman, Burke, Karmpaliotis, Lembo, Pershad, Kandzari, Buller, De Martini, Lombardi, Thompson. JACC Intv 2012

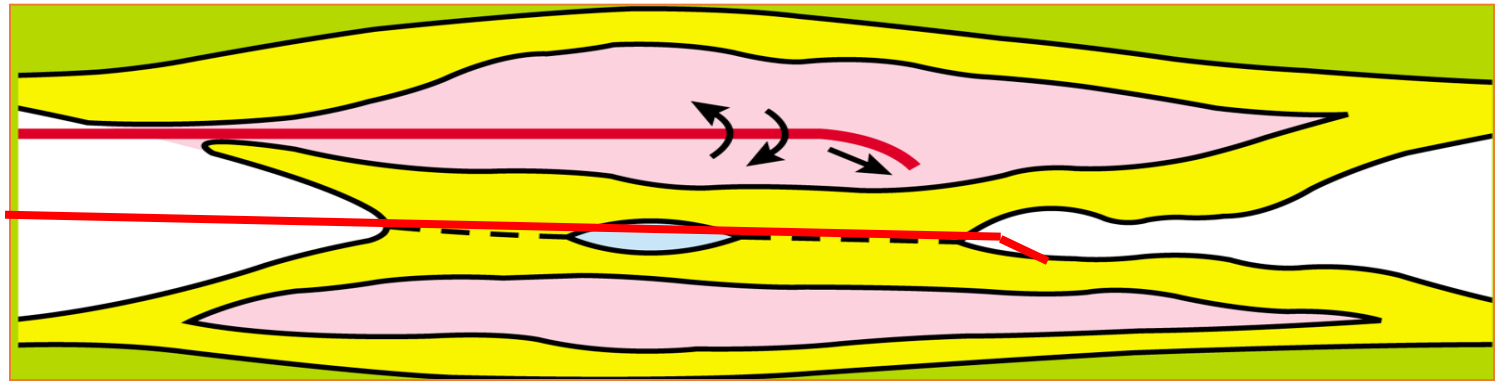
Algorithm for from Asia Pacific CTO club



Don’t make a huge hematoma by 1st wire

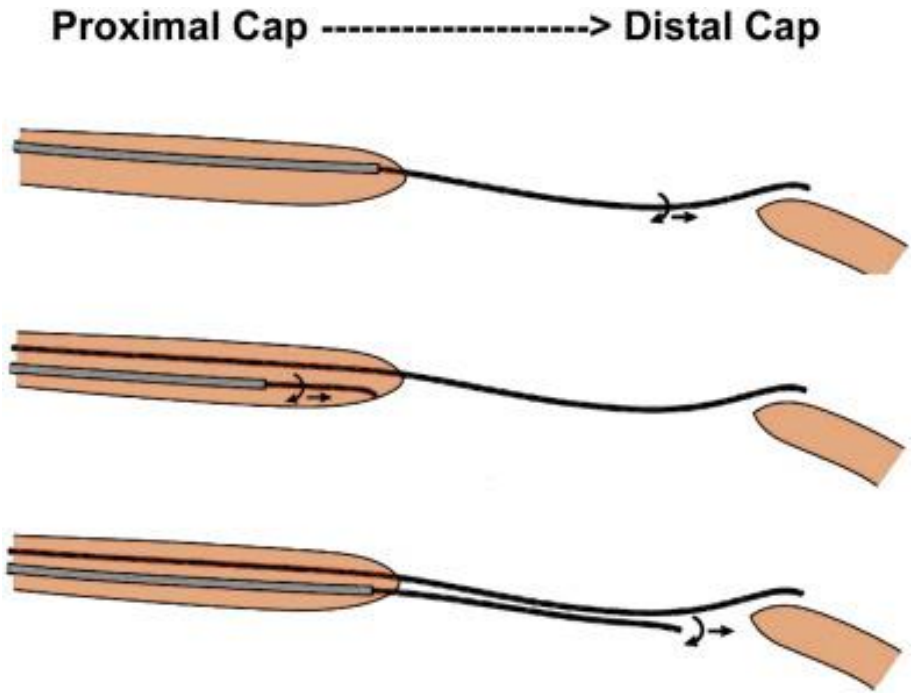


Relatively easy to make re-entry



Relatively difficult to make re-entry

Typical parallel wire technique

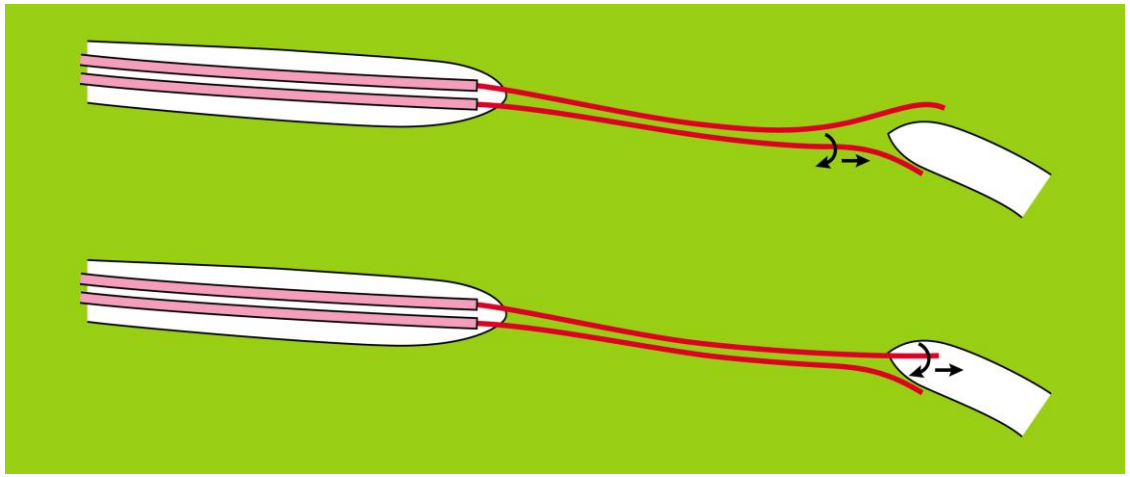


A wire that enters the subintimal space is left in position to seal that tract and act as a marker.

Continued advancement of this wire close to the distal cap should be avoided as it can collapse the distal true lumen and make reentry difficult.

A second penetrating wire is therefore introduced using a microcatheter and attempt made at redirection into the true lumen

See-saw wiring technique



Involves the use of two microcatheters and wires.

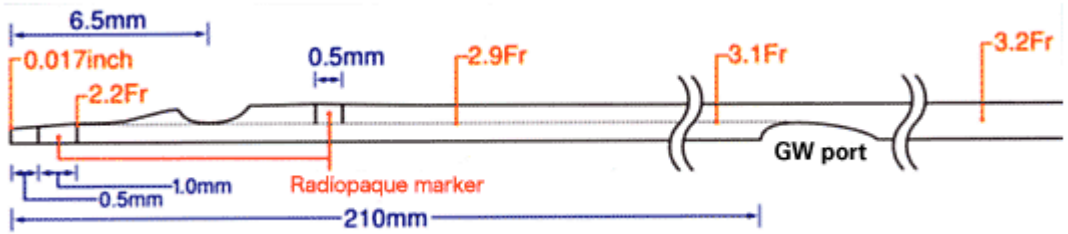
It has the advantage of avoiding the need for complex exchange of microcatheters.

Wires can be reshaped and their roles switched promptly.

Operator is able to move each of the two wires independently

Double lumen microcatheter

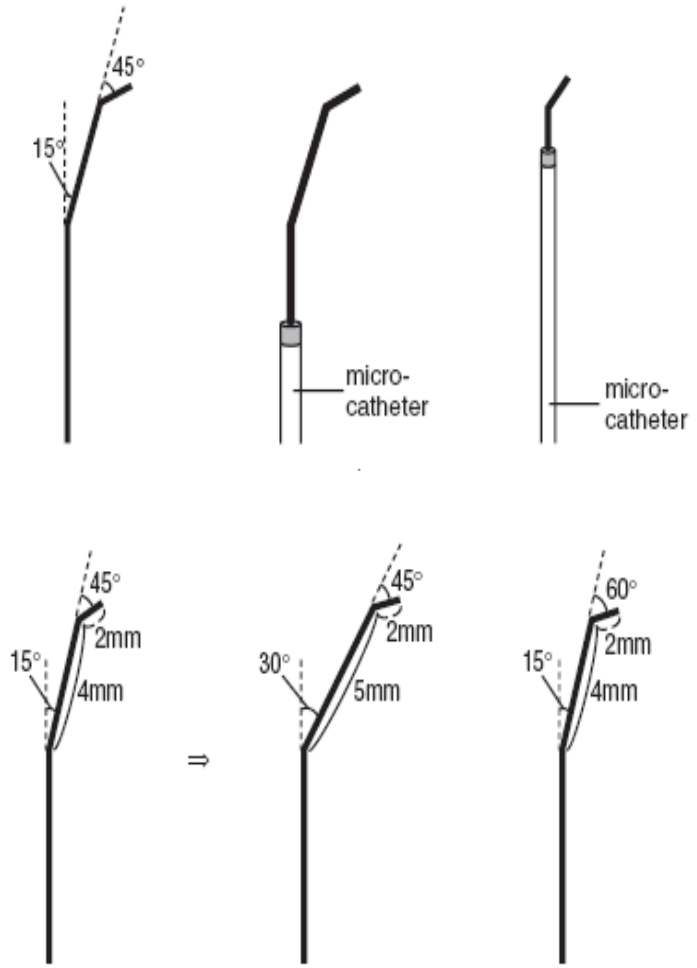
In parallel wire technique, delivery of 2nd wire to the CTO site is sometimes cumbersome or difficult.



The Crusade Catheter (Kaneka, Osaka, Japan) is a double lumen microcatheter that contains both a monorail and an OTW port.

It is ideally suited to parallel wiring by allowing the introduction of multiple wires without removal of the catheter from an optimal position.

Deflecting Tip Wire



- Double-bend method. In addition to the first small curve (2 mm) made at the tip of a wire to find a true lumen, a larger shallow curve (4-5 mm) is added to cope with the curvature of the blood vessel. It is possible to use or extend the second curve at the tip of a microcatheter.

- **When the parallel wire technique is used, it is possible to advance the second wire along a different channel by making the first or second curve different from that of the first wire.**

Wire / Strategy selection for CTO PCI

Gaia 1,2, 3

Fielder XT/ XT-R

Miracle bross 3g

Confianza Pro 12g

L4

00T

- Selection of 2nd wire is dependent on the lesion characteristics or/and operator preference.
- Usually, I prefer harder one, compared with first one.

Parallel wire n

Devise Based
Cross boss, Stringray System

Retro grade approach

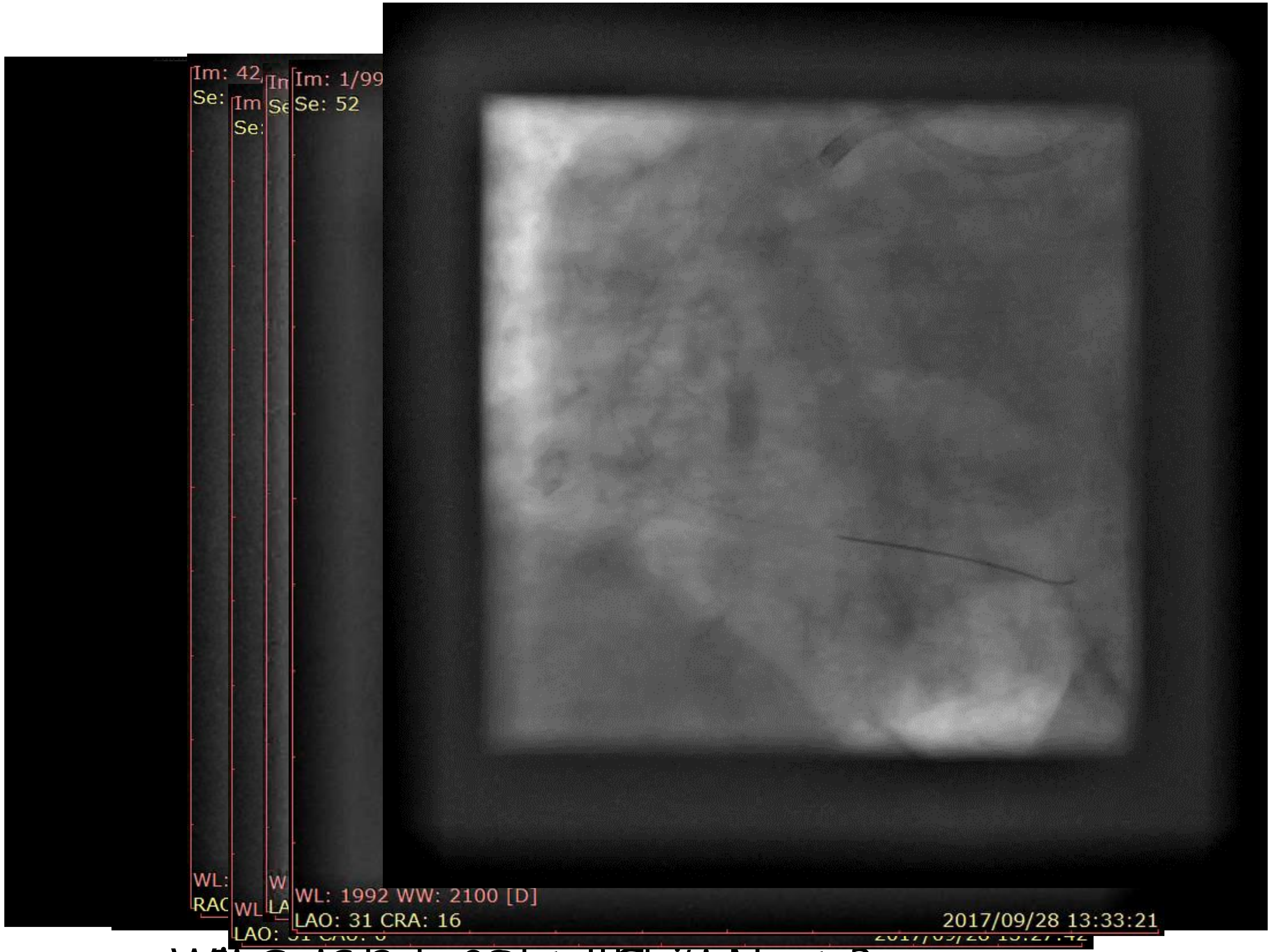
IVUS navigated

Suoh 03 and Sion

on

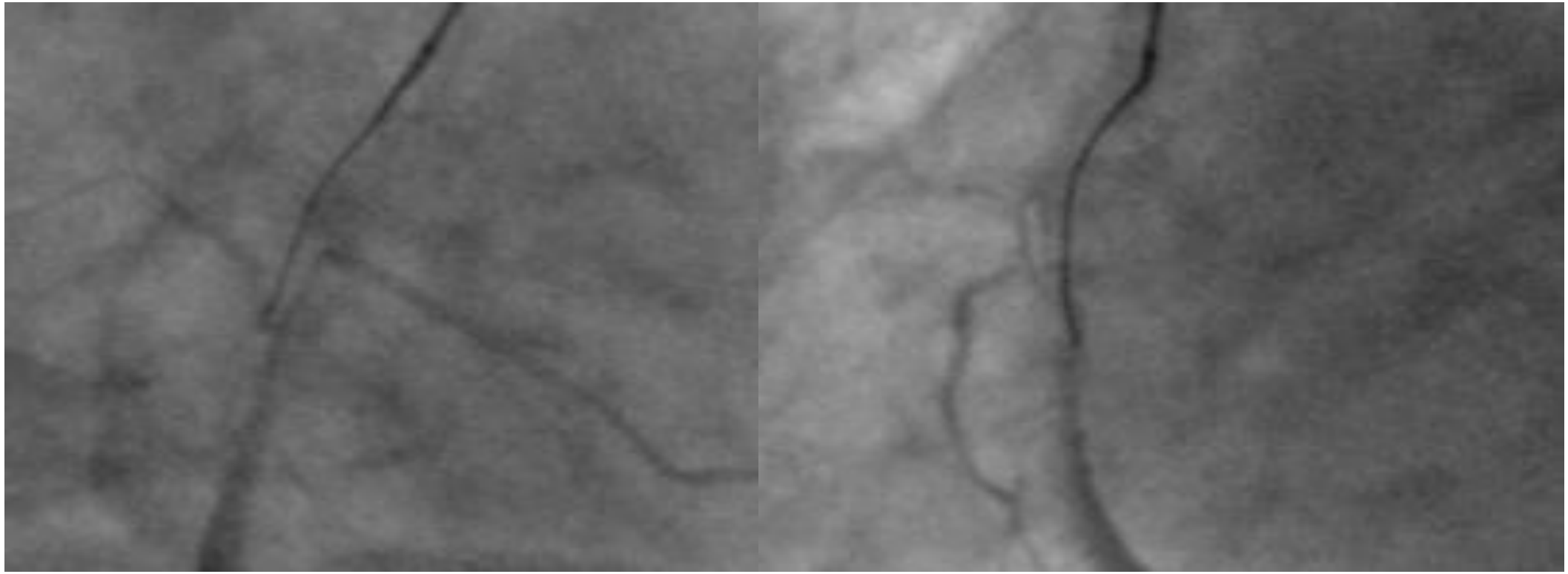
Corsair
Finecross
Caravel
Turnpike

RCA CTO Prior Attempt x 3



Gaia 2 to 3

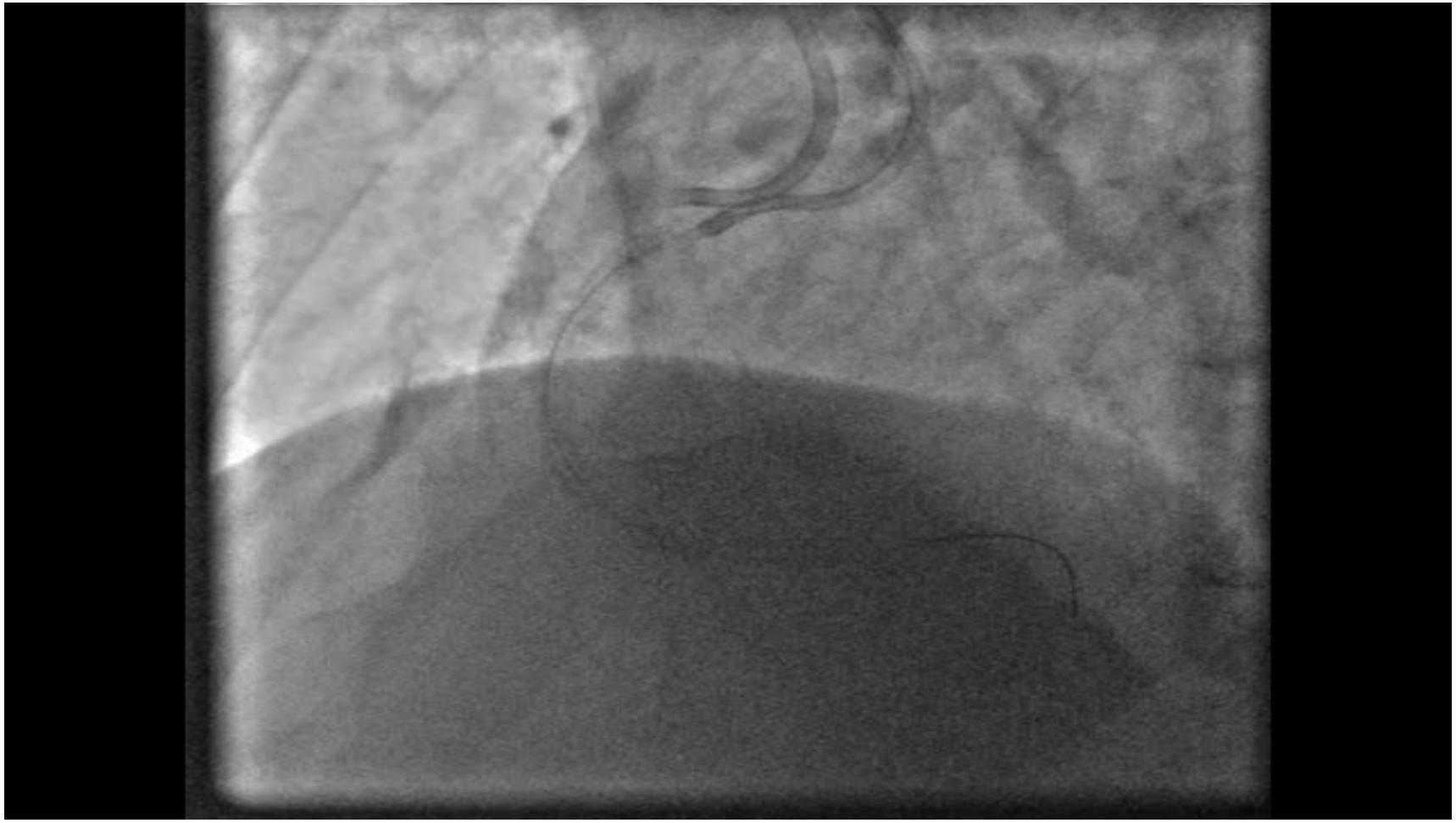
RCA CTO c Left Coronary Anomaly
: different projection says different tings.



RAO

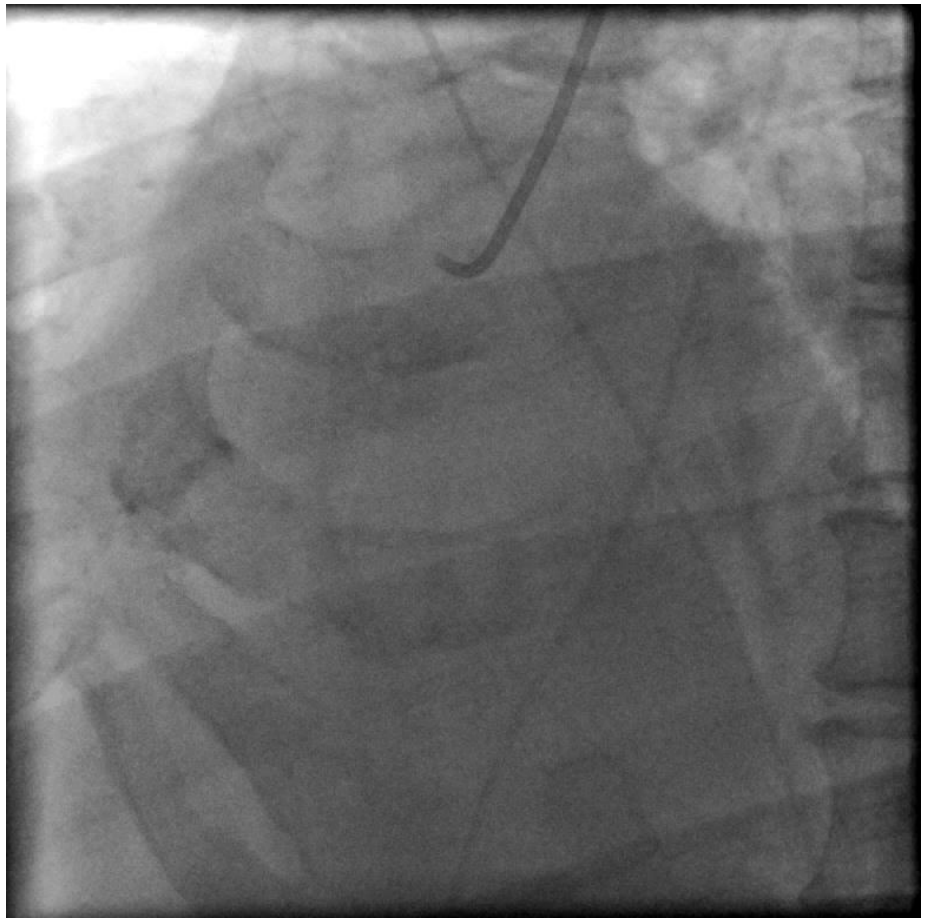
LAO

RCA CTO c Left Coronary Anomaly

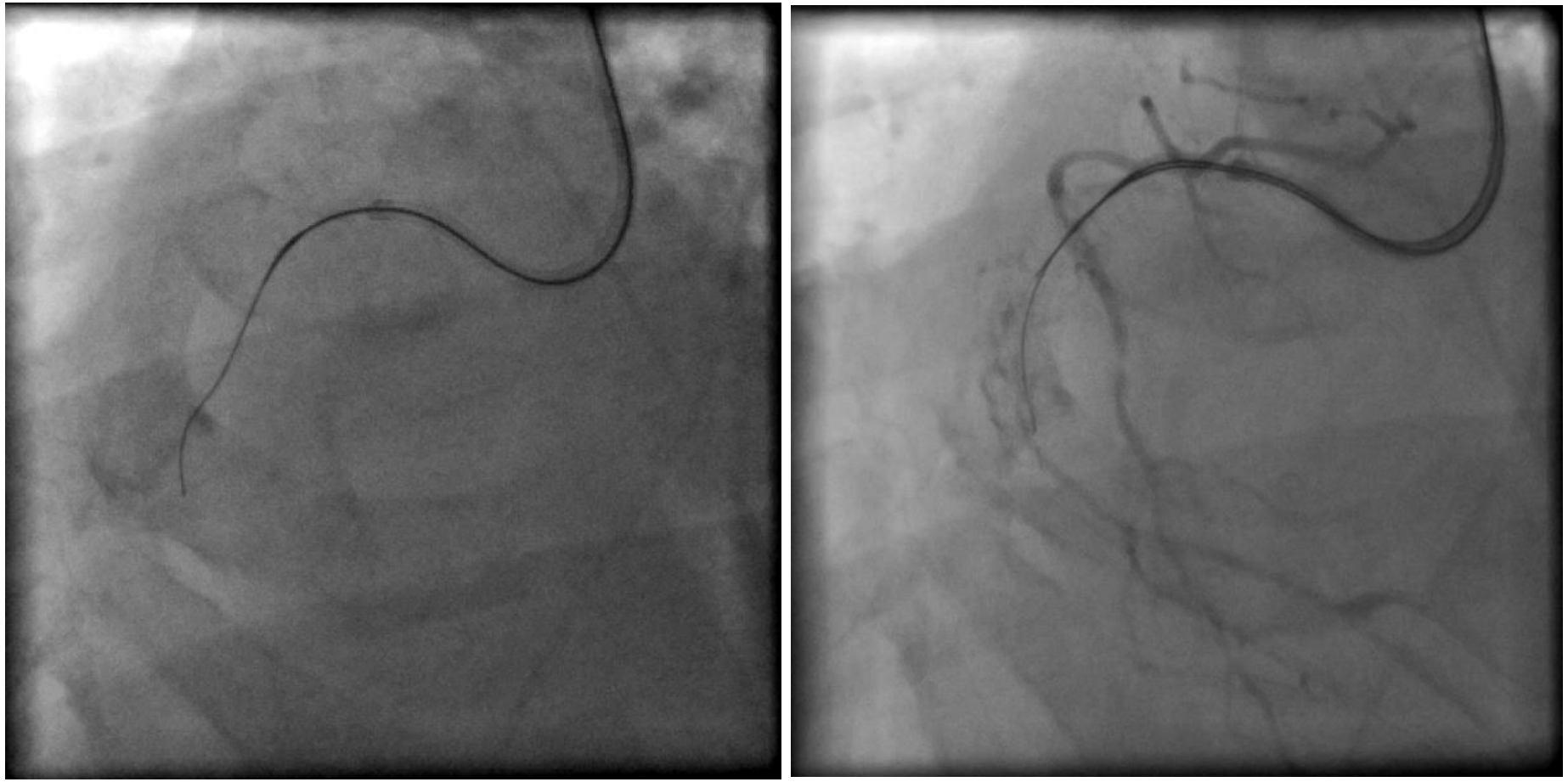


Crusade (Dual Lumen Catheter) for Parallel Wiring

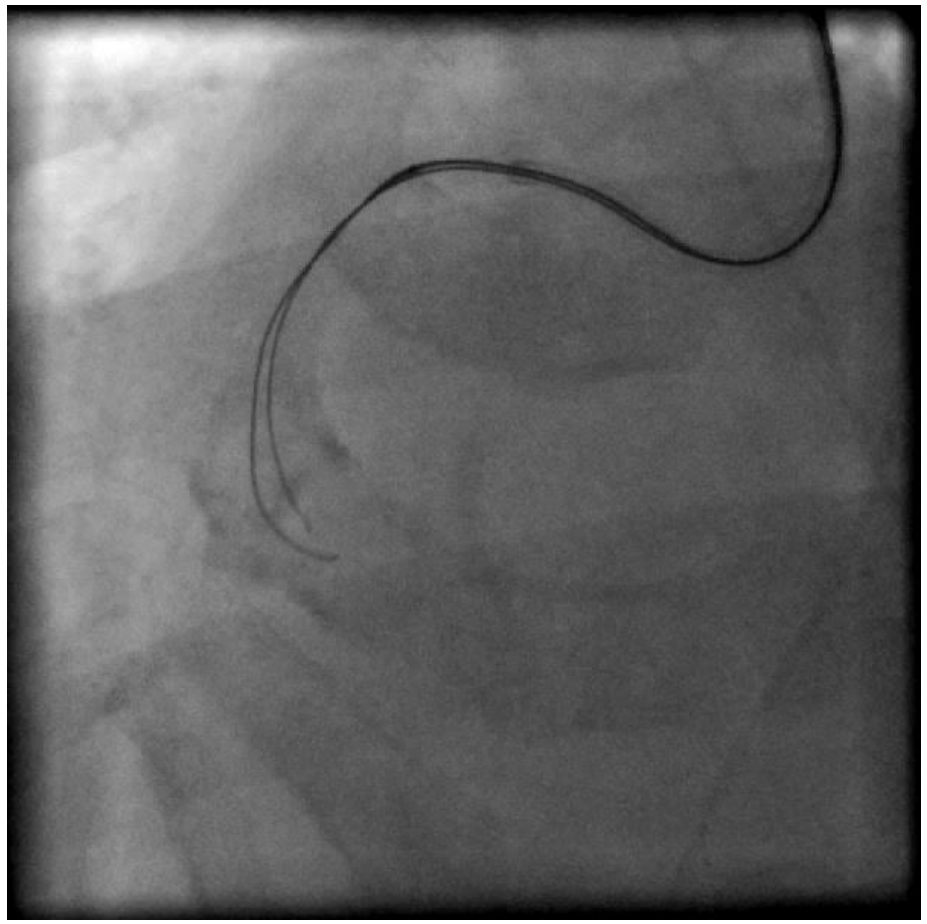
Parallel wiring in Bridge collateral



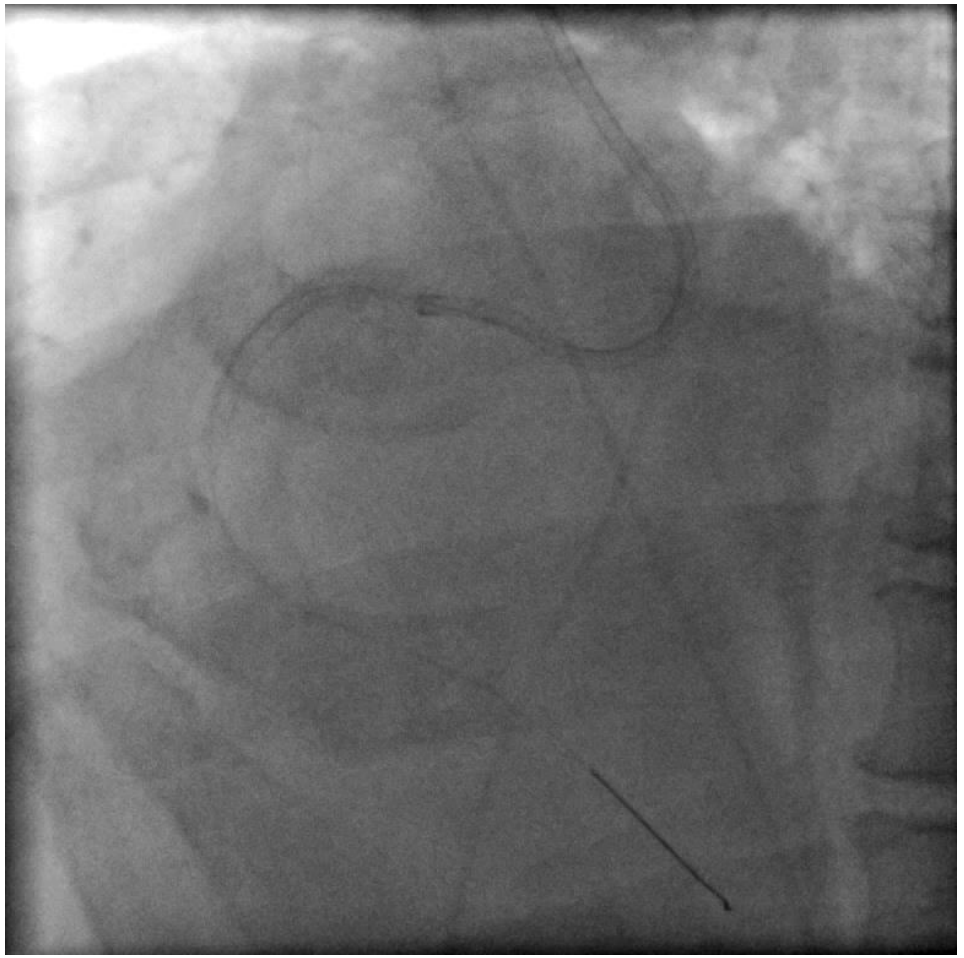
Parallel wiring in Bridge collateral



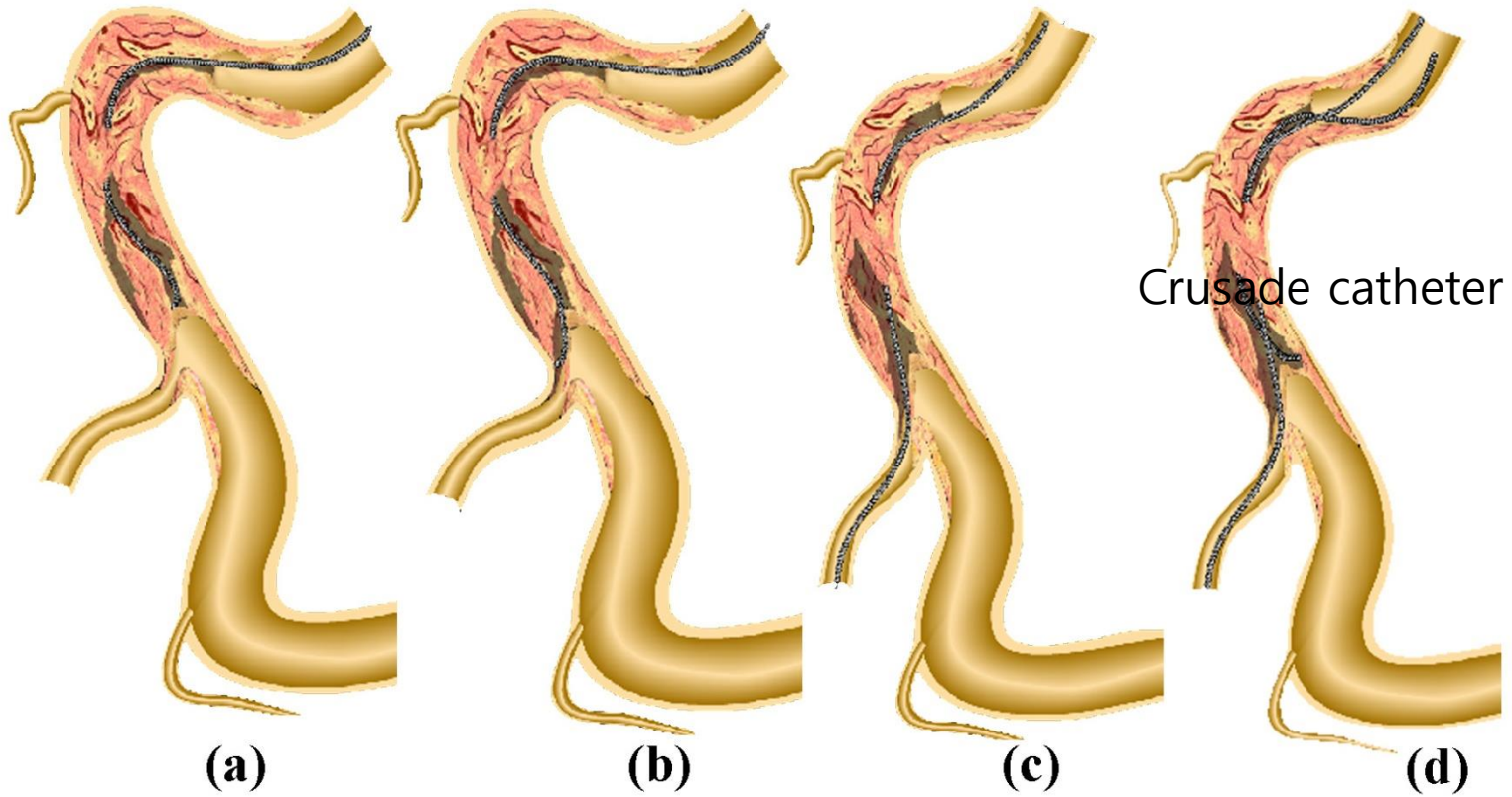
Parallel wiring in Bridge collateral



Parallel wiring in Bridge collateral



Side Branch & Parallel Wire Technique



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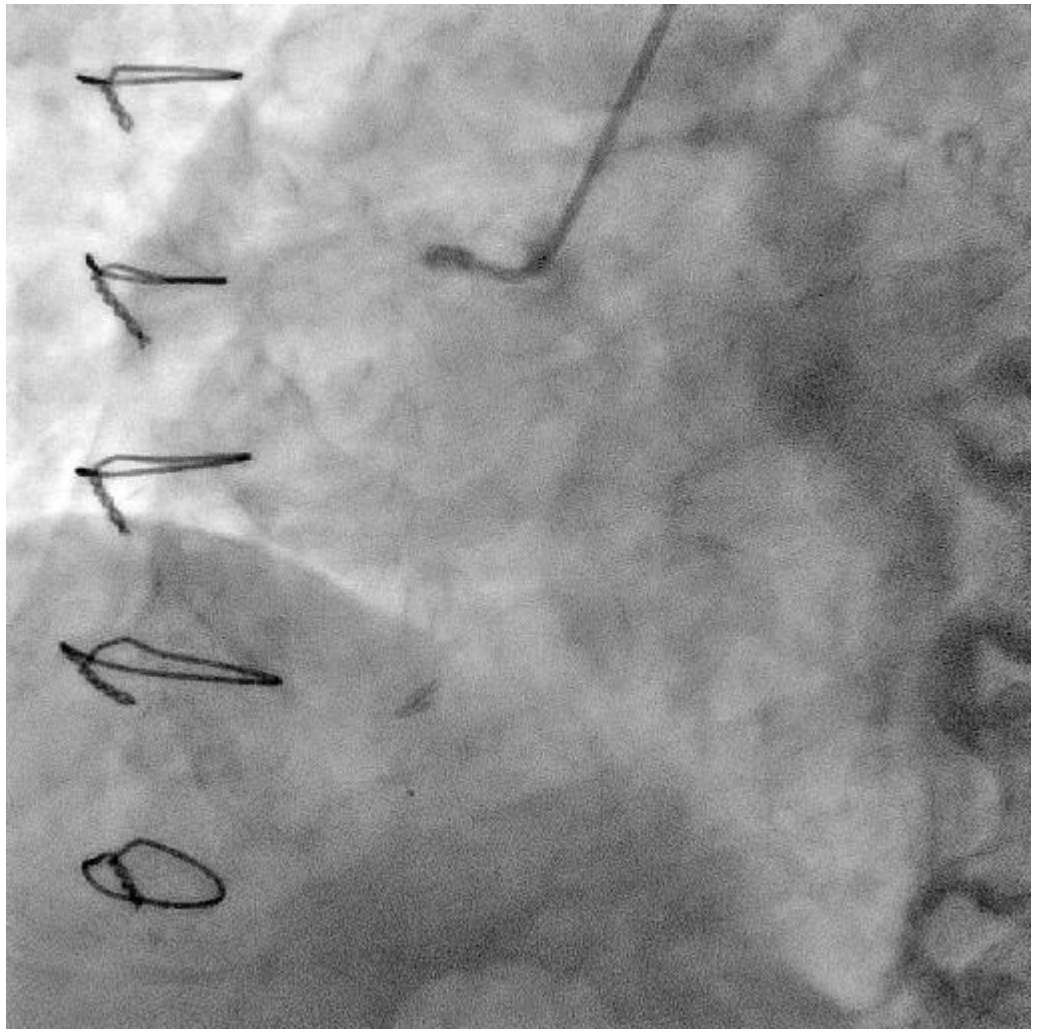

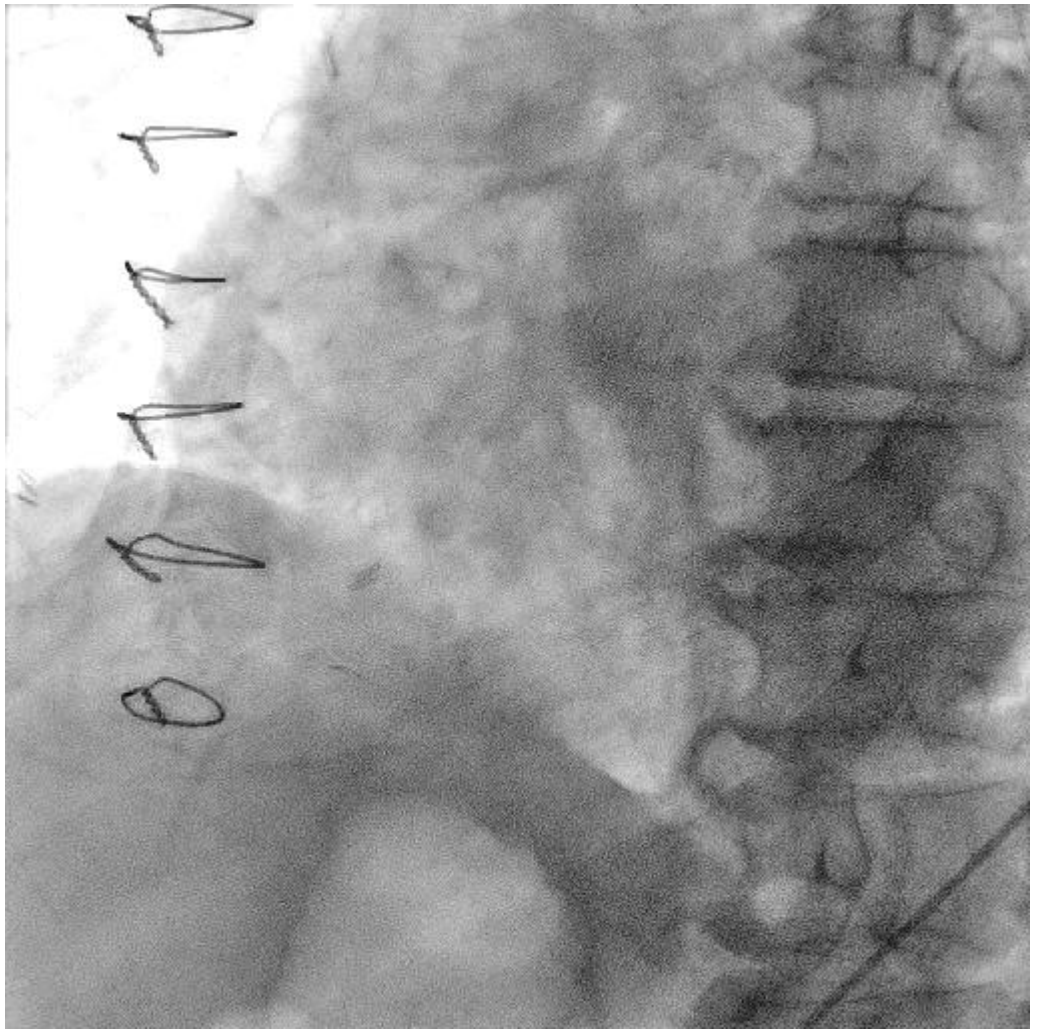

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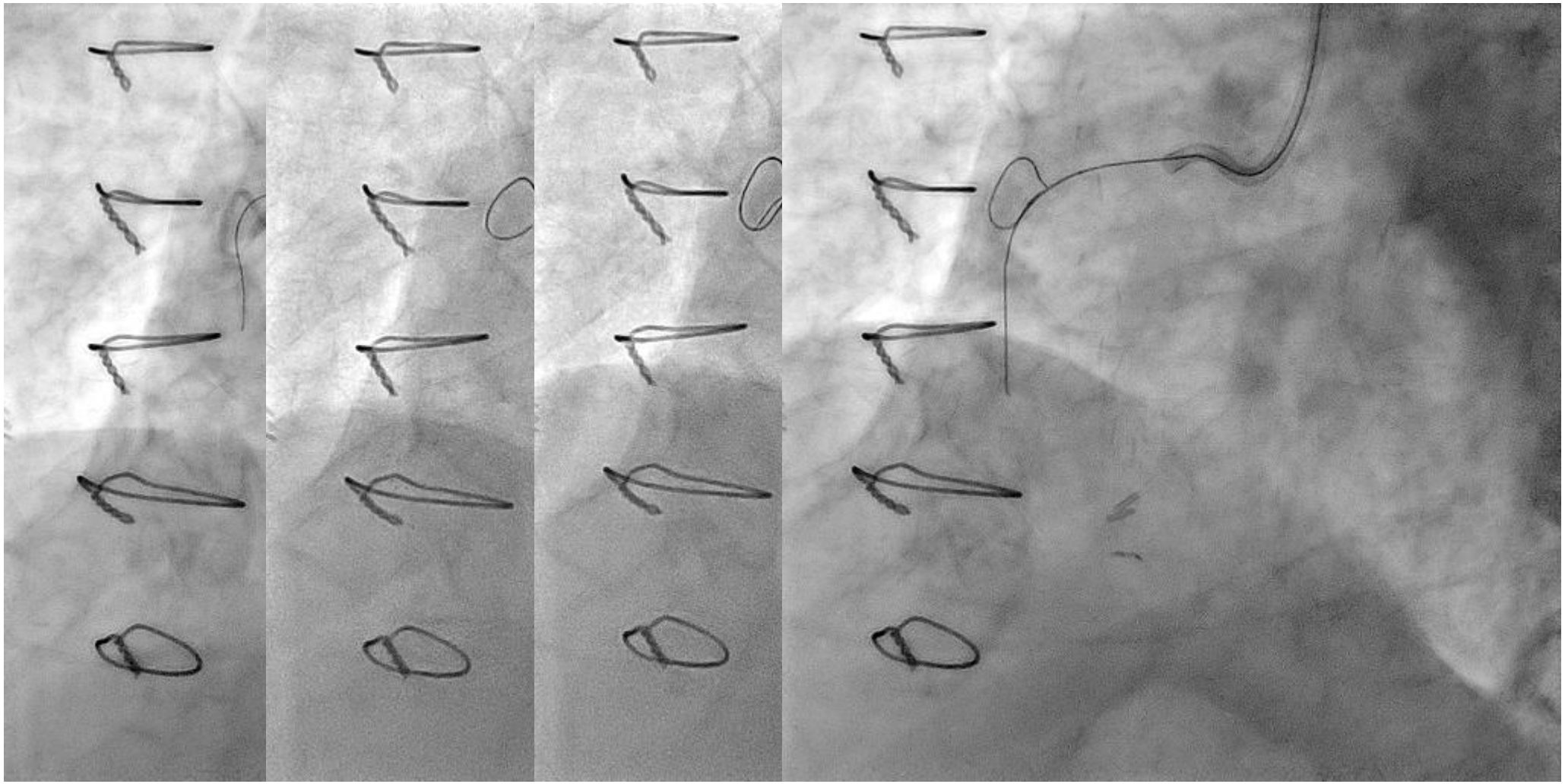

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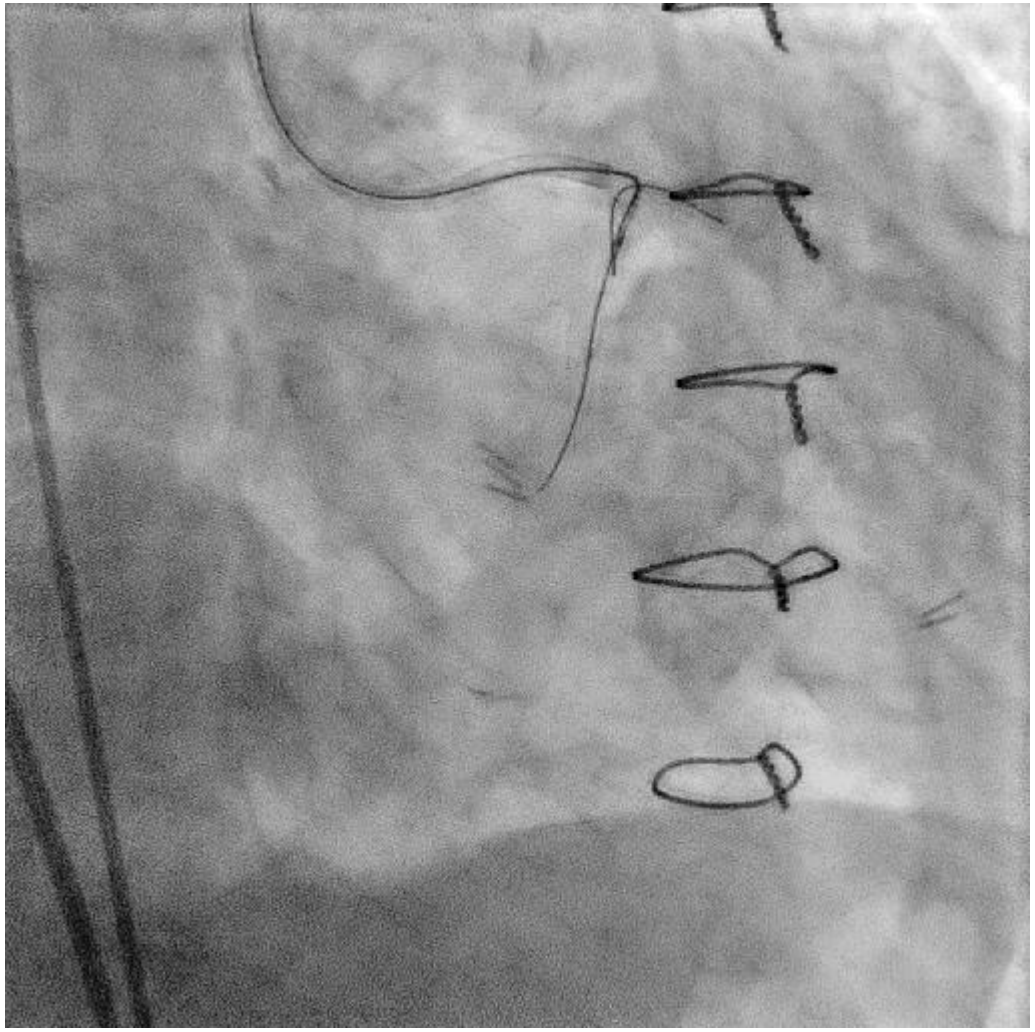

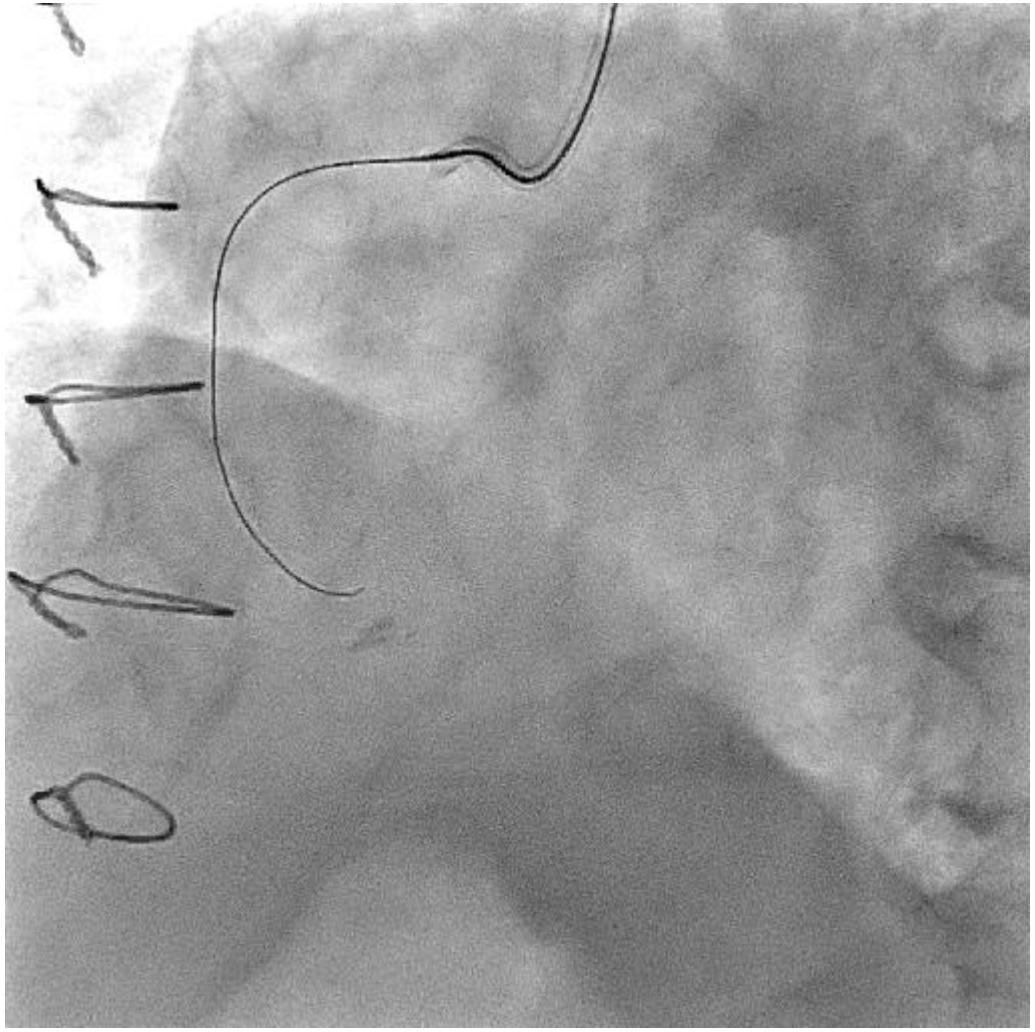

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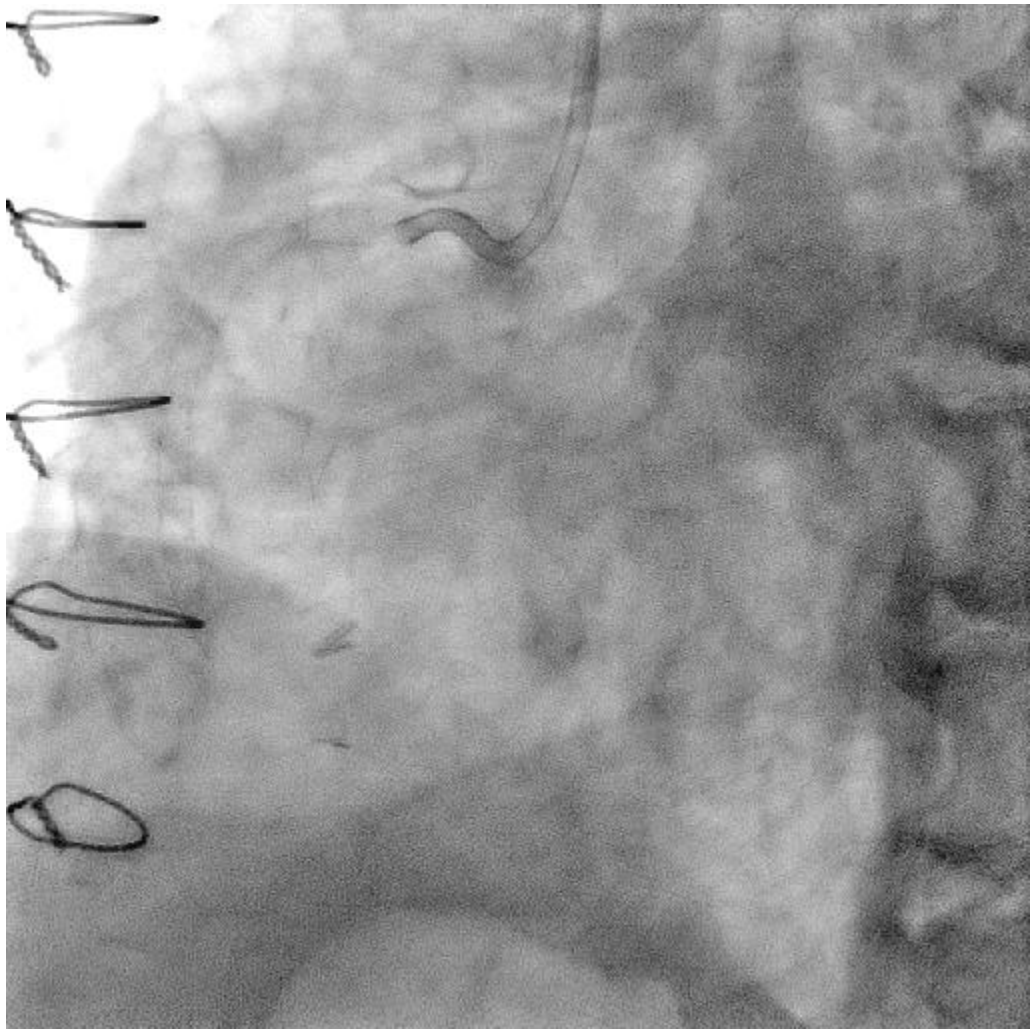

Current Parallel Wiring

- Large bore Guiding (=>7F)
- Based on DLC (Dual Lumen Catheter)
- Second wire on the OTW lumen
- Gaia 2 ,3, Conquest Pro as second one
- Orthogonal, multiple Fluoroscopic projections
- Good target visualization

Take home message

- Various kinds of double wire technique play a important role for increasing the success rate of complex CTO-PCI.

- If the 1st wire is in trouble, you should not hesitate to early use the parallel wire technique before the false lumen compress the collateral flow.

- Double lumen MC, which make wire exchange easier and act like two microcatheters, is useful tool for double wire technique.

Thank you for your attention !