

Approach from Epicardial Collateral for Retrograde CTO PCI: Its Application and Limitation

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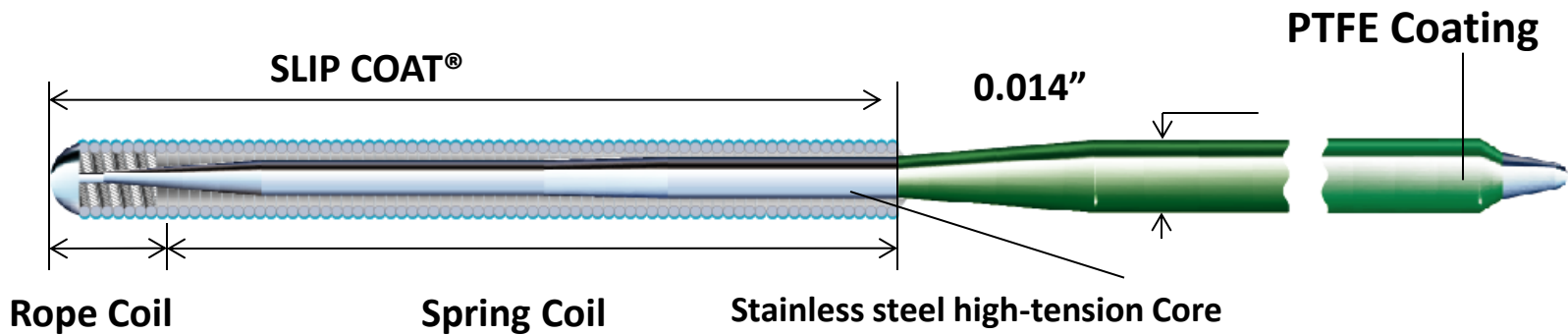
Potential conflicts of interest

Speaker's name: Satoru Otsuji

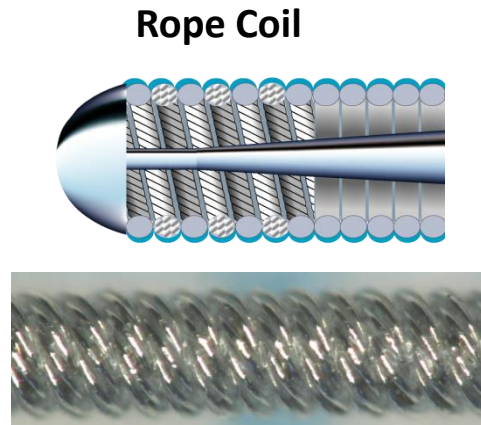
I do not have any potential conflict of interest

Innovation of guide wires for the retrograde approach from Japan

- Fielder FC
- Fielder XT
- SUOH
- SION
- SION blue
- Fielder XT-R

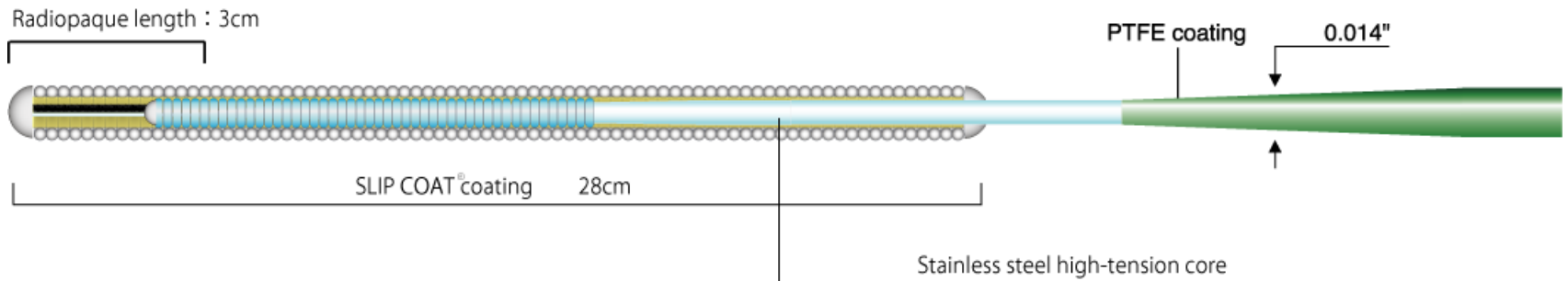


- **Tip Load** 0.5g
- **Radiopacity** 3cm
- **Coil** 21cm
- **Diameter** 0.014inch
- **Length** 175cm



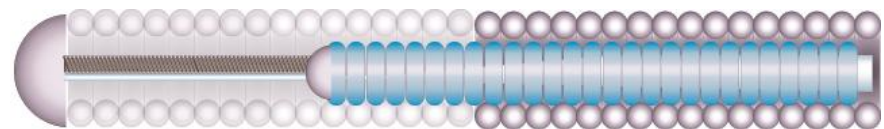
ASAHI SION

紫苑
PTCA GUIDE WIRE



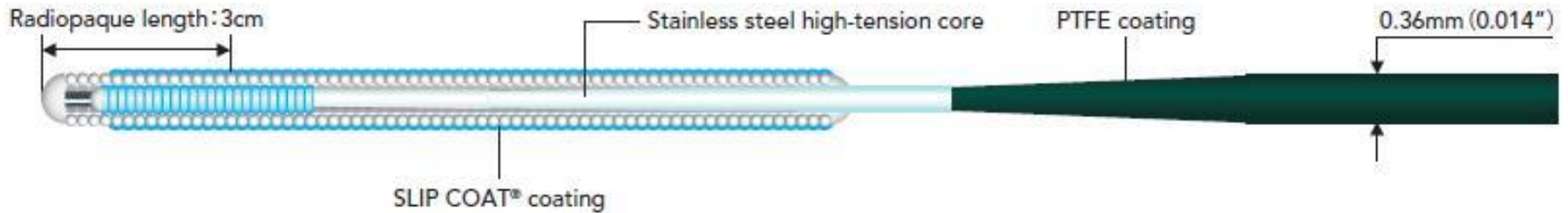
- Tip Load 0.7g
- Radiopacity 3cm
- Coil 28cm
- Diameter 0.014inch
- Length 175cm

Composite Core

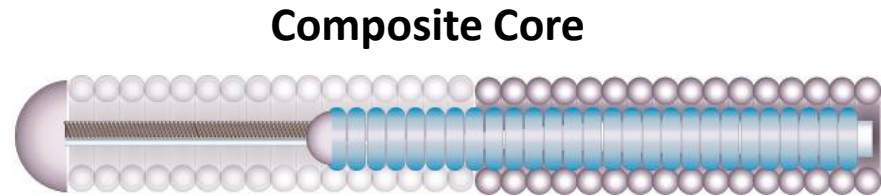


ASAHI SION blue

紫苑
PTCA GUIDE WIRE

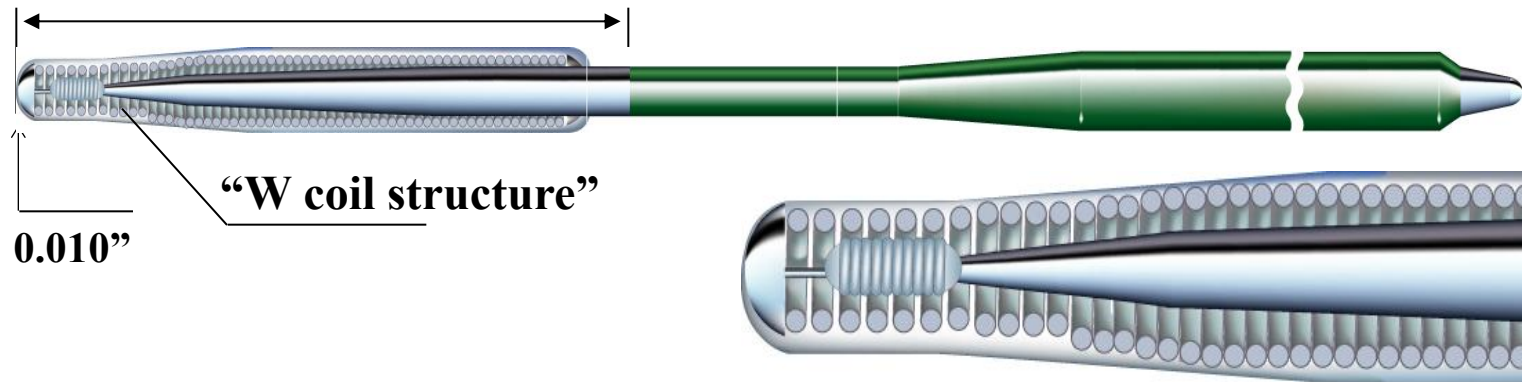


- Tip Load 0.5g
- Radiopacity 3cm
- Coil 20cm
- Diameter 0.014inch
- Length 175cm



Fielder XT-R

Polymer jacket with hydrophilic coating ;16cm



More controllable & safe collateral channel tracking

- Softer tip ; **Tip load = 0.6g**
- Superb torque response **“No whip”**
- Durable tip

Characteristics of epicardial channel

- Tortuous
- Long distance
- Ineligible for balloon dilation
- Rupture causes tamponade
- Stretching by micro catheter causes ischemia
- Stretching by micro catheter sometimes necessary to advance the wire

Essential property of guide wires for the epicardial channel crossing

- Floppy
- Lubricity
- Durability
- 0.014" preferable
- Torquability (Sometimes wire advances when unwinding a torque)

CTO PCI in 2010: Data from retrograde summit in Japan

Elective PCI: n=14039 (24 hospitals)



10.5%

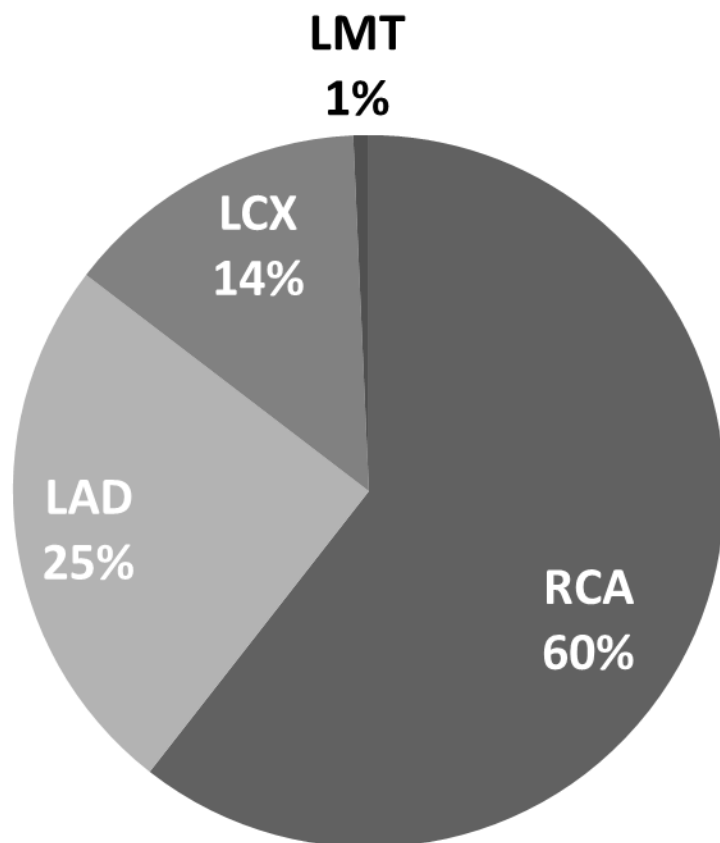
CTO PCI: n=1472



28.7%

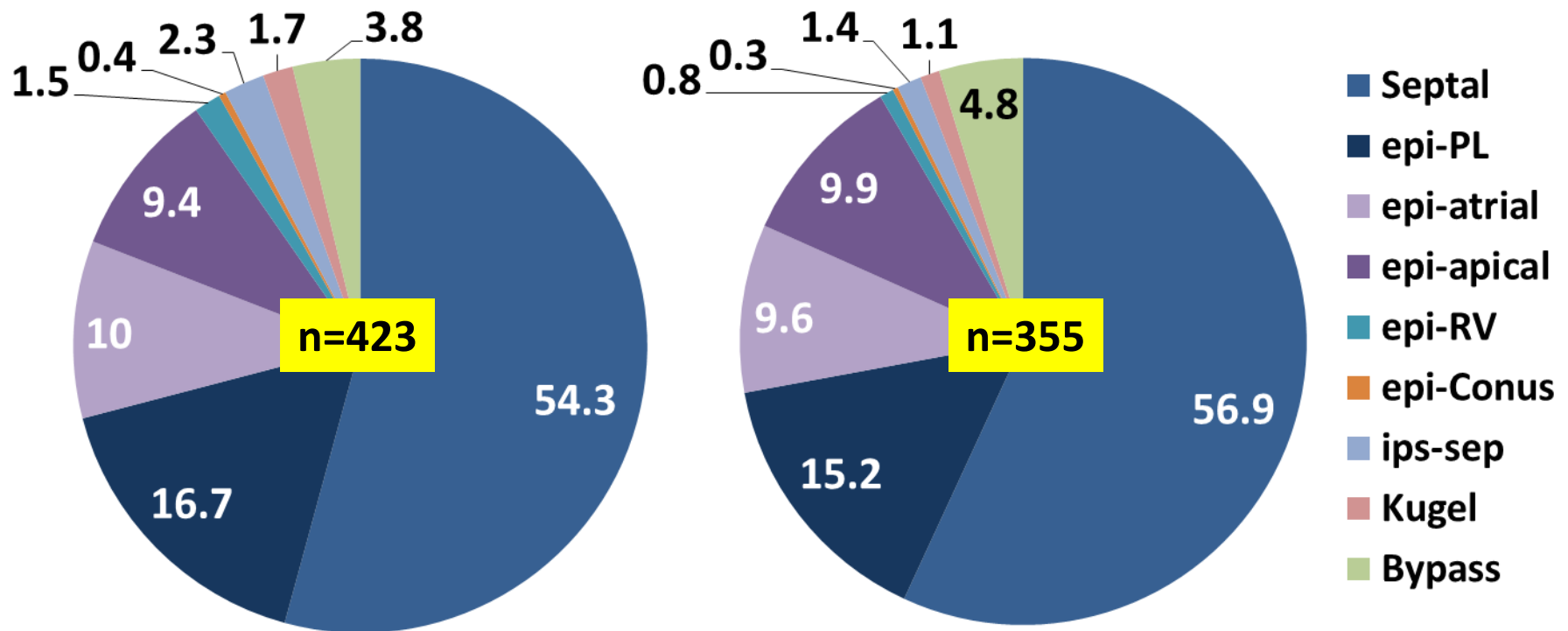
Retrograde PCI: n=423

Lesion characteristics



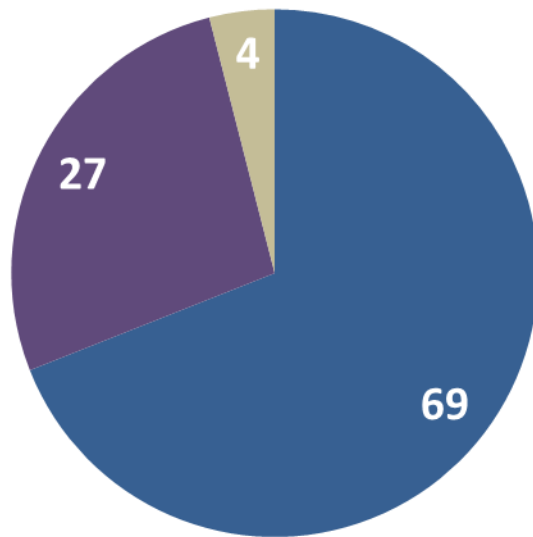
Calcification	56.8%
Occlusion length	
<20mm	18.0%
≥20mm	82.0%
Reference Diameter	
<3.0mm	32.1%
≥3.0mm	67.9%
Occlusion period	
<1 year	7.6%
≥1 year	42.1%
unknown	50.4%

Attempted and successfully crossed collaterals



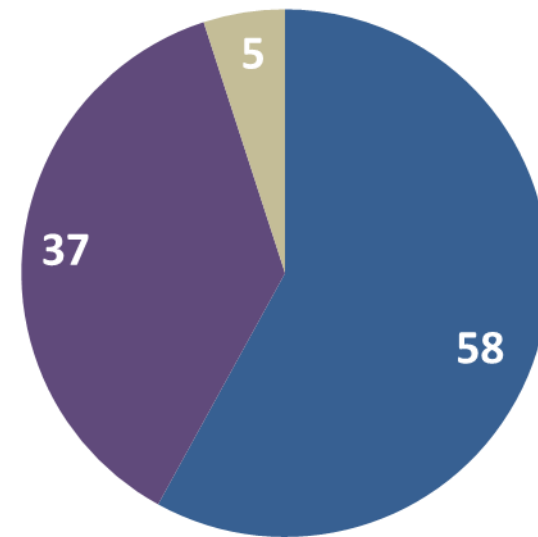
Successfully crossed collaterals: Comparison between 2009 and 2010

2009



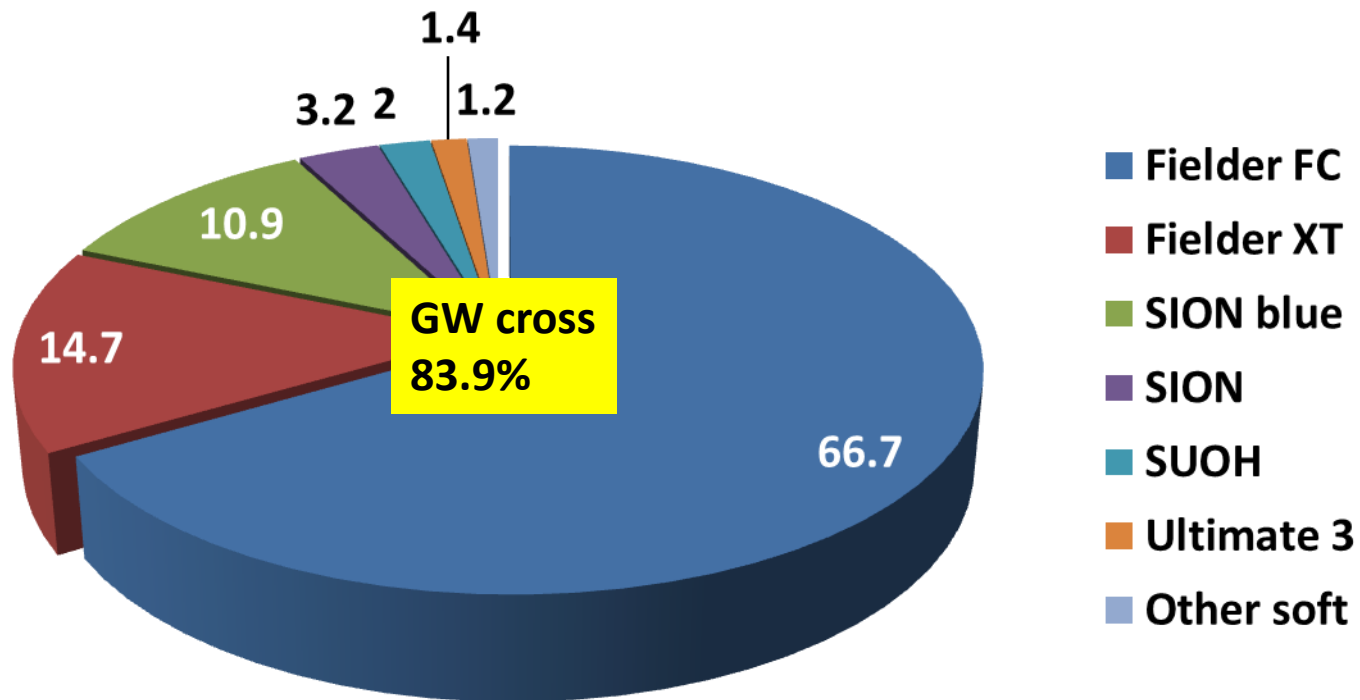
■ Septal ■ Epicardial ■ Bypass

2010



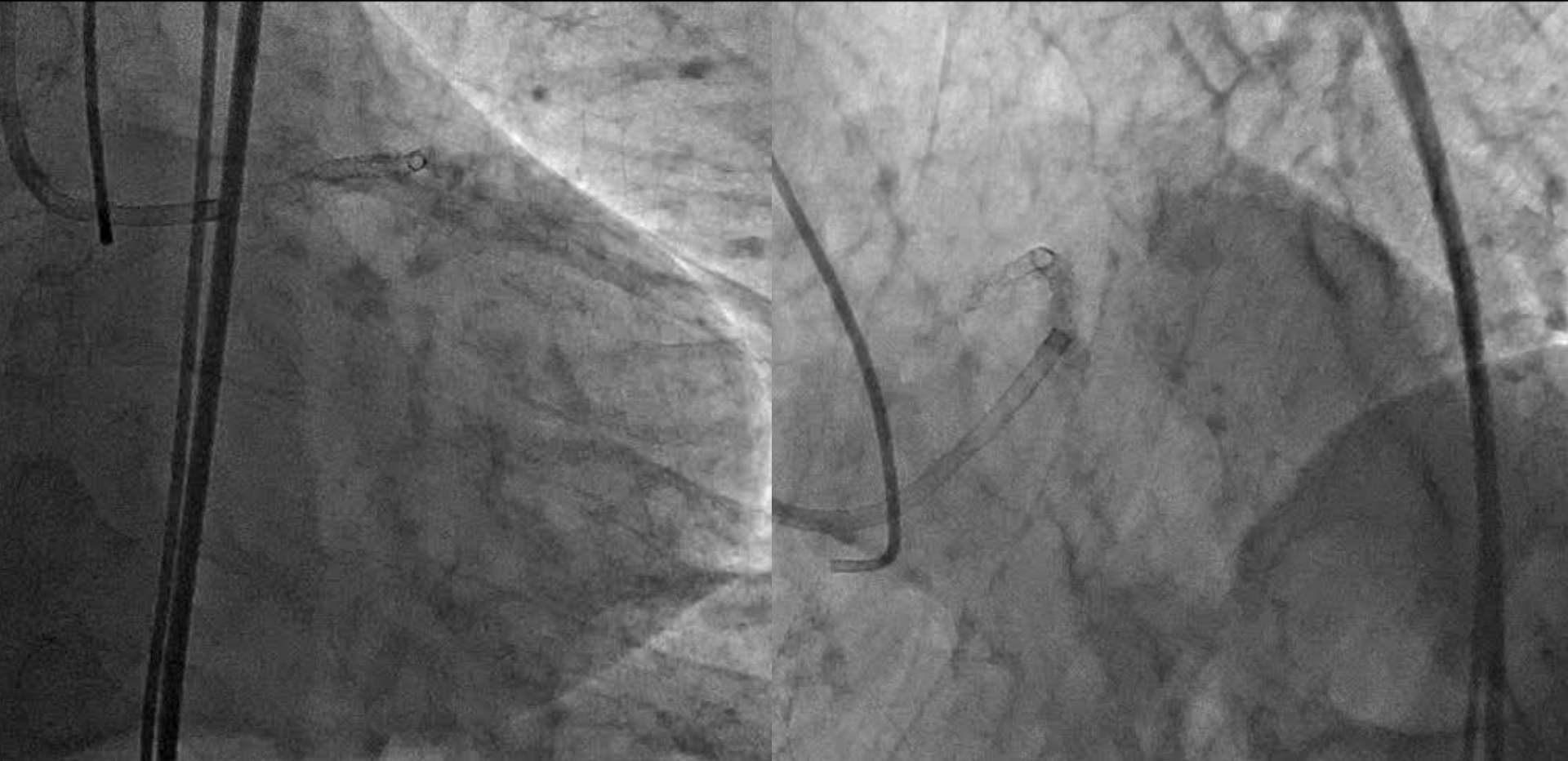
■ Septal ■ Epicardial ■ Bypass

Types of guide wire applied for collateral crossing

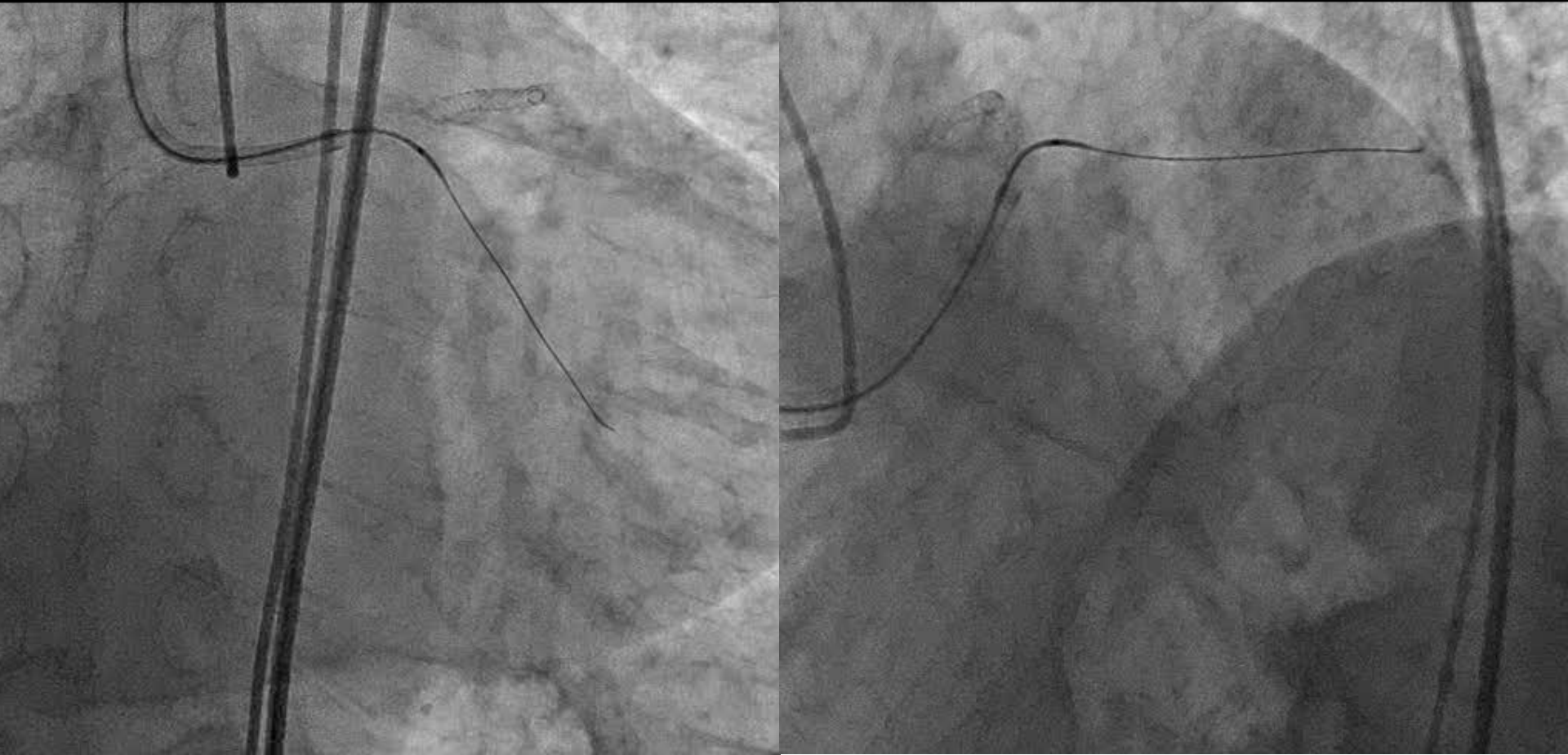


Type of wire

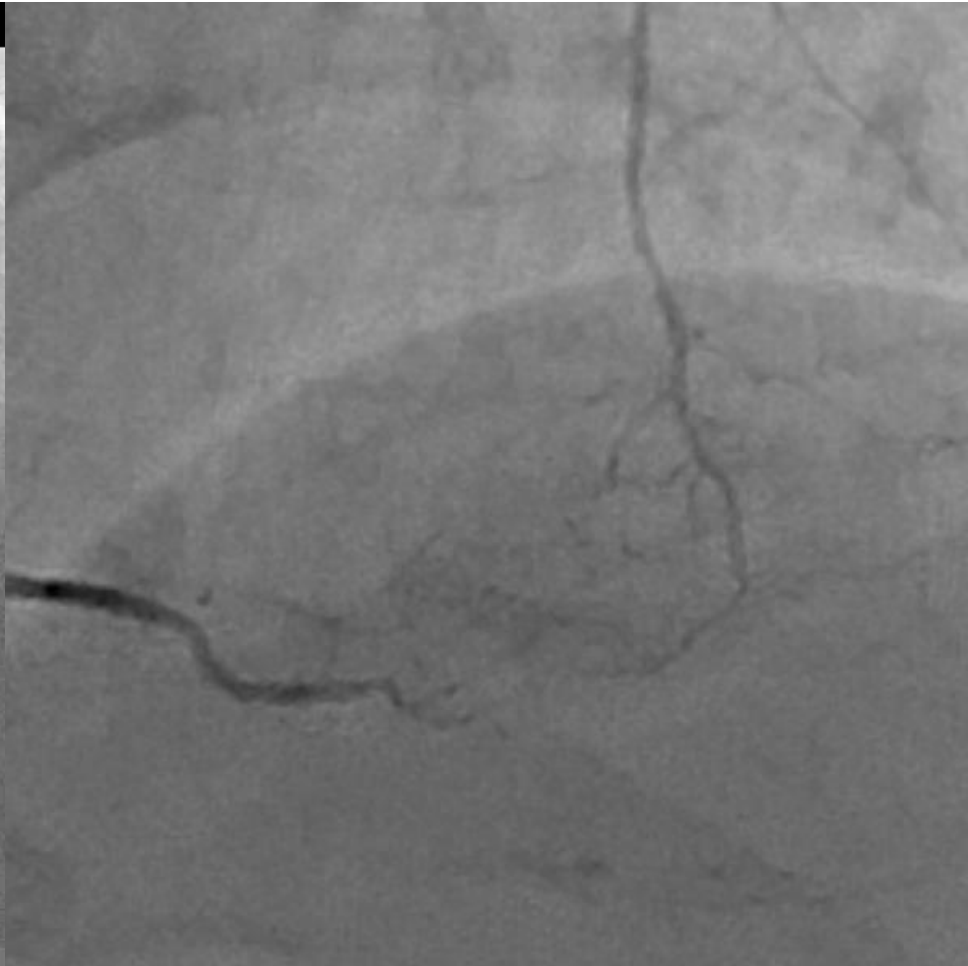
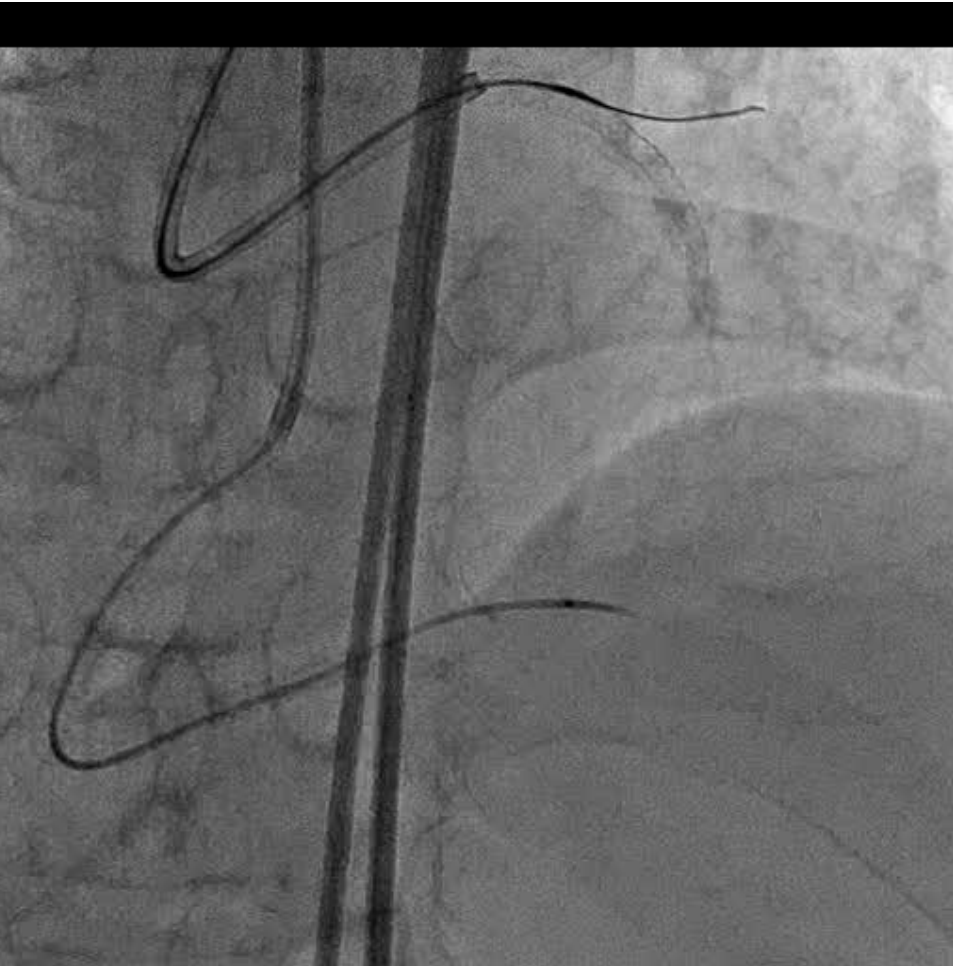
LCX CTO: Retrograde approach via PL channel



Unsuccessful antegrade wiring



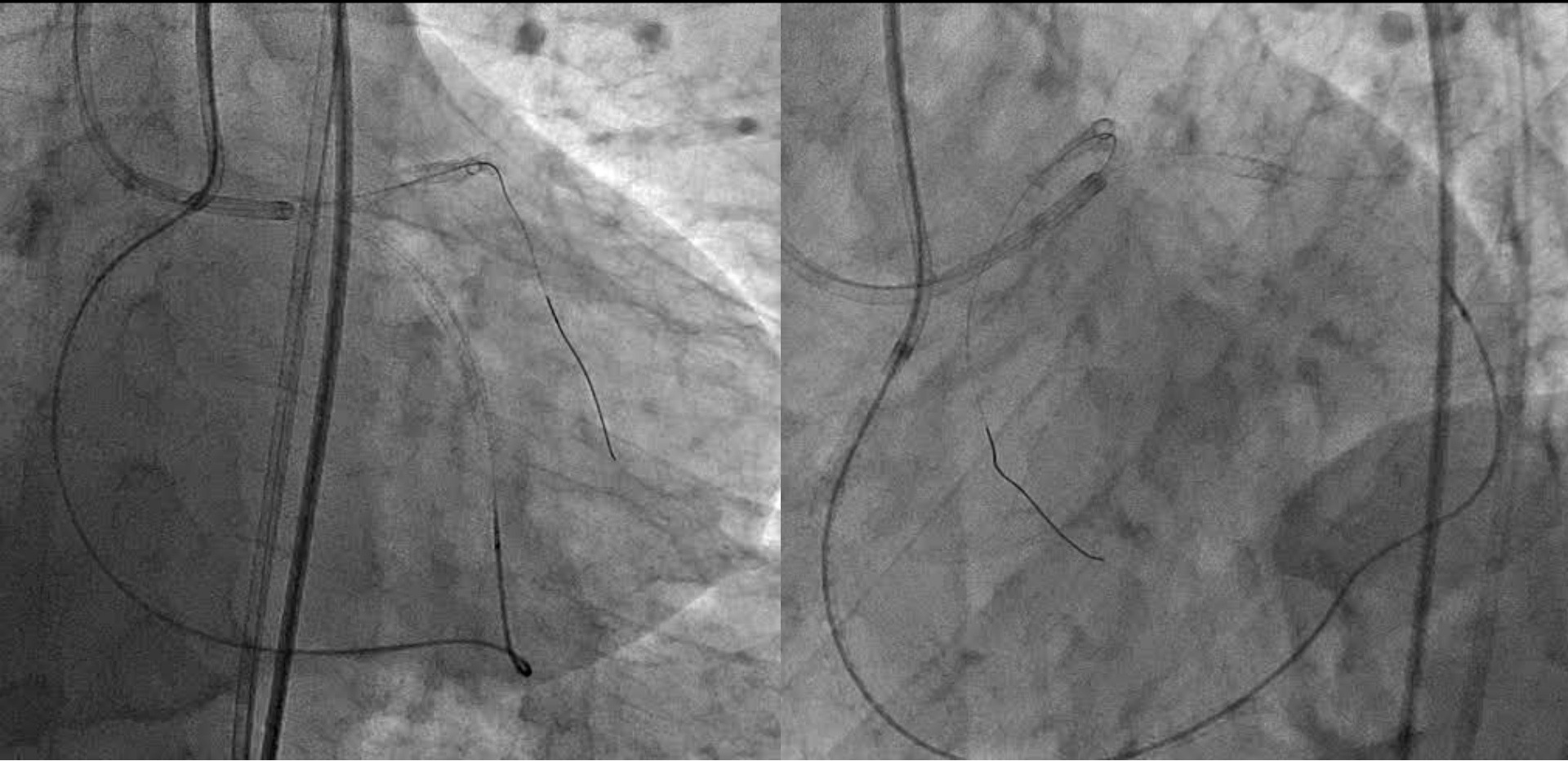
Epicardial PL channel



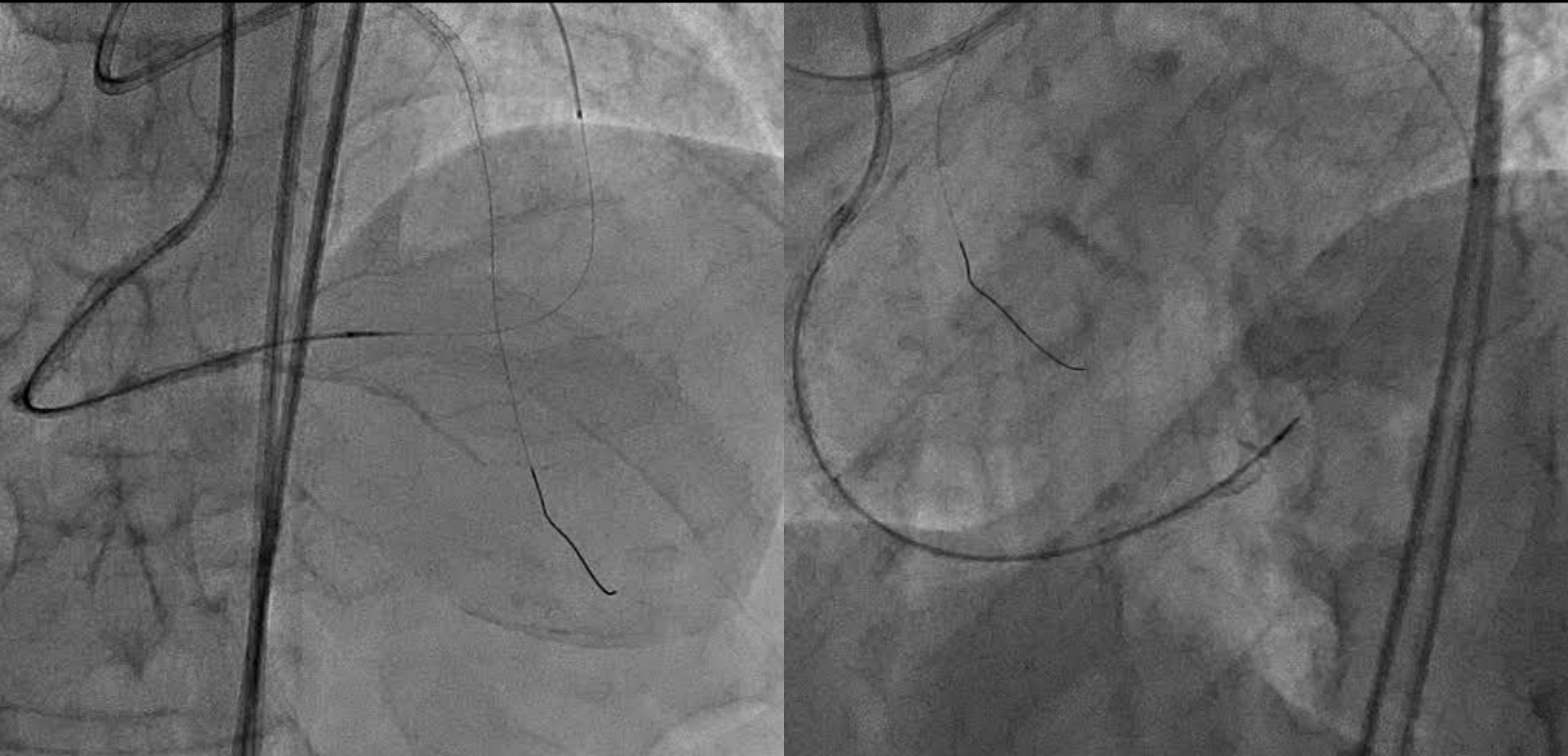
Retrograde wiring and reverse CART



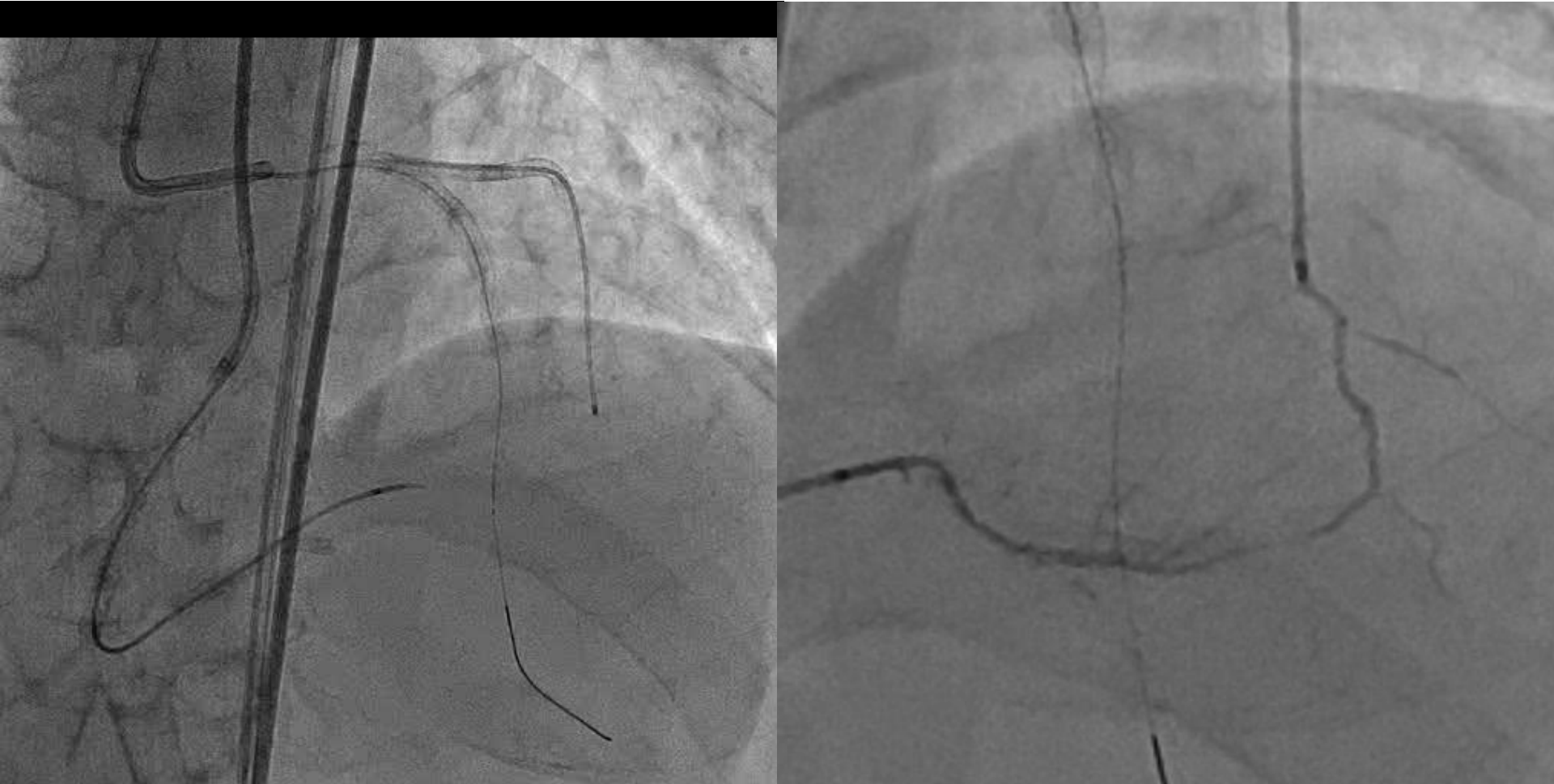
Angiograms post stent implantation



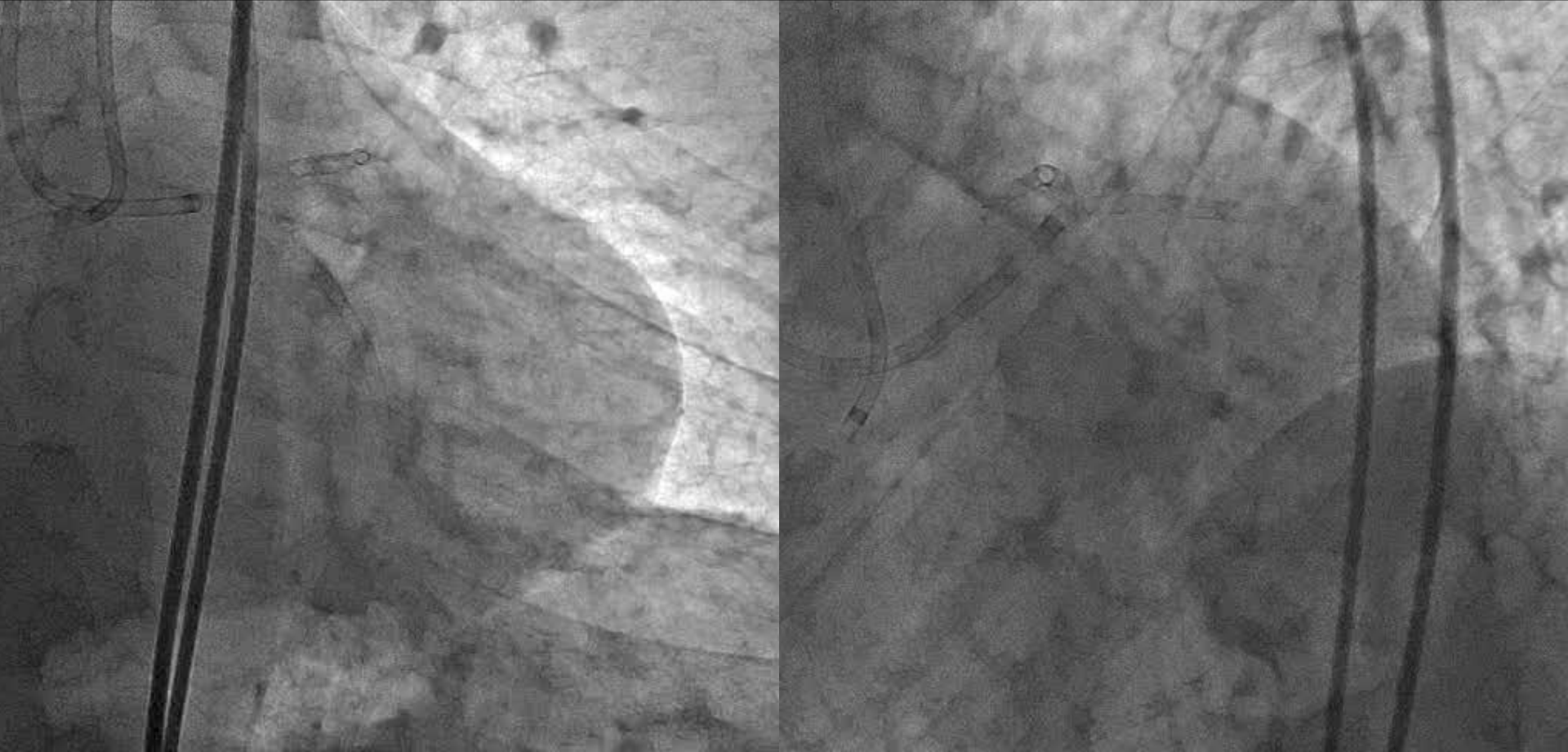
Confirmatory angiograms pre wire removal



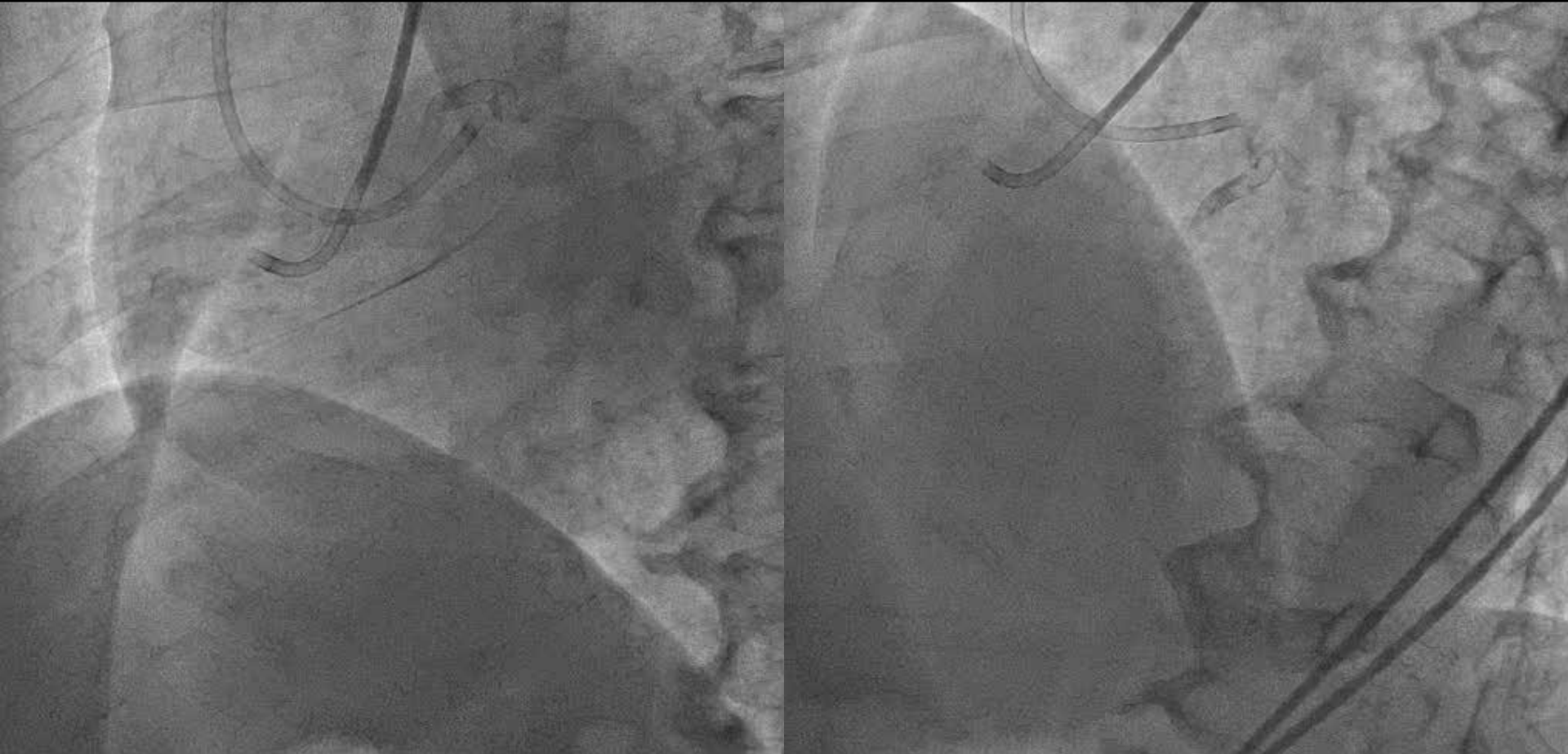
Collateral angiograms post wire removal



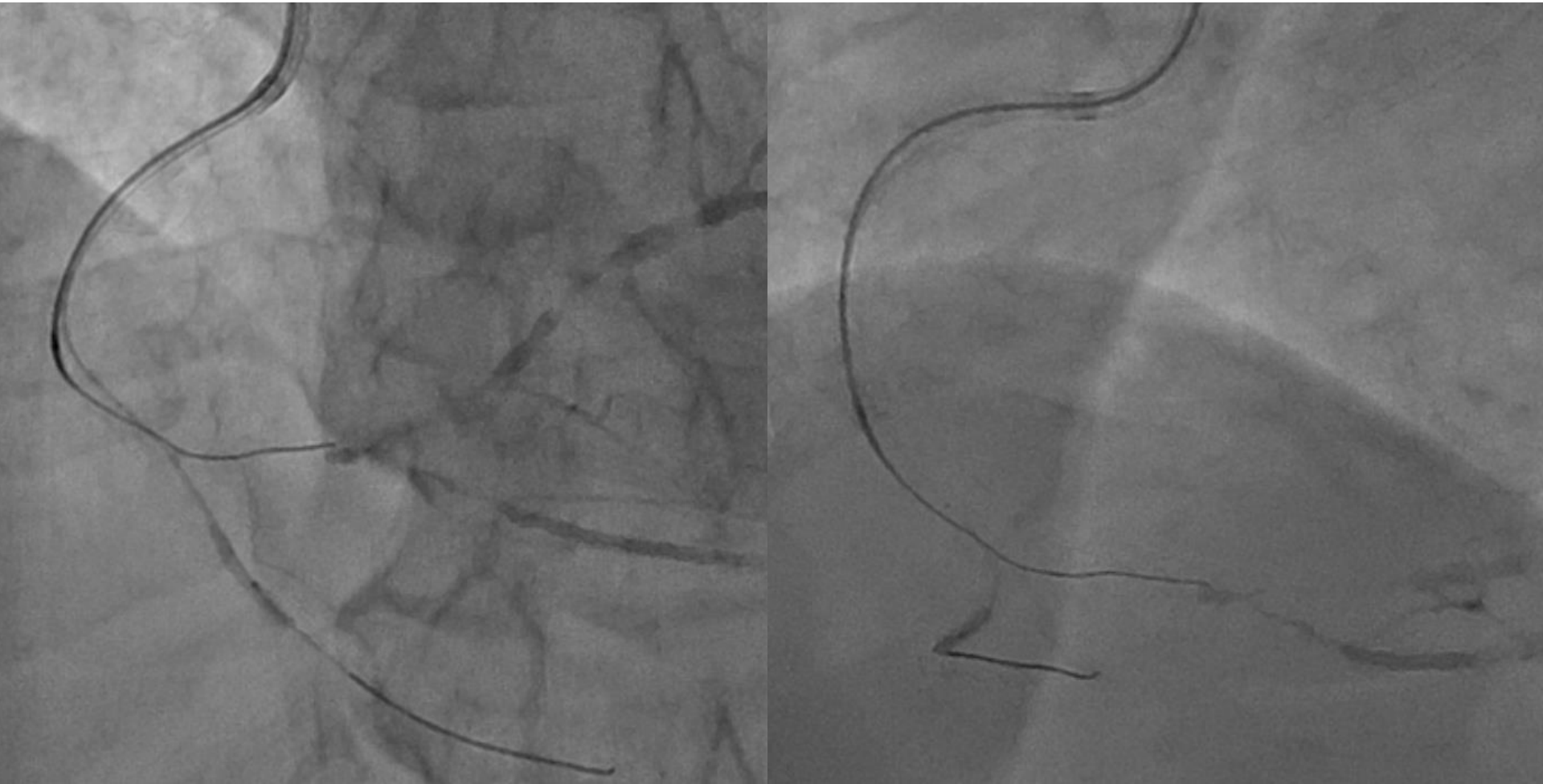
Final angiograms



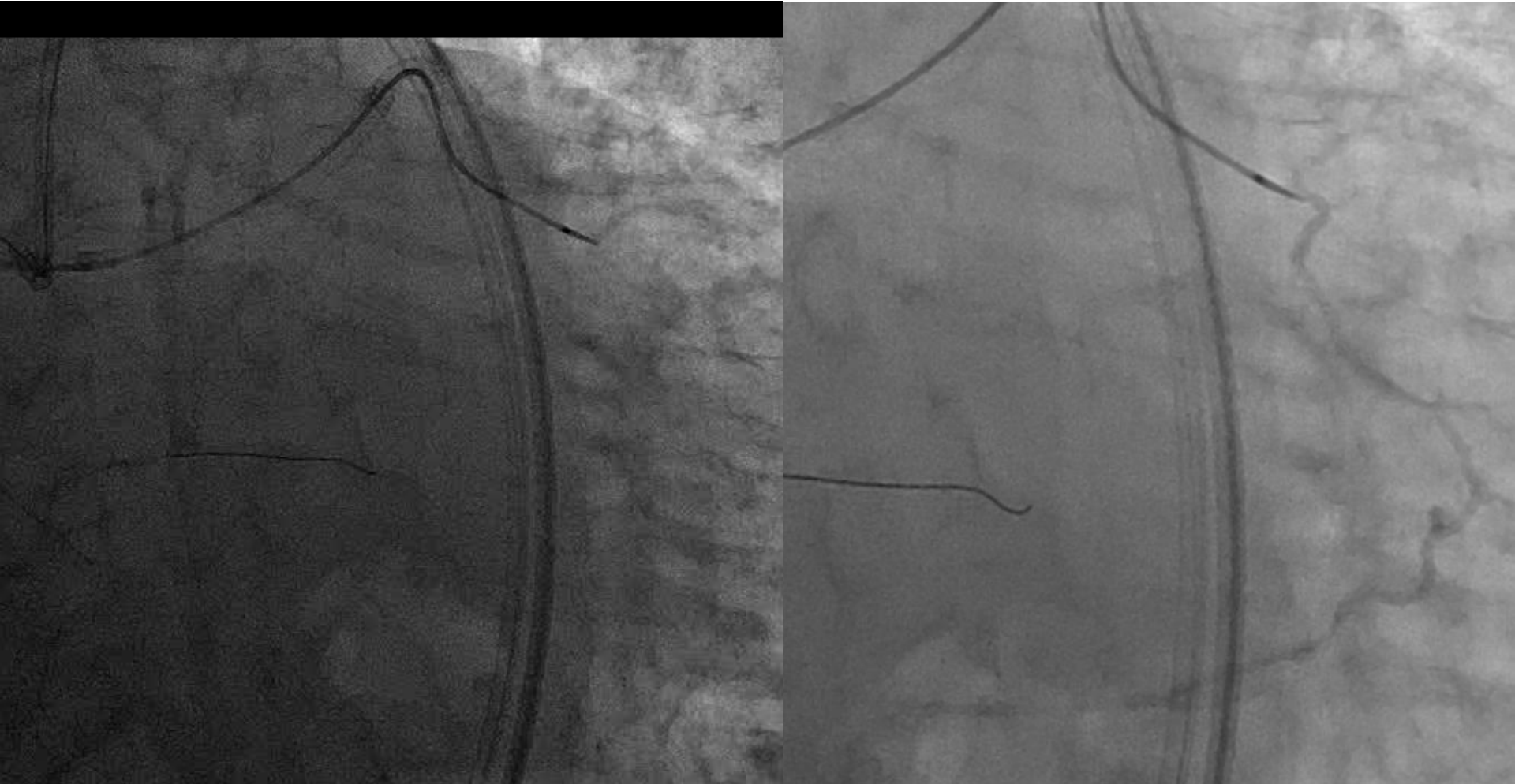
RCA CTO: Retrograde approach via apical channel



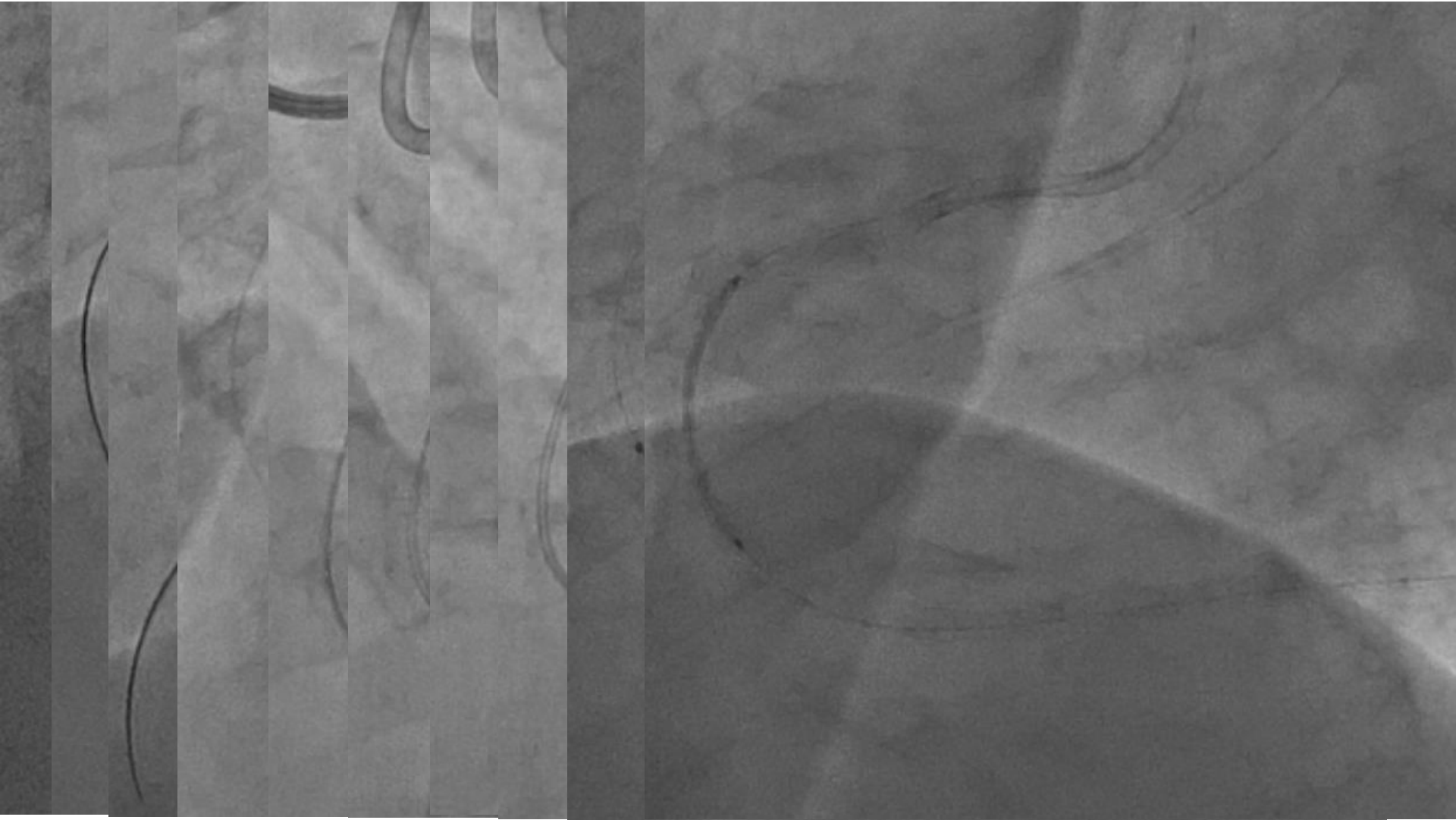
Unsuccessful antegrade wiring



Apical direct channel

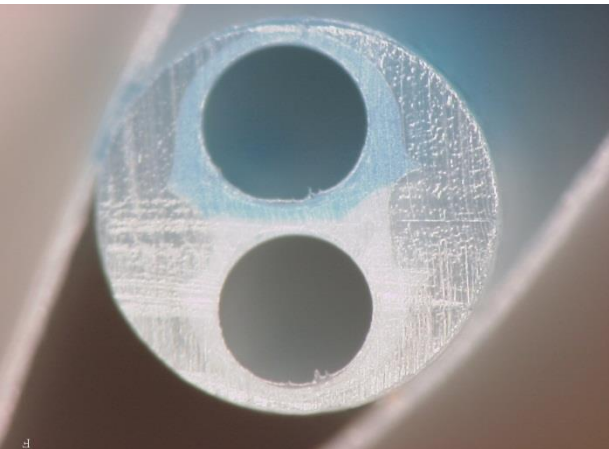


Retrograde wire passing and stenting



Crusade

Catheter with two Guidewire lumen (RX,OTW)

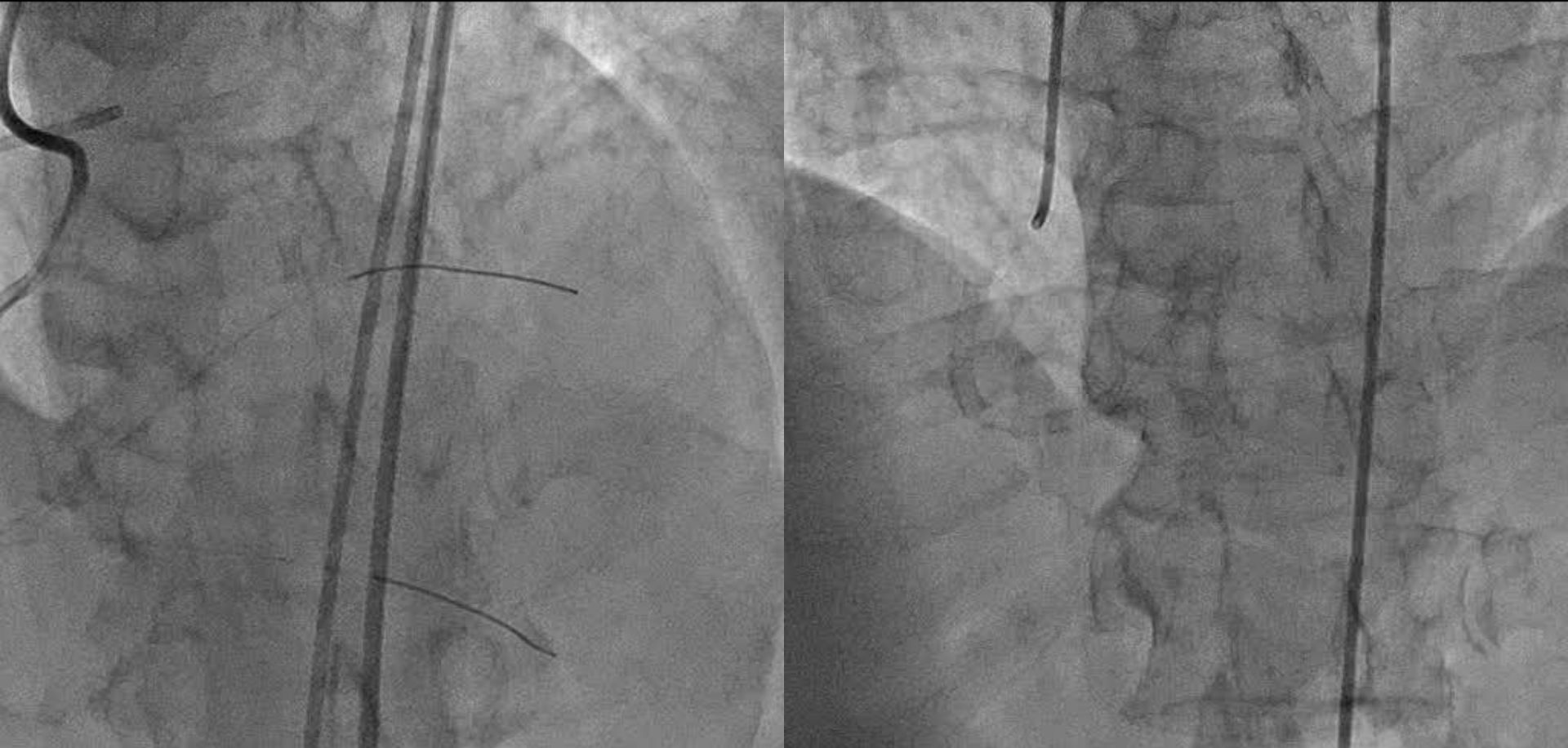


Used for : Side Branch Access

Donor artery spasm



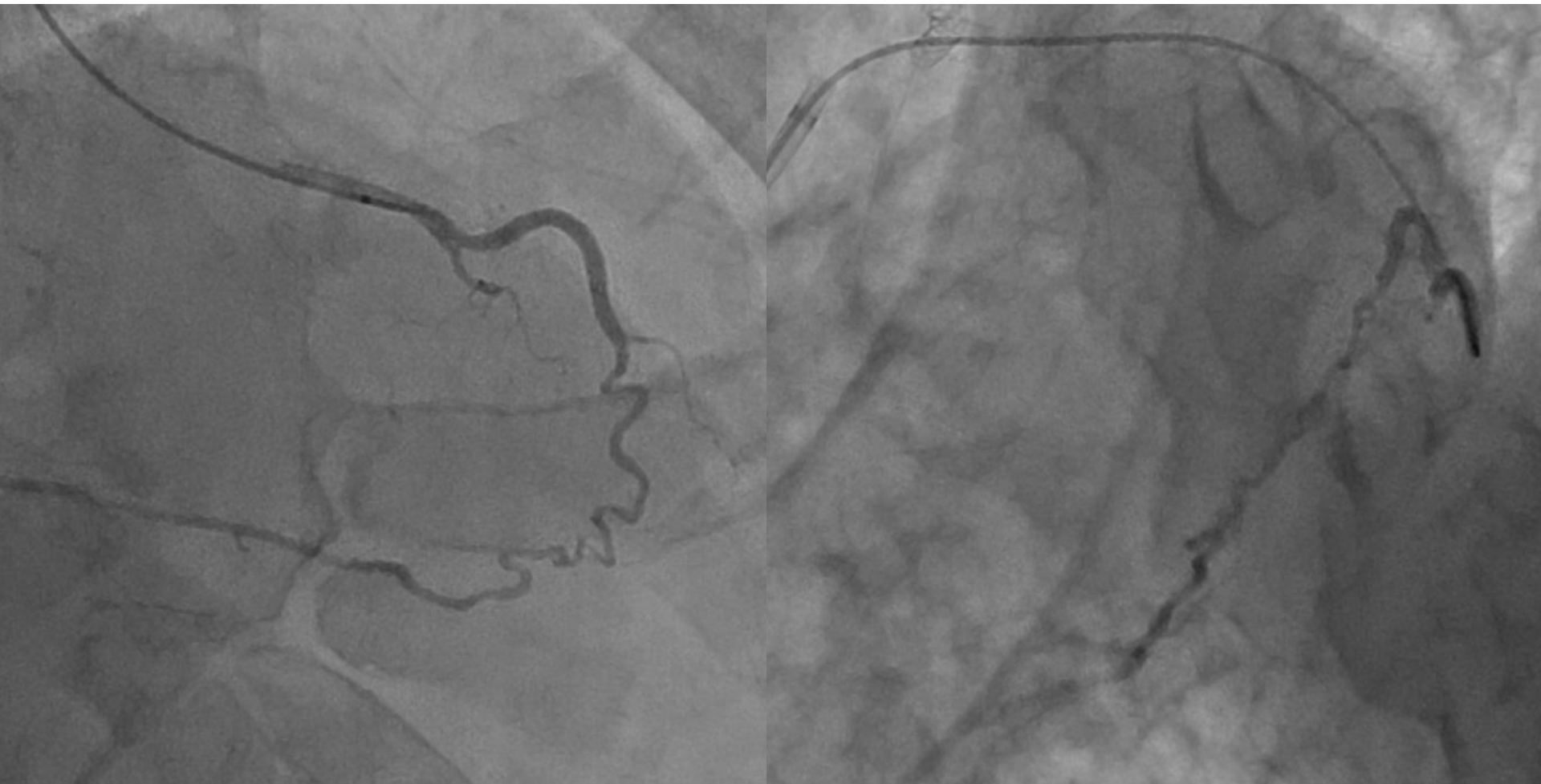
Recovering spasm and final angiograms



RCA CTO: unable to cross the collateral channel



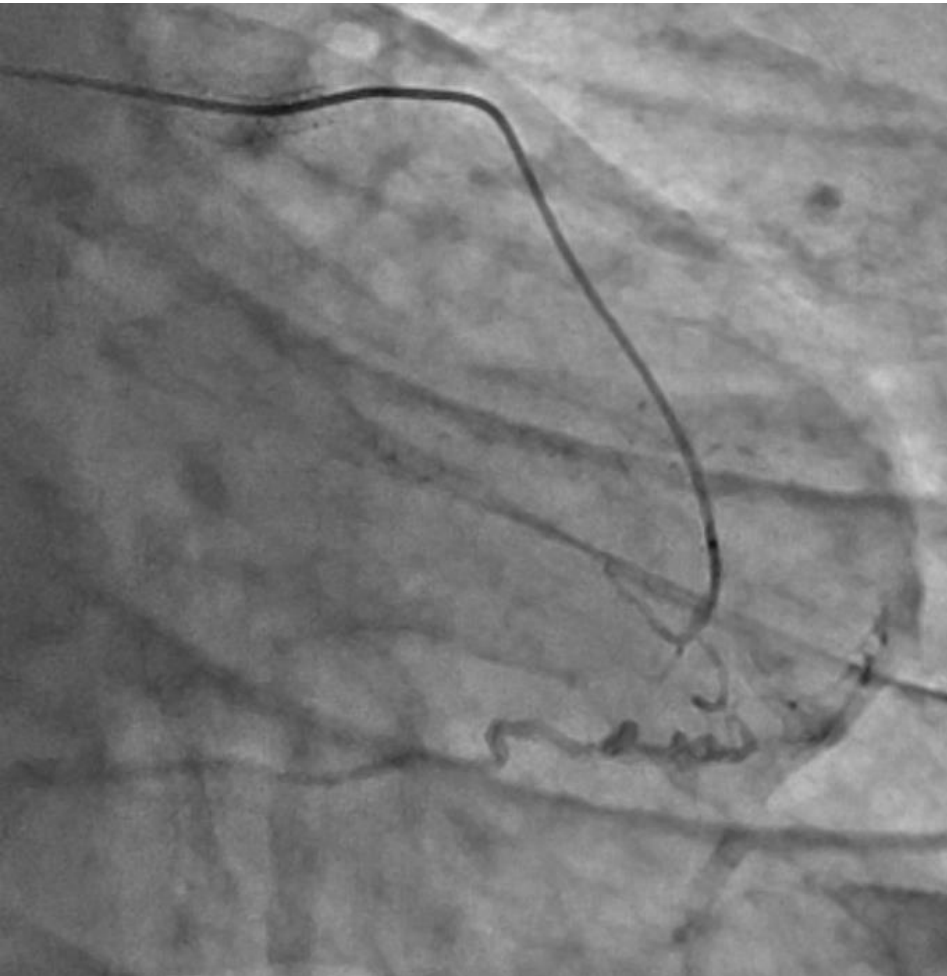
Direct well developed epicardial collateral channel from LCX



Difficult for advancing the wire even with a knuckle method



Direct well developing epicardial collateral channel from LAD



Messages

- **Recent advancement of guide wire and micro catheter expands its indication to the epicardial channel in retrograde approach.**
- **However, at present, there is no proper indication of vessel size for applying it, therefore, meticulous attention is needed to prevent complications.**

