

IVUS Guided : When and How?

Toyohashi Heart Center
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Step by Step Approach

**Antegrade Approach
with Single Wire**



Parallel Wire Technique



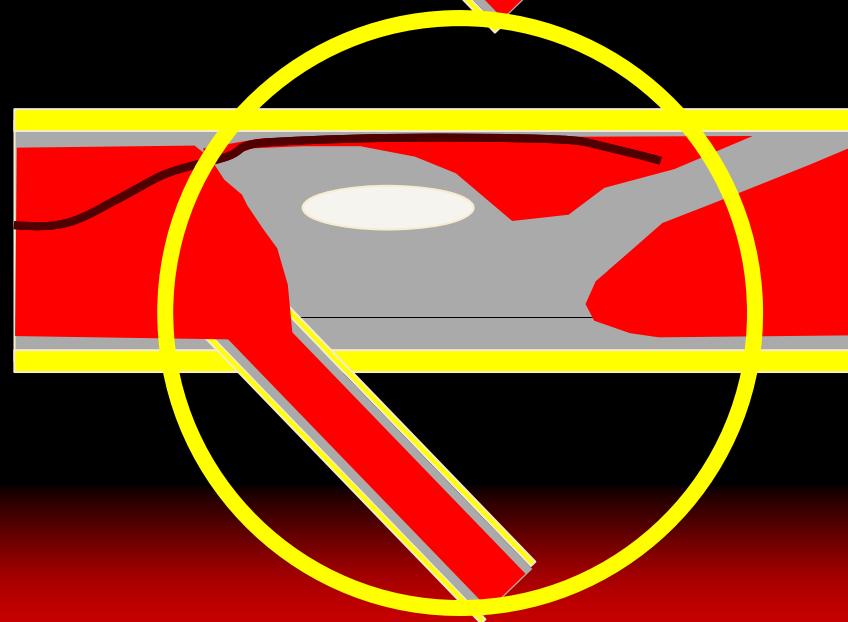
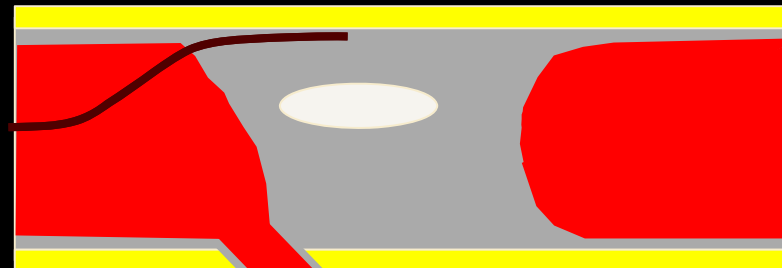
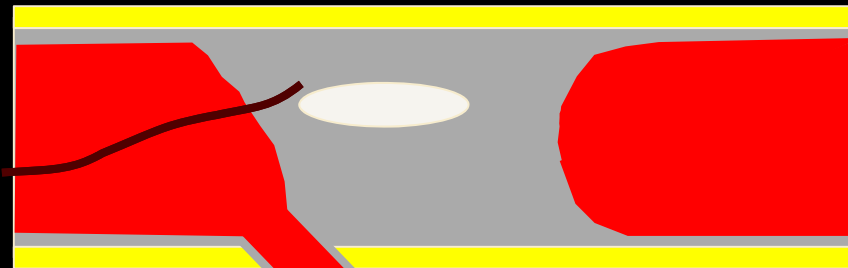
Retrograde Approach



IVUS Guided Wiring

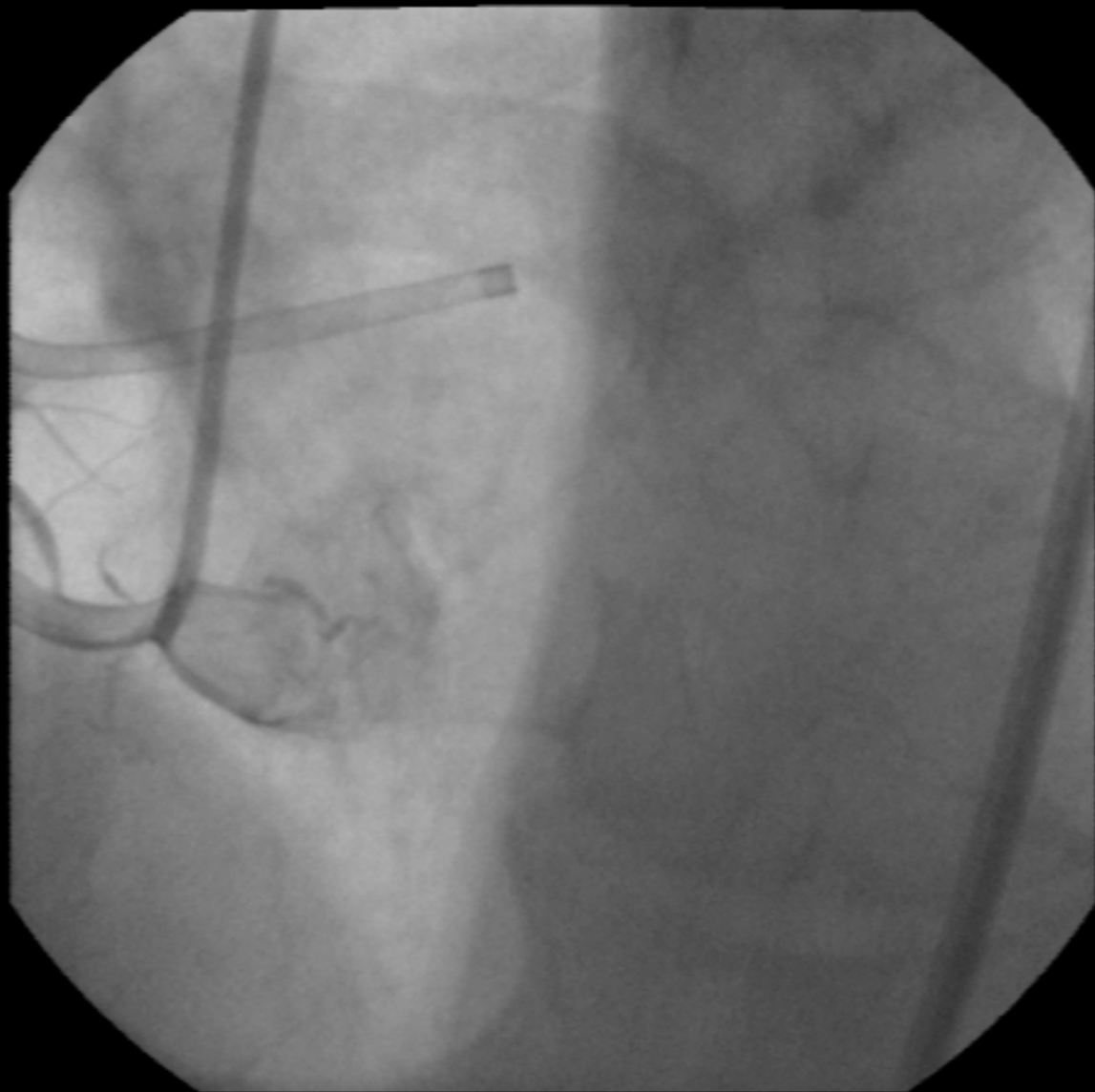


Failed Antegrade Wiring





Case 1

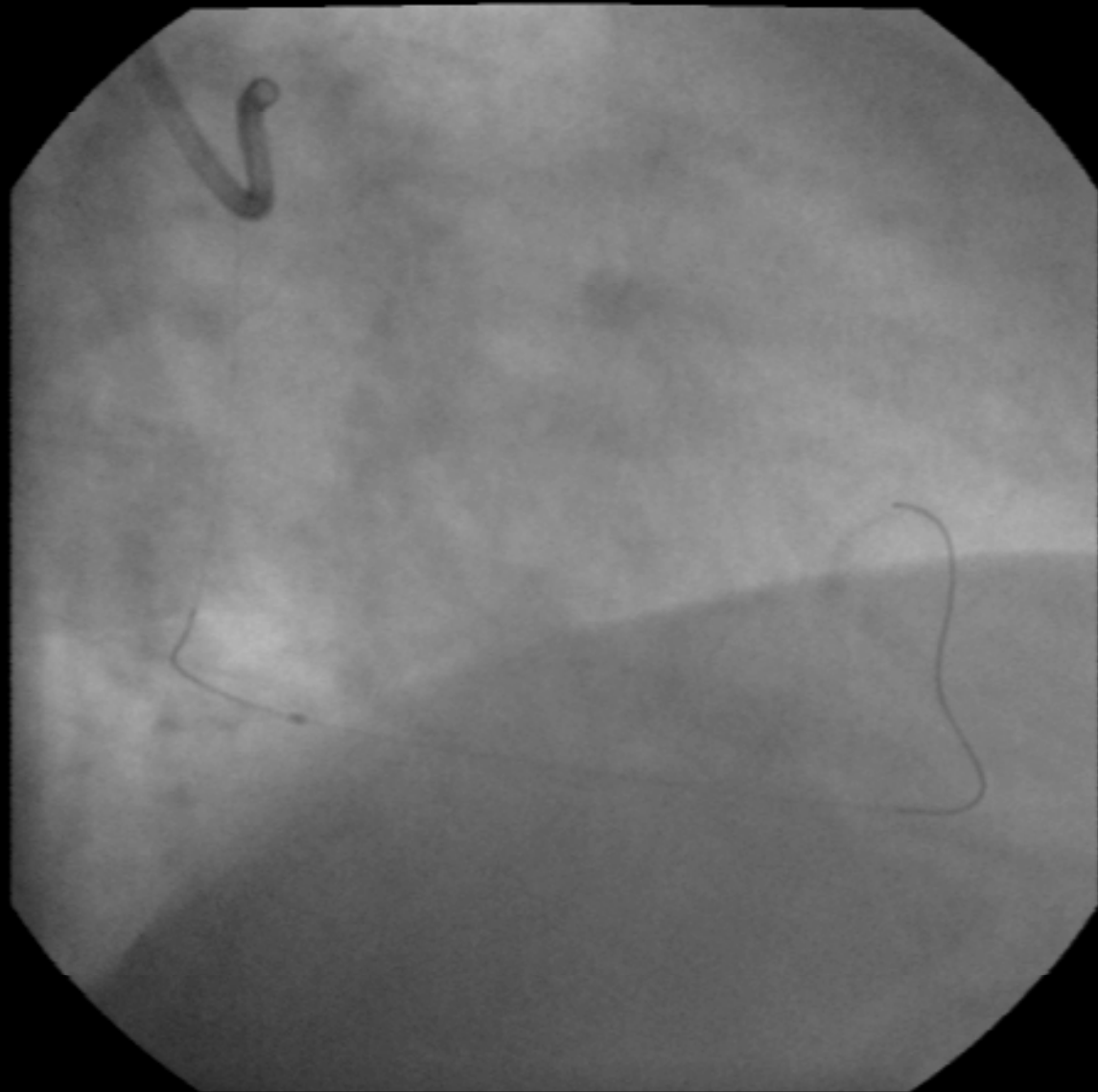




**Retrograde
Approach**

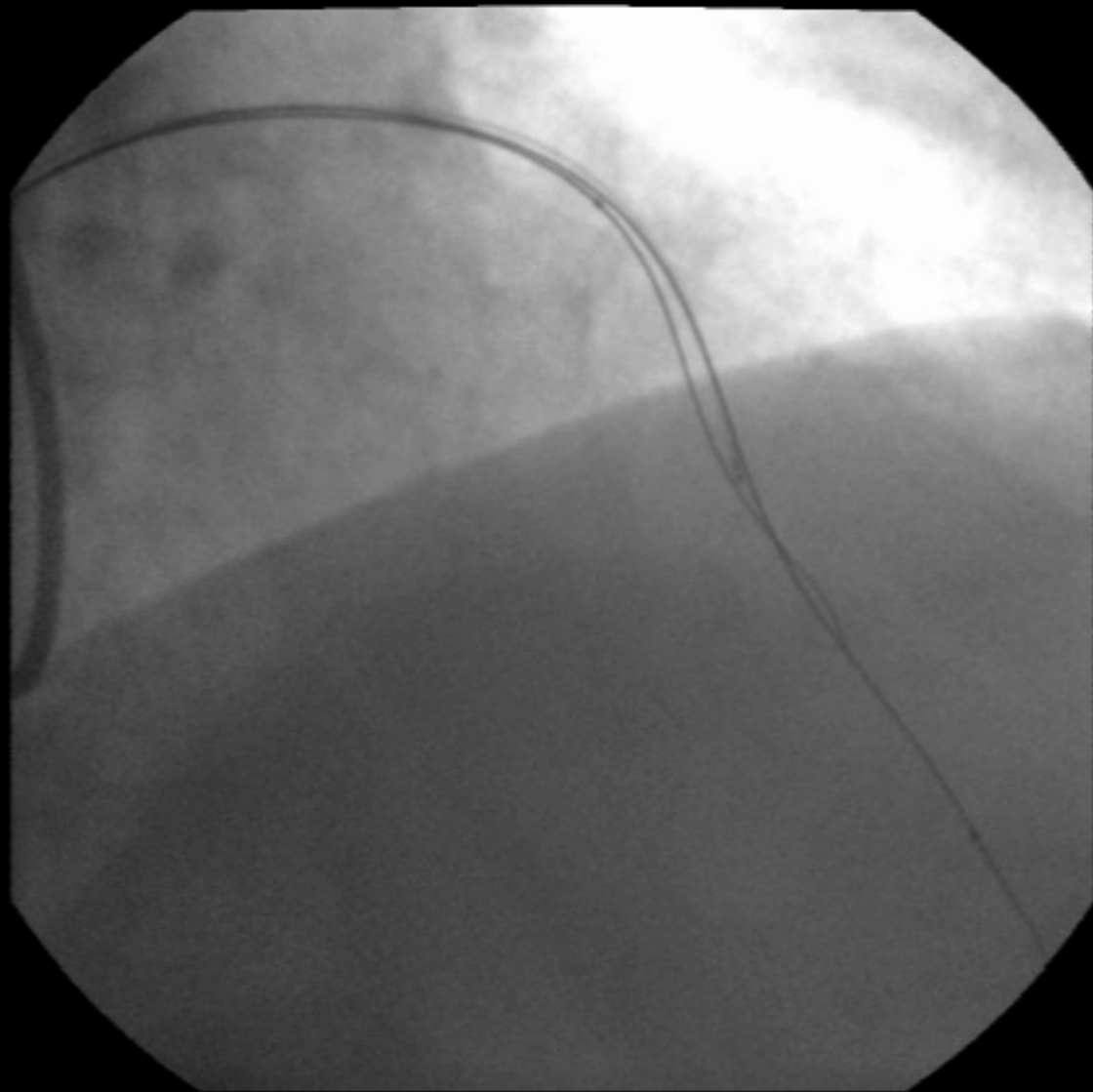


Failure





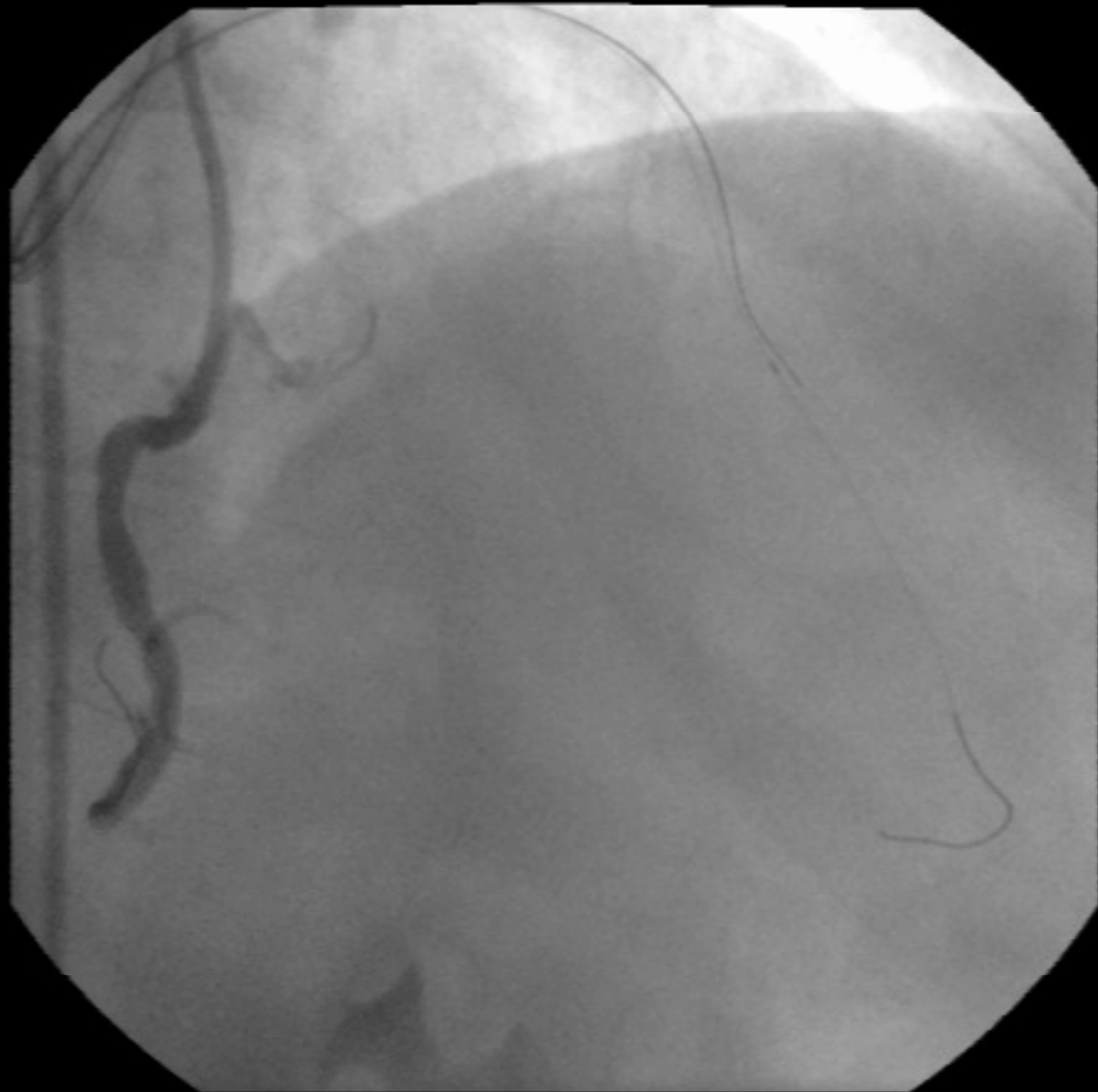
IVUS Guided Wiring





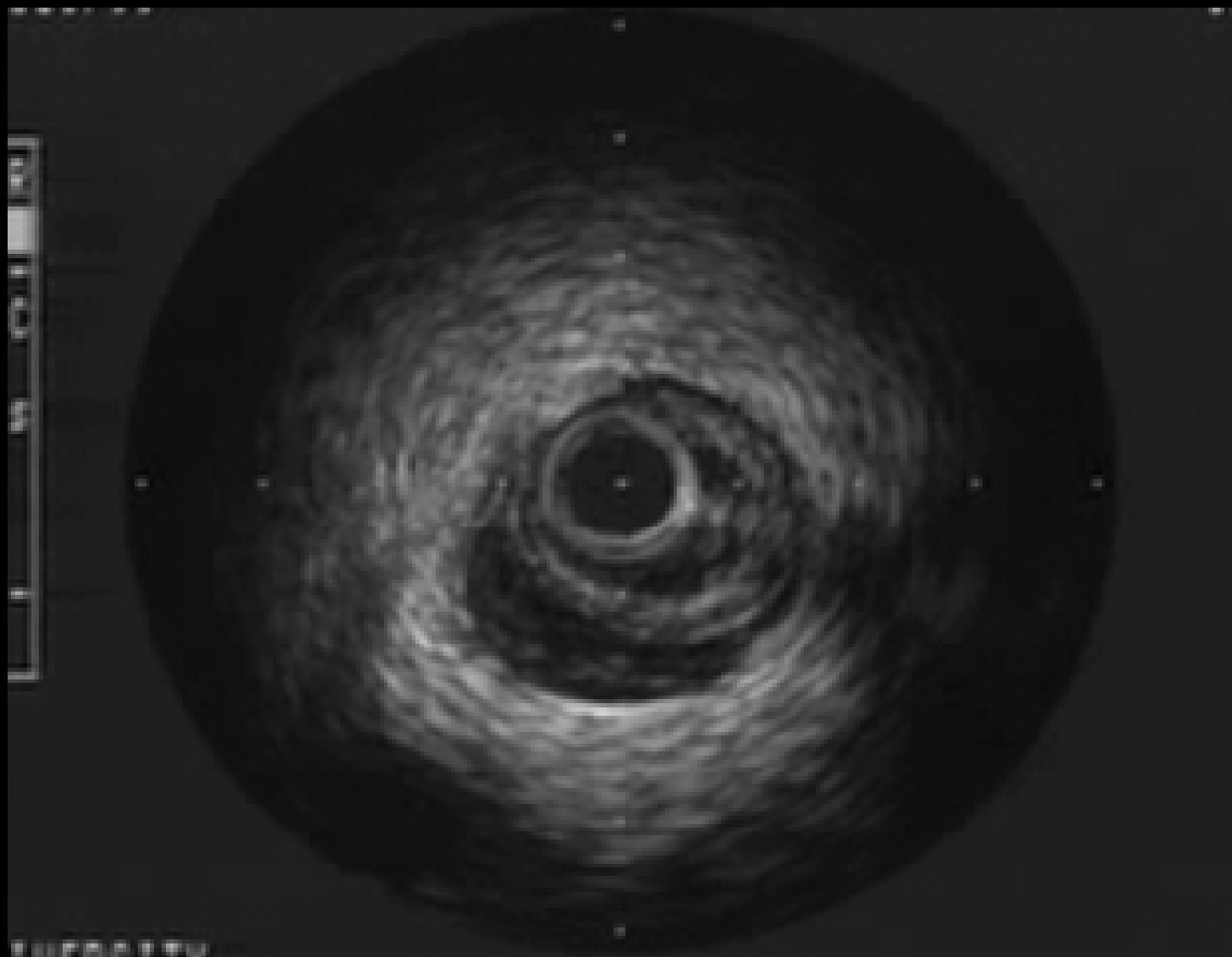
Successful Wiring

Confianza
Pro 8-20



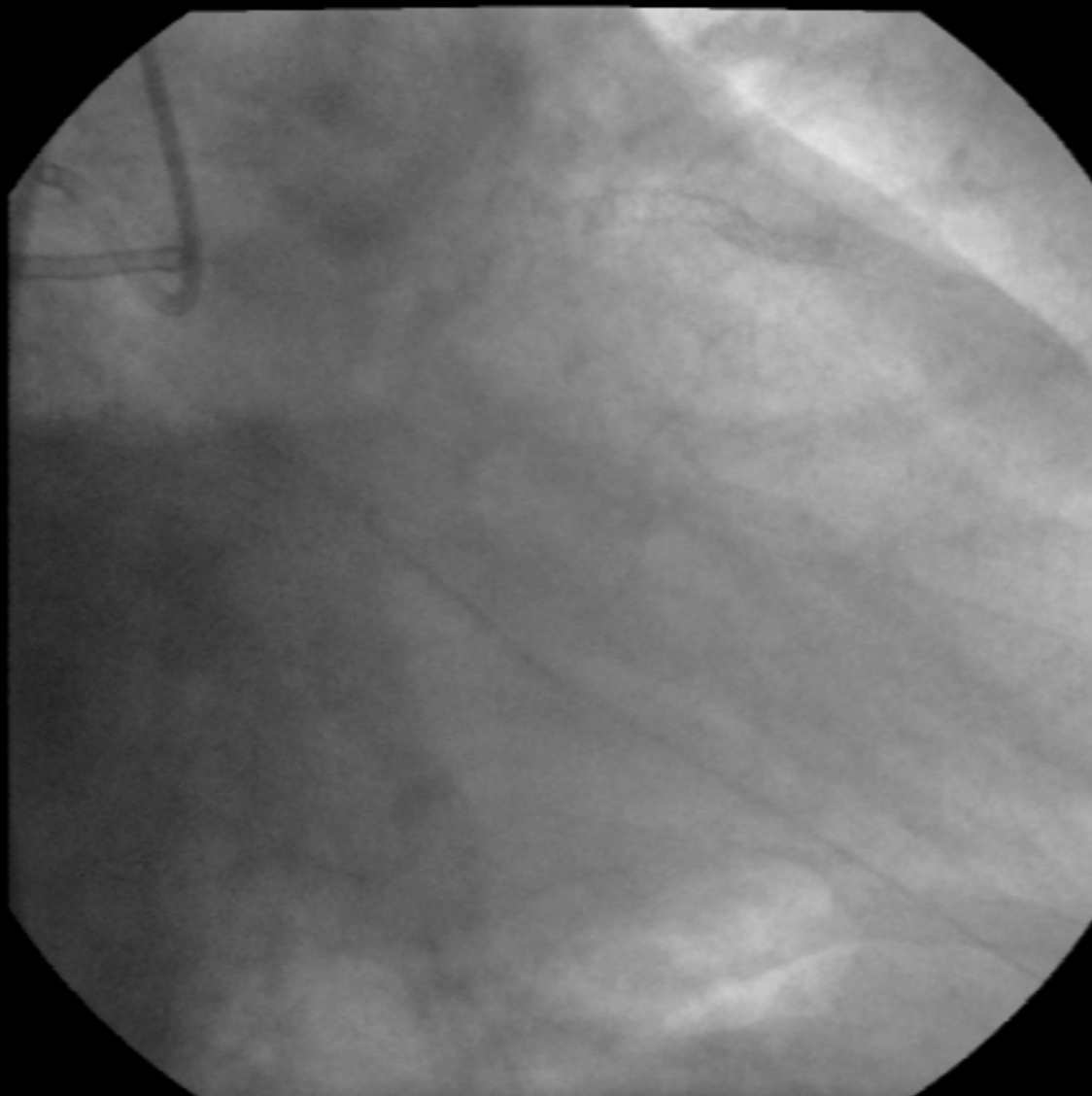


IVUS



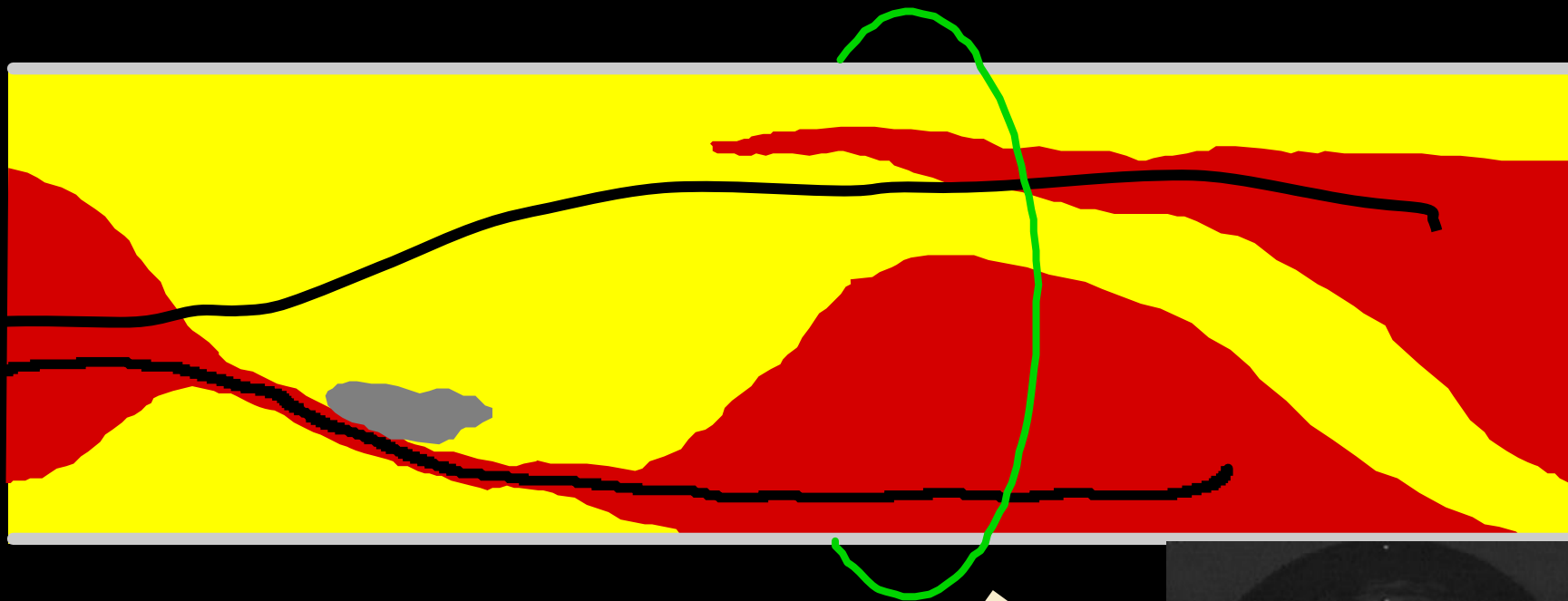


Final

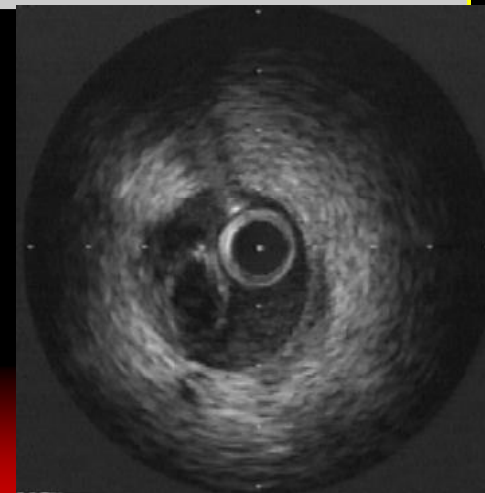




Where should the 2nd wire run?



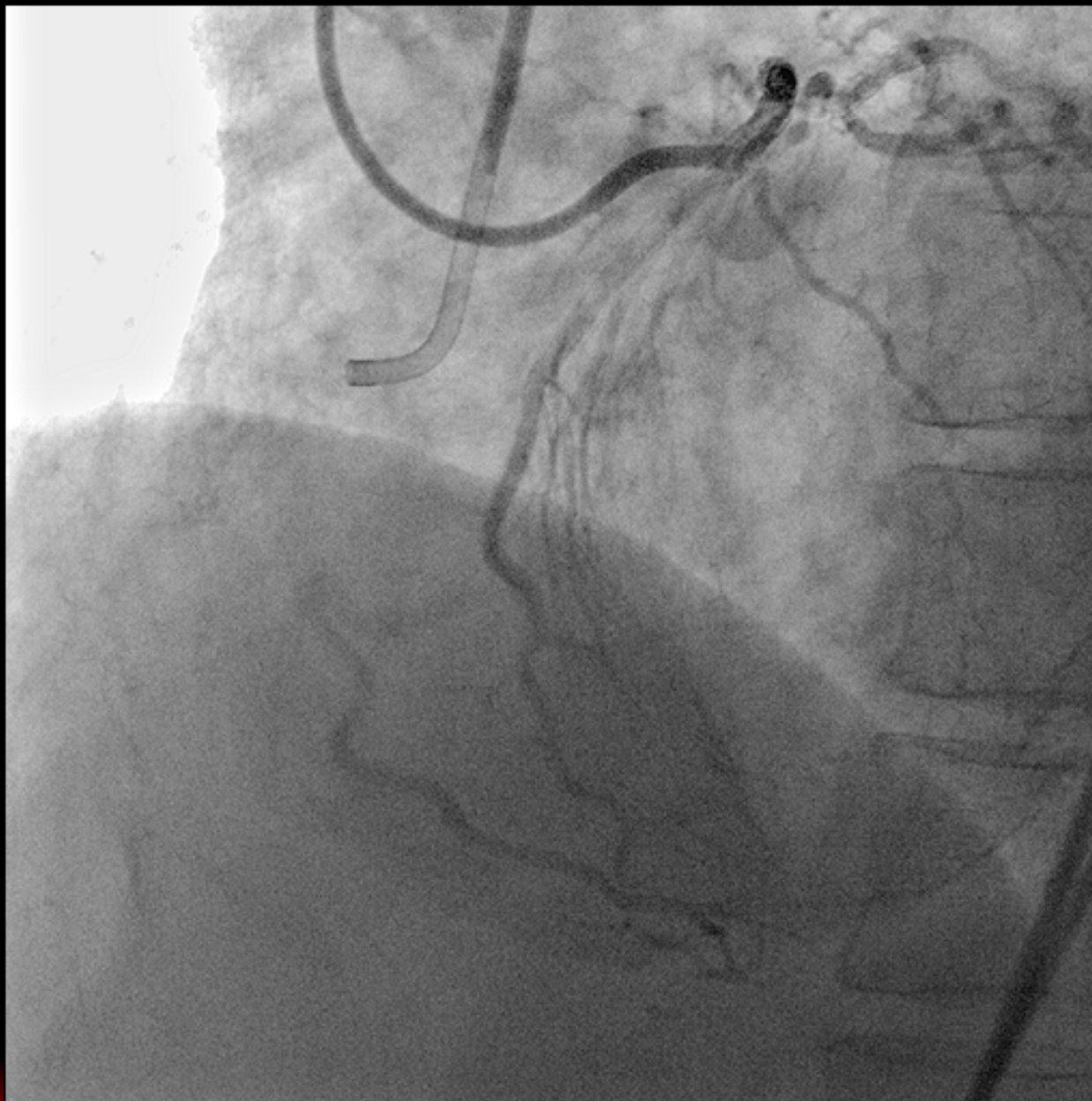
Re-Entry **X**
Fresh Start **O**



Toyohashi Heart Center

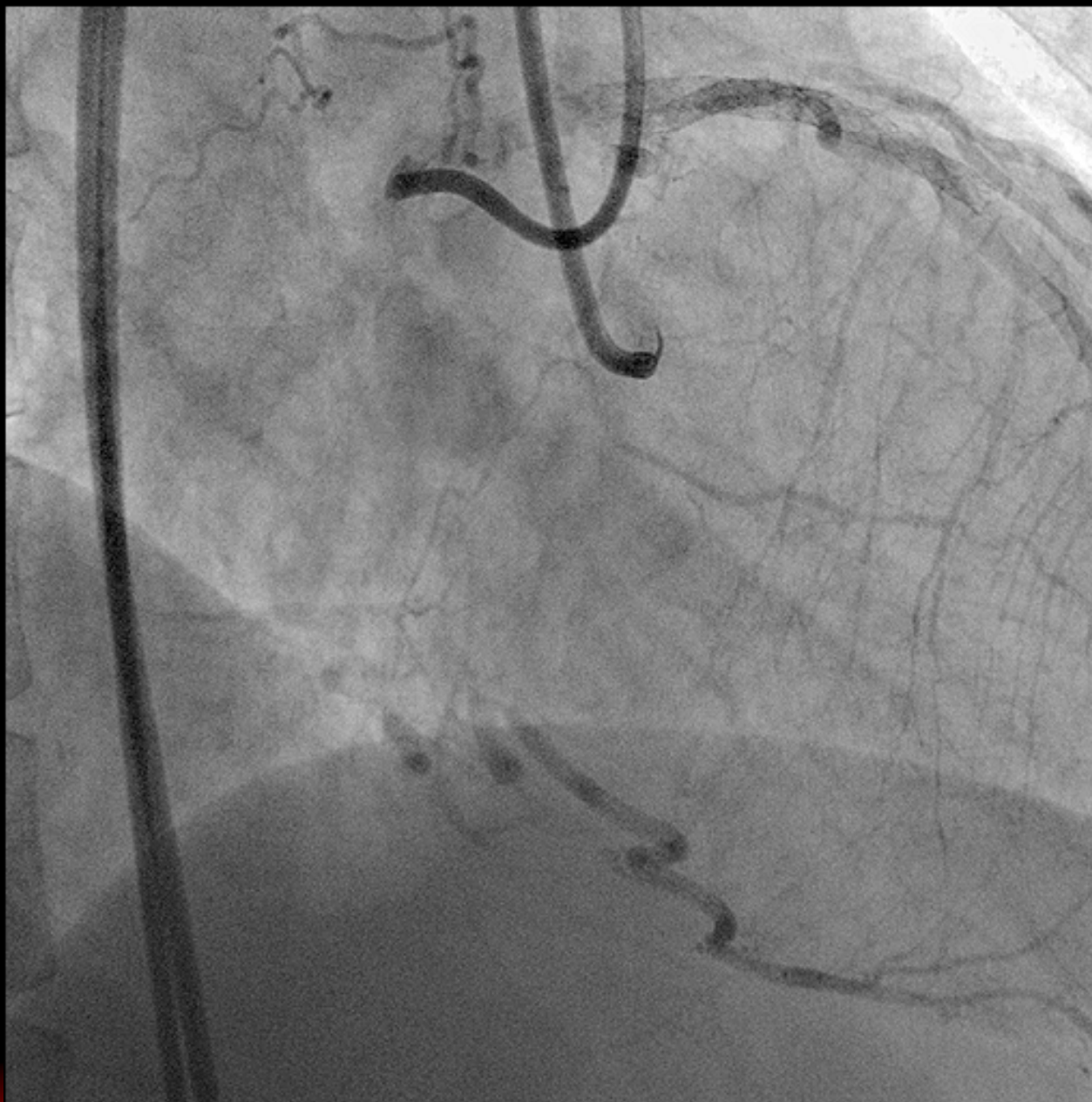


Case 2



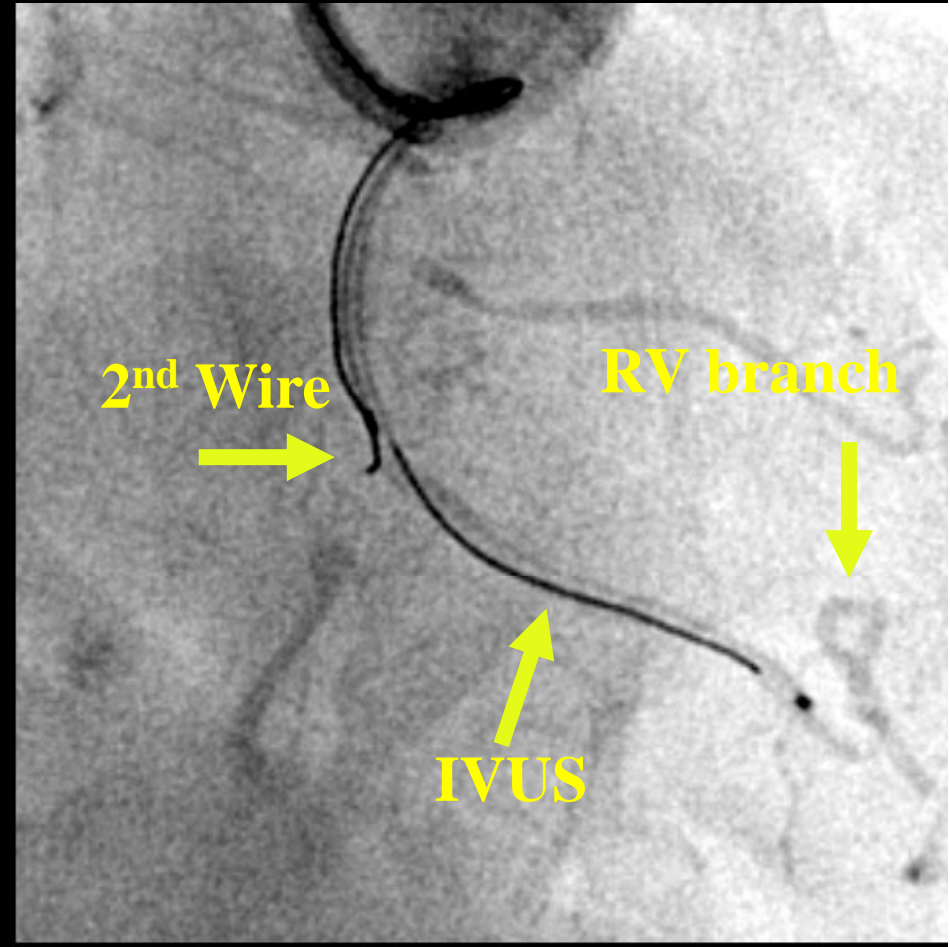
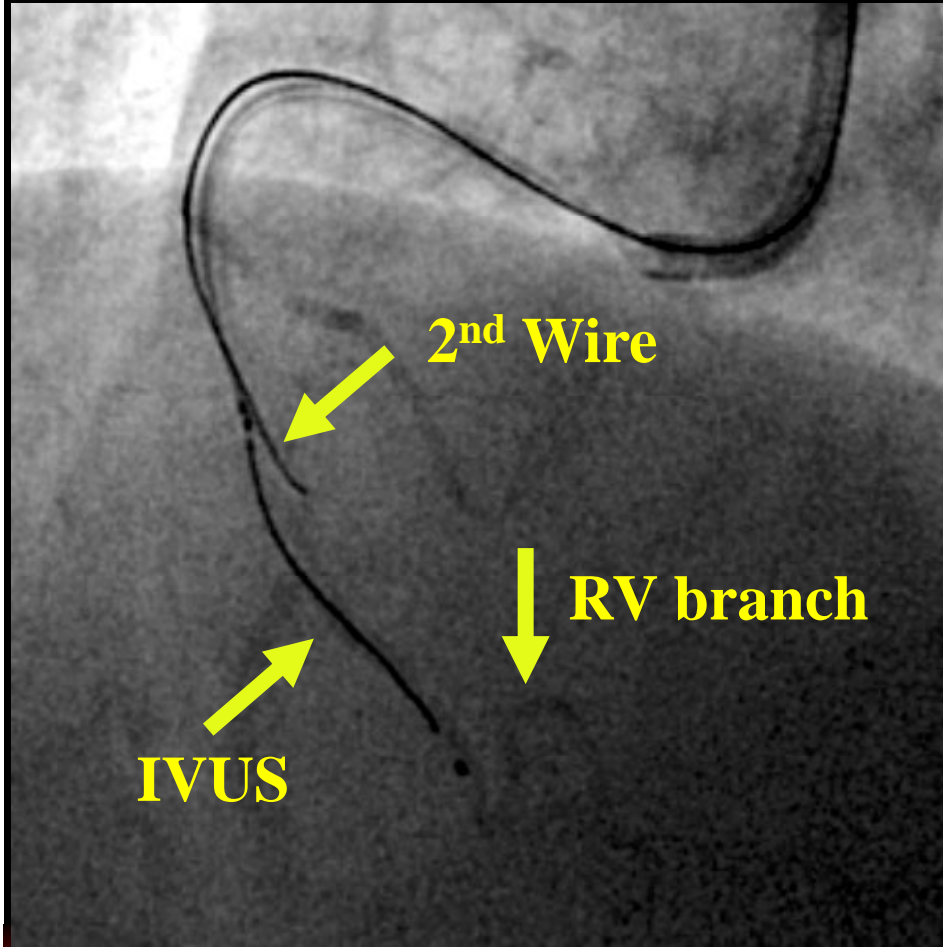


RAO view



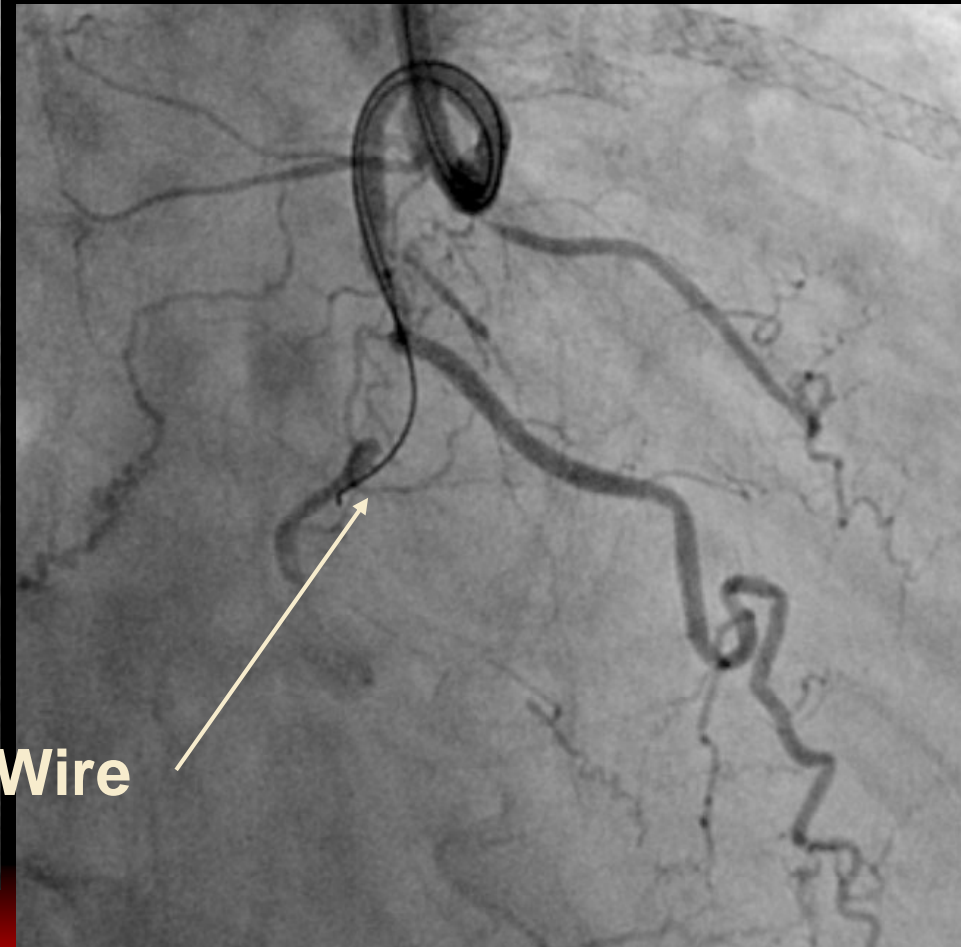
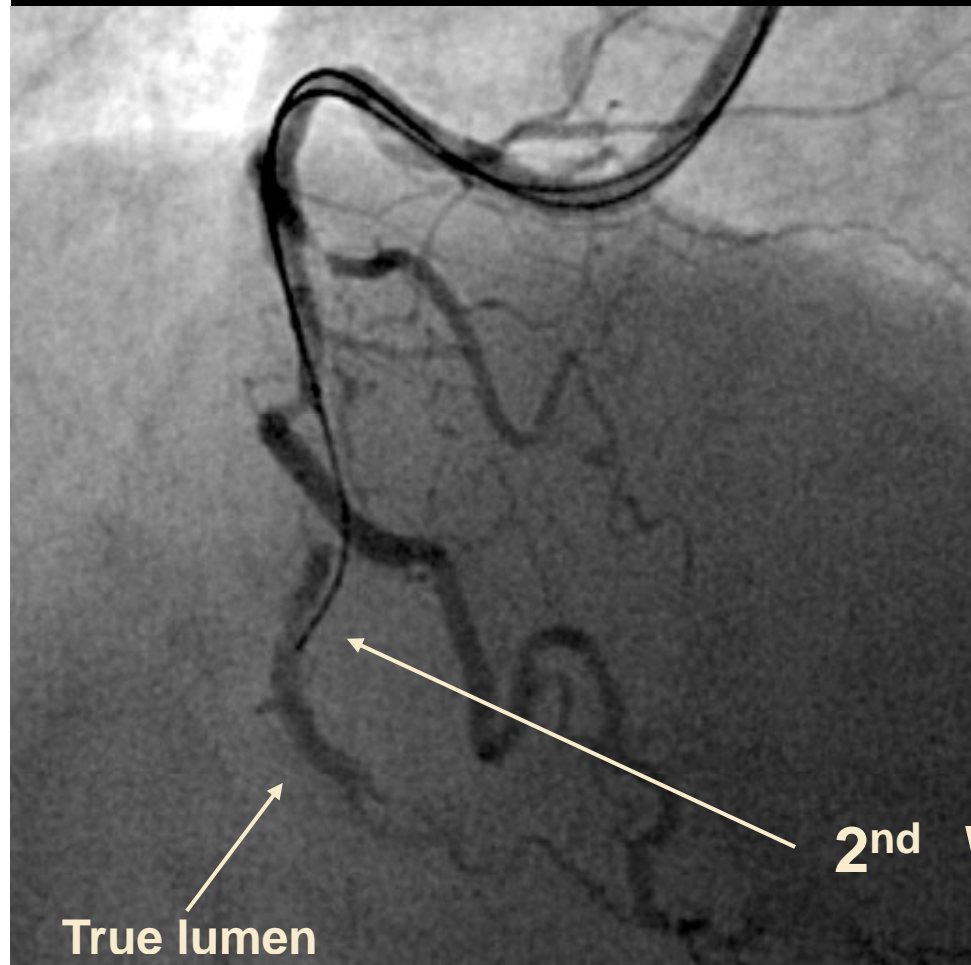


Identify a CTO entry by IVUS



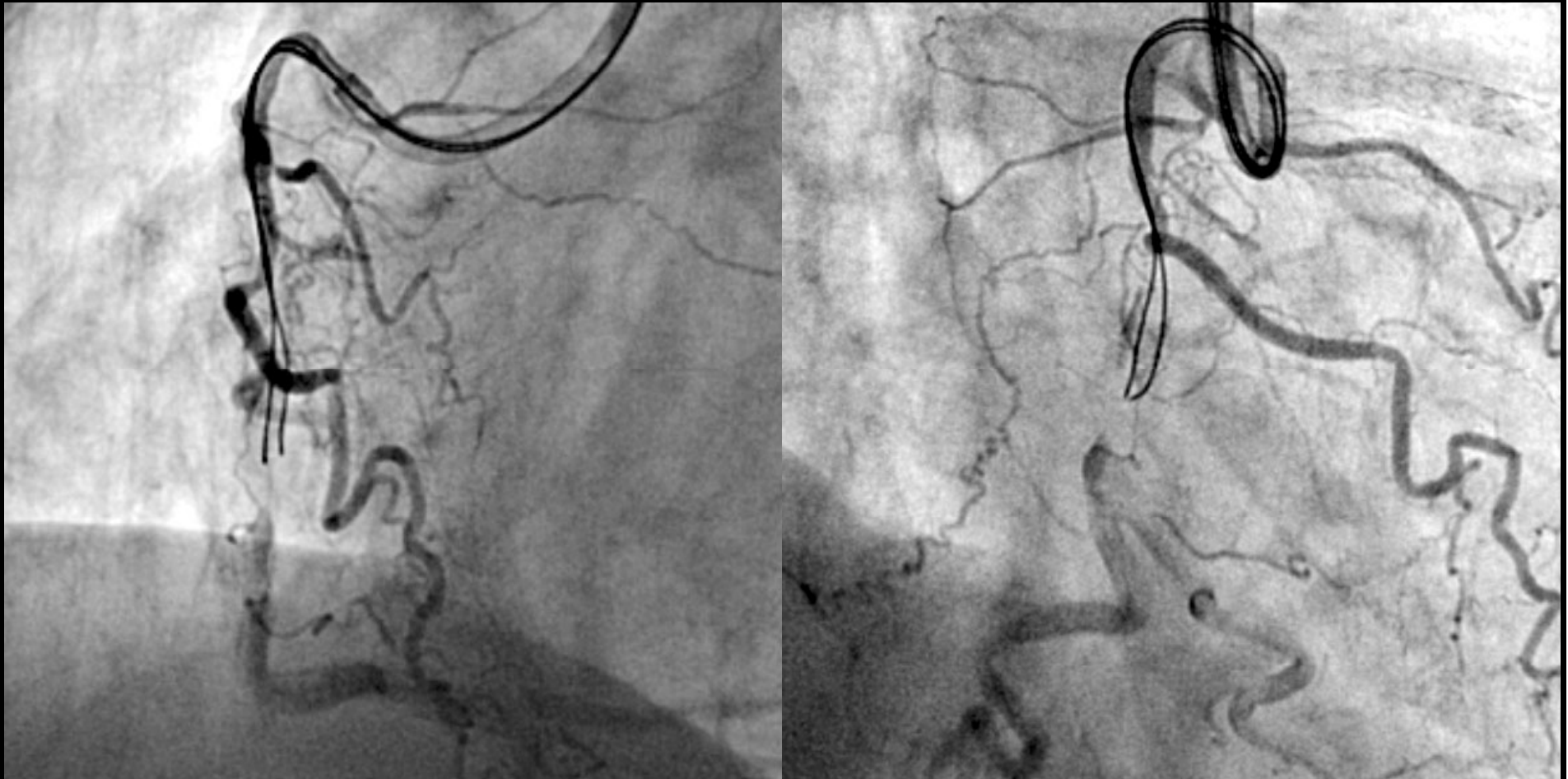


Failure to cross



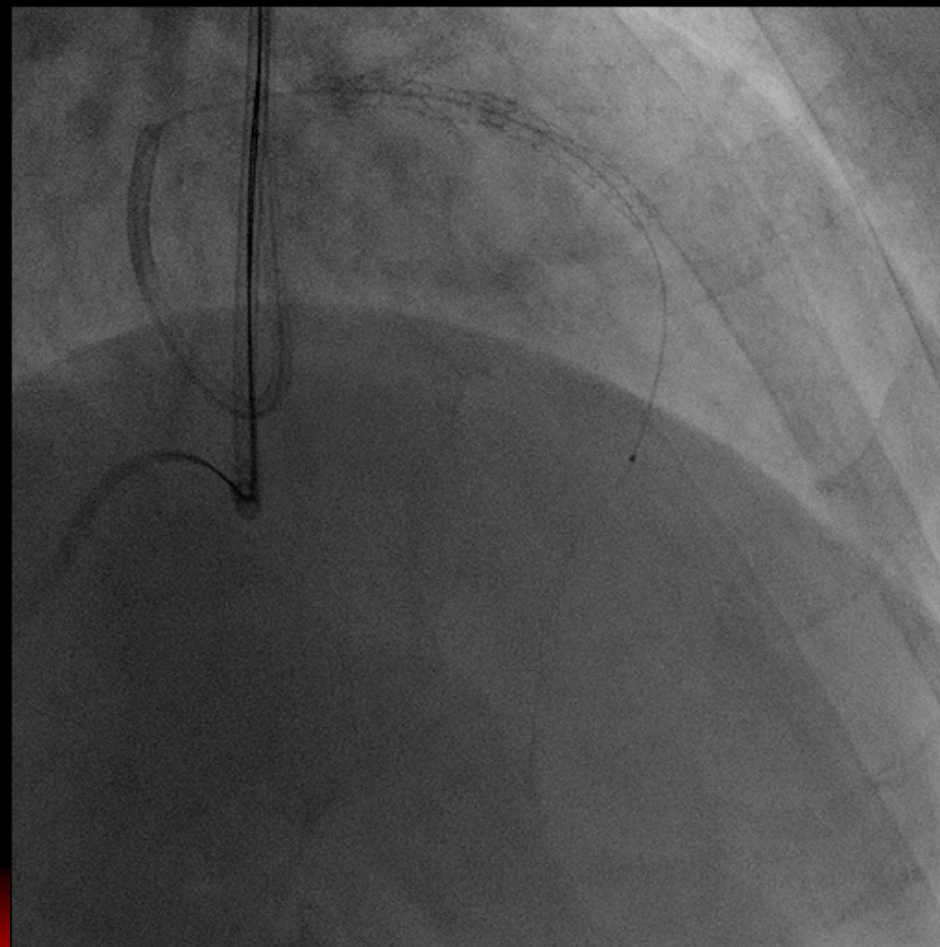
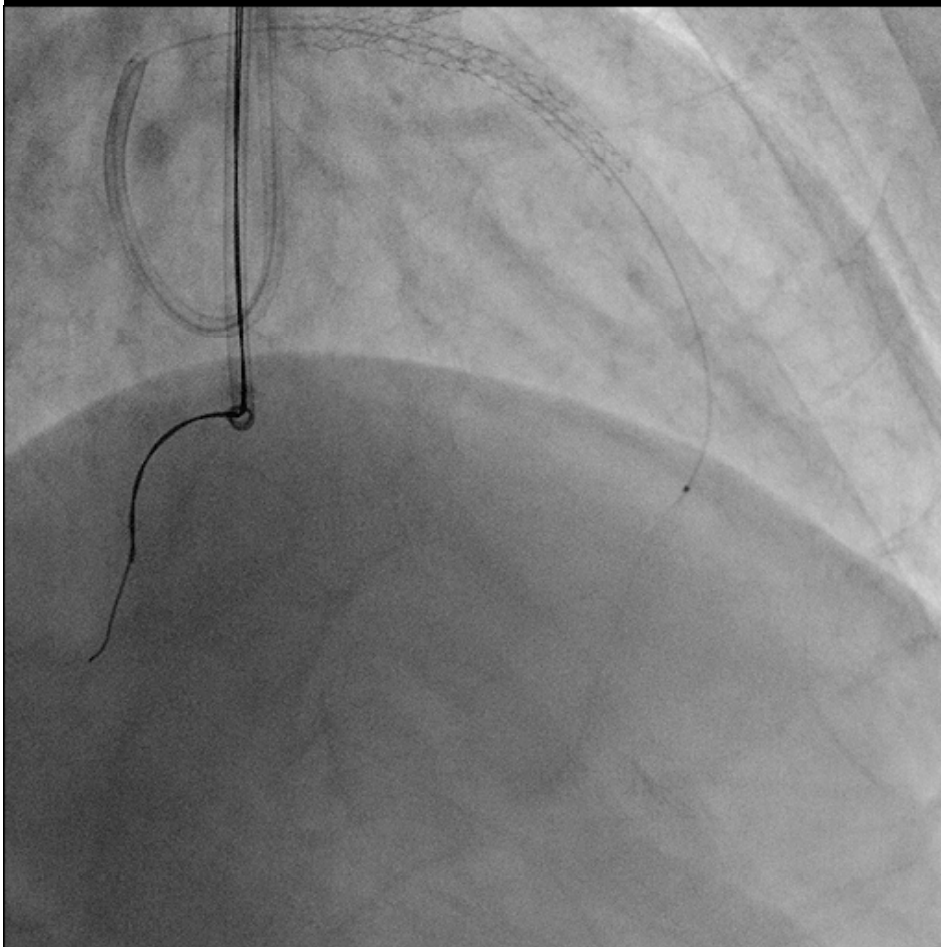


Parallel Wire Technique





Retrograde Approach

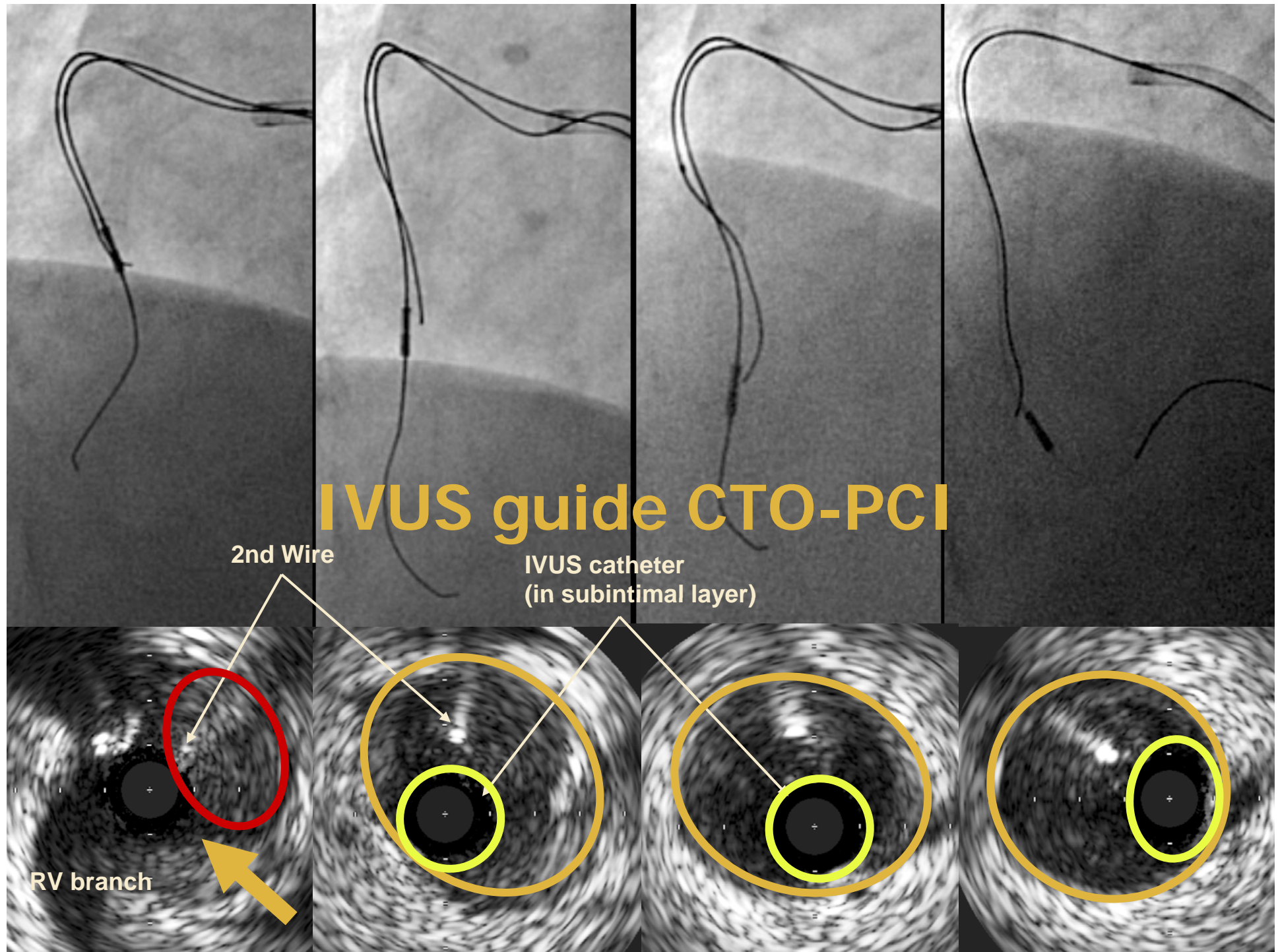


IVUS guide CTO-PCI

2nd Wire

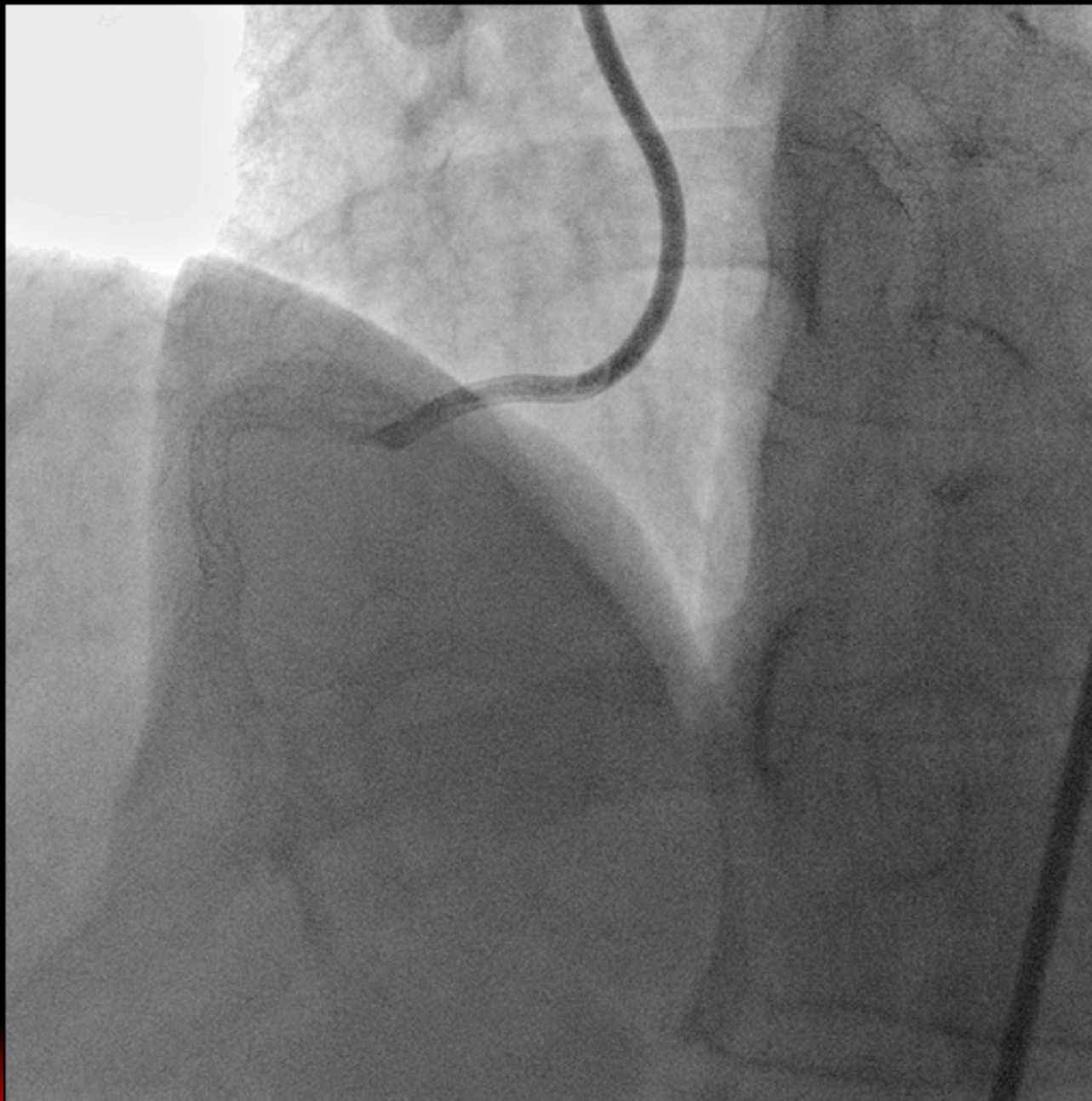
IVUS catheter
(in subintimal layer)

RV branch





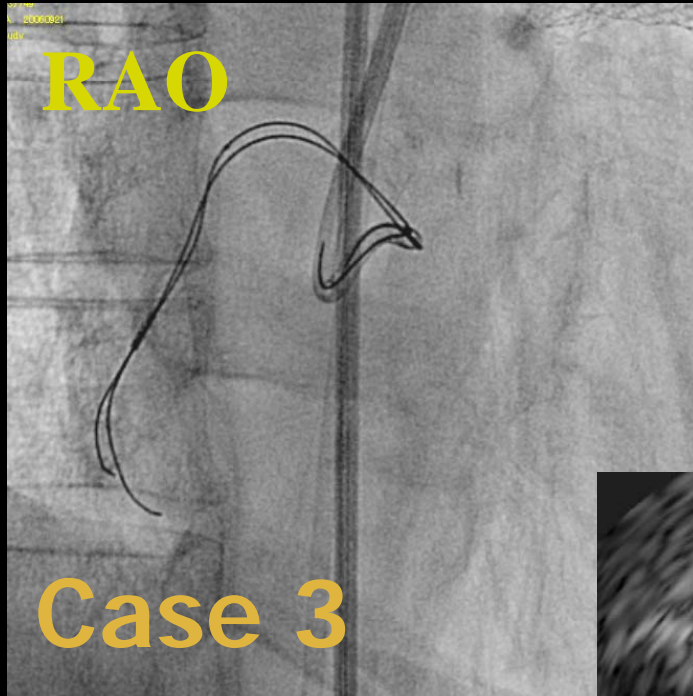
Final





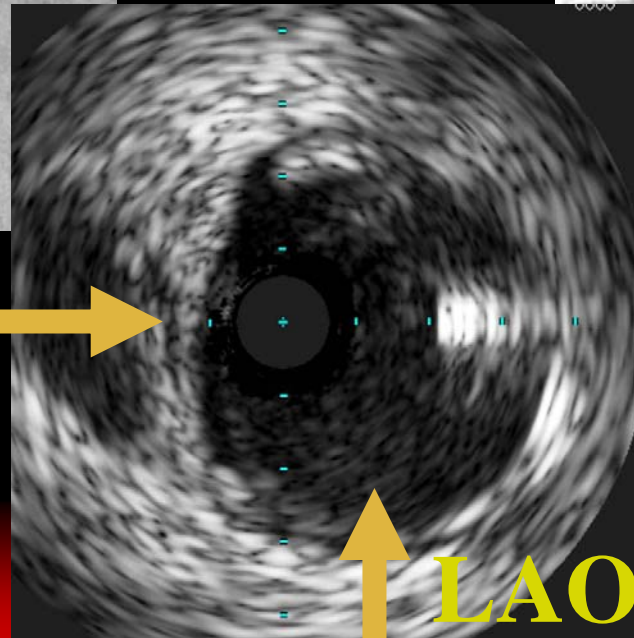
3 Dimensional Orientation

RAO



Case 3

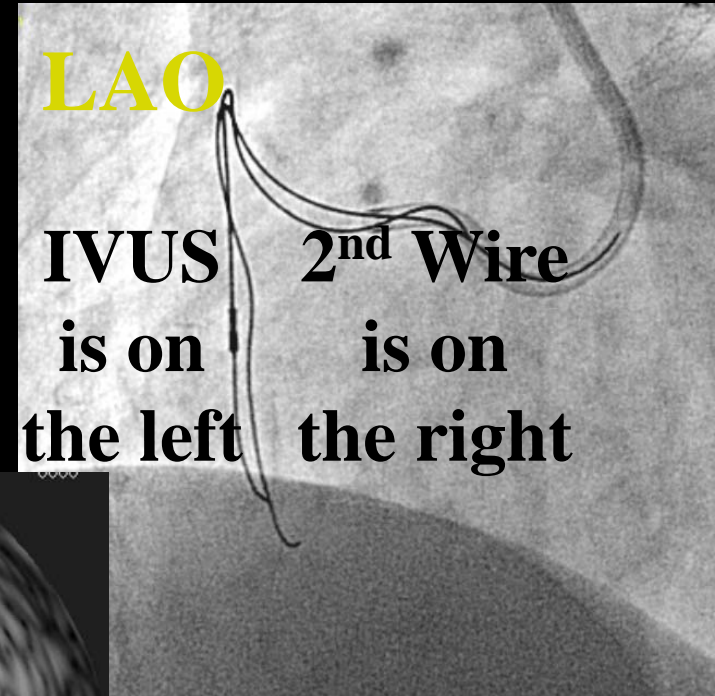
RAO View



LAO View



LAO

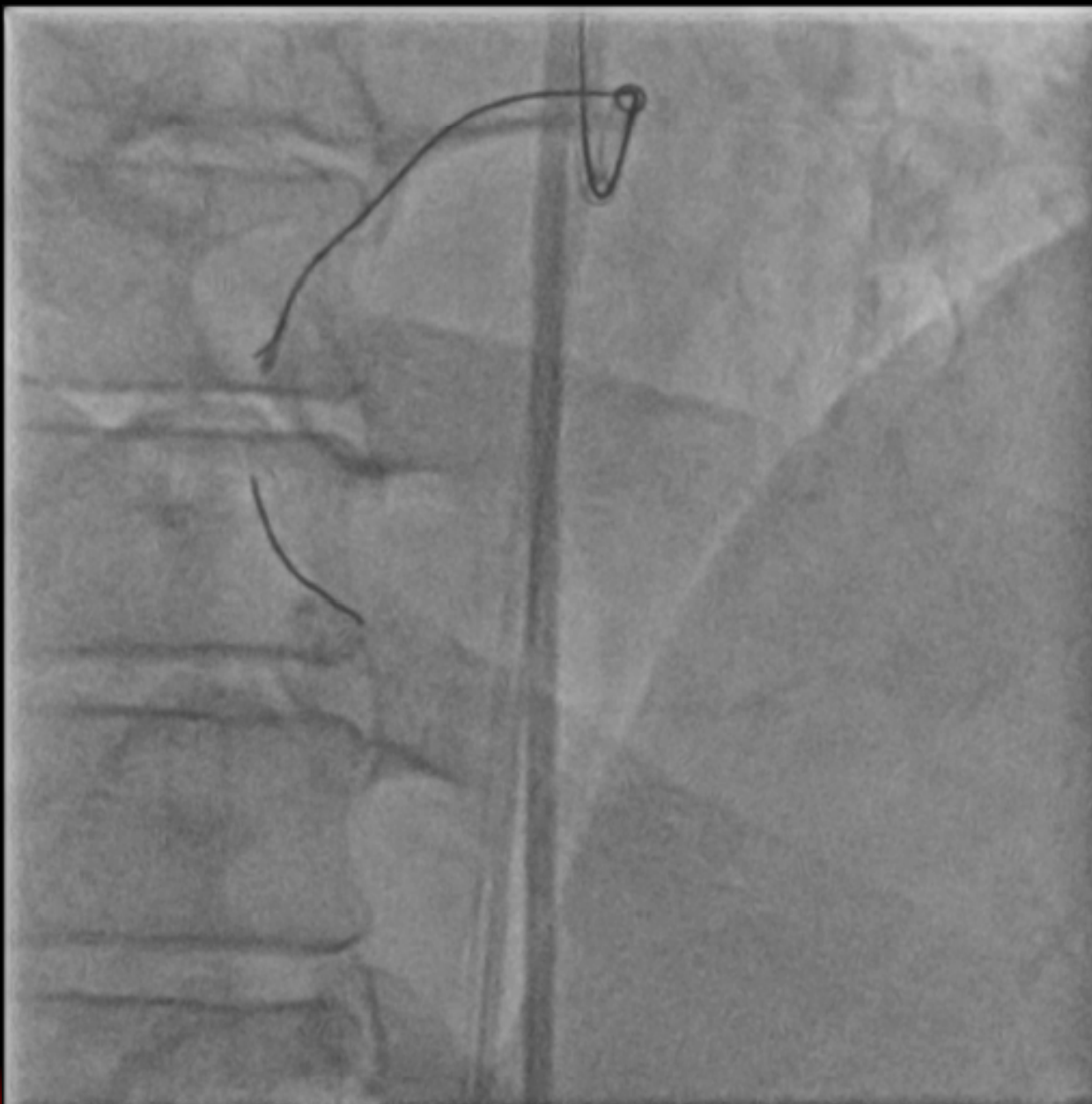


IVUS is on the left
2nd Wire is on the right



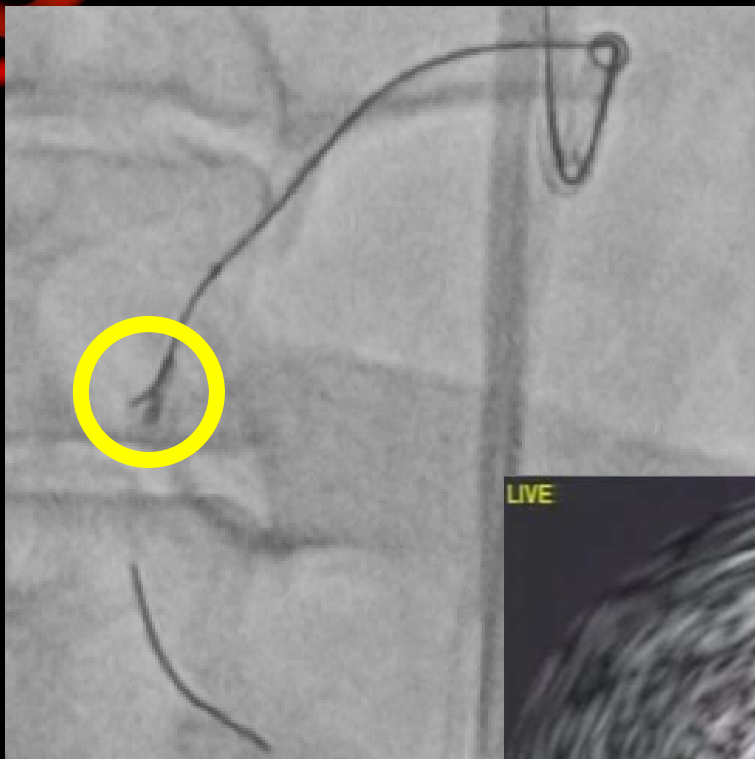
Case 4

Rotational Angiography

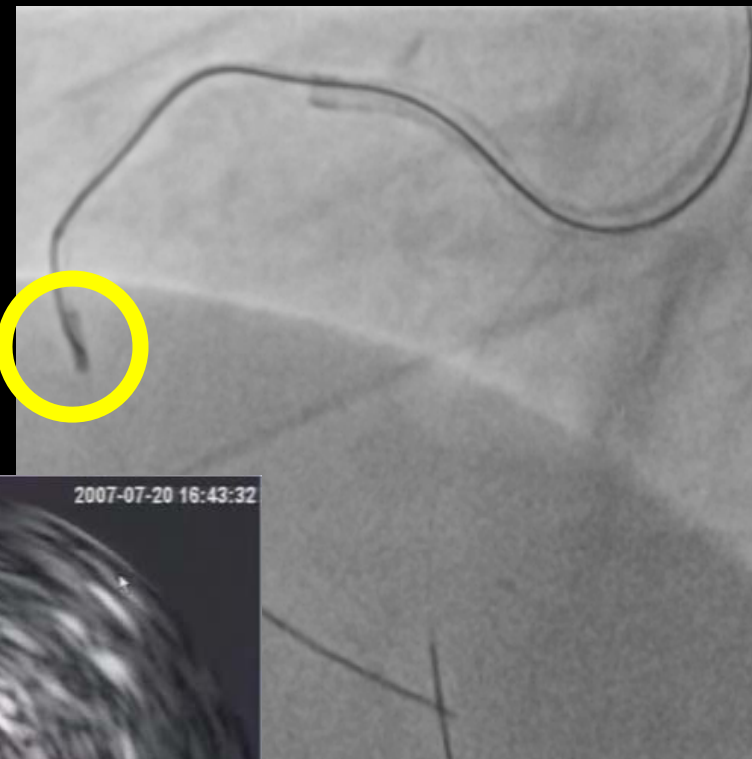




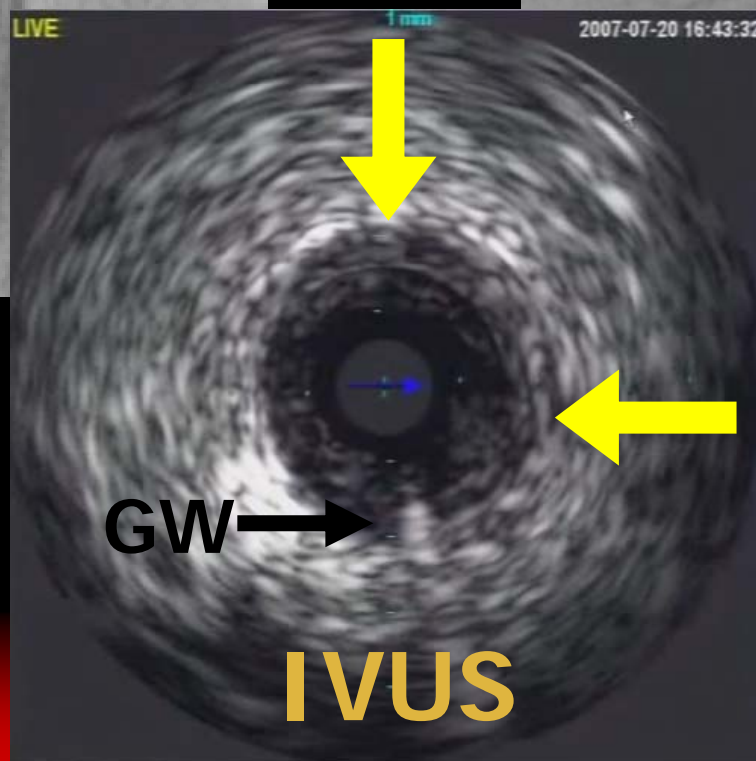
RA View



LAO View



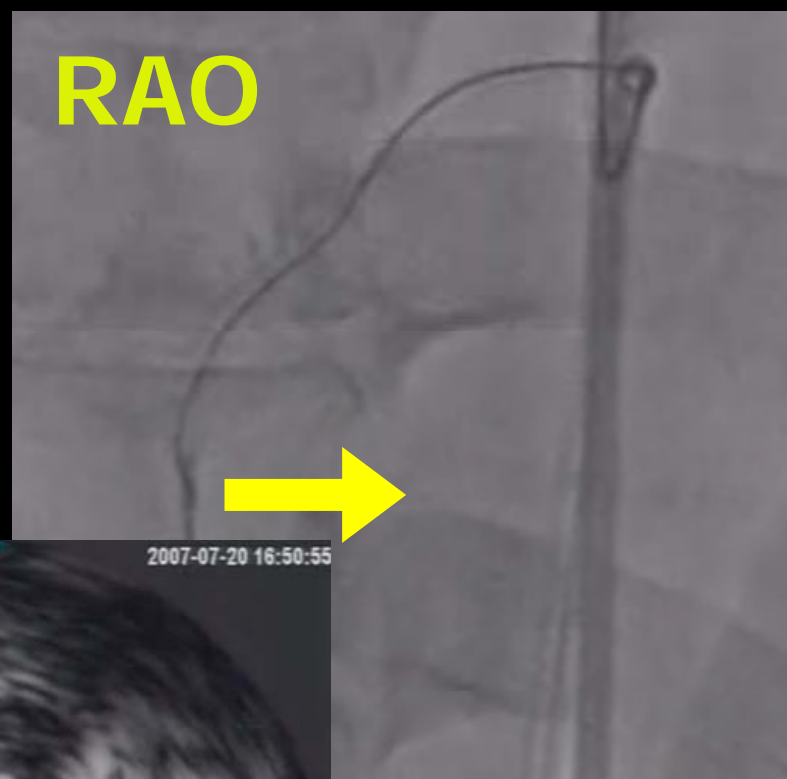
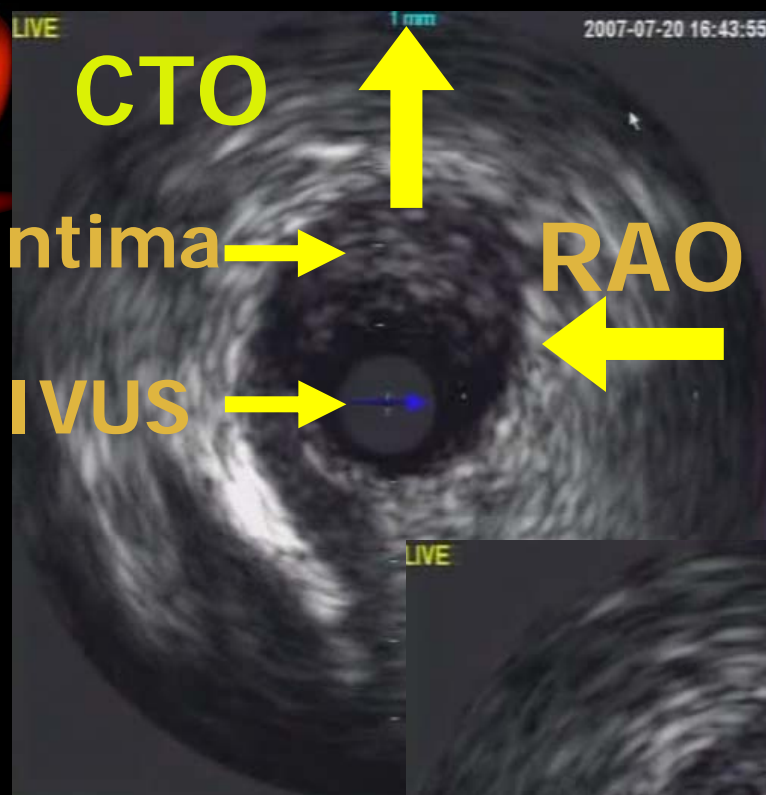
LAO



RAO

GW →

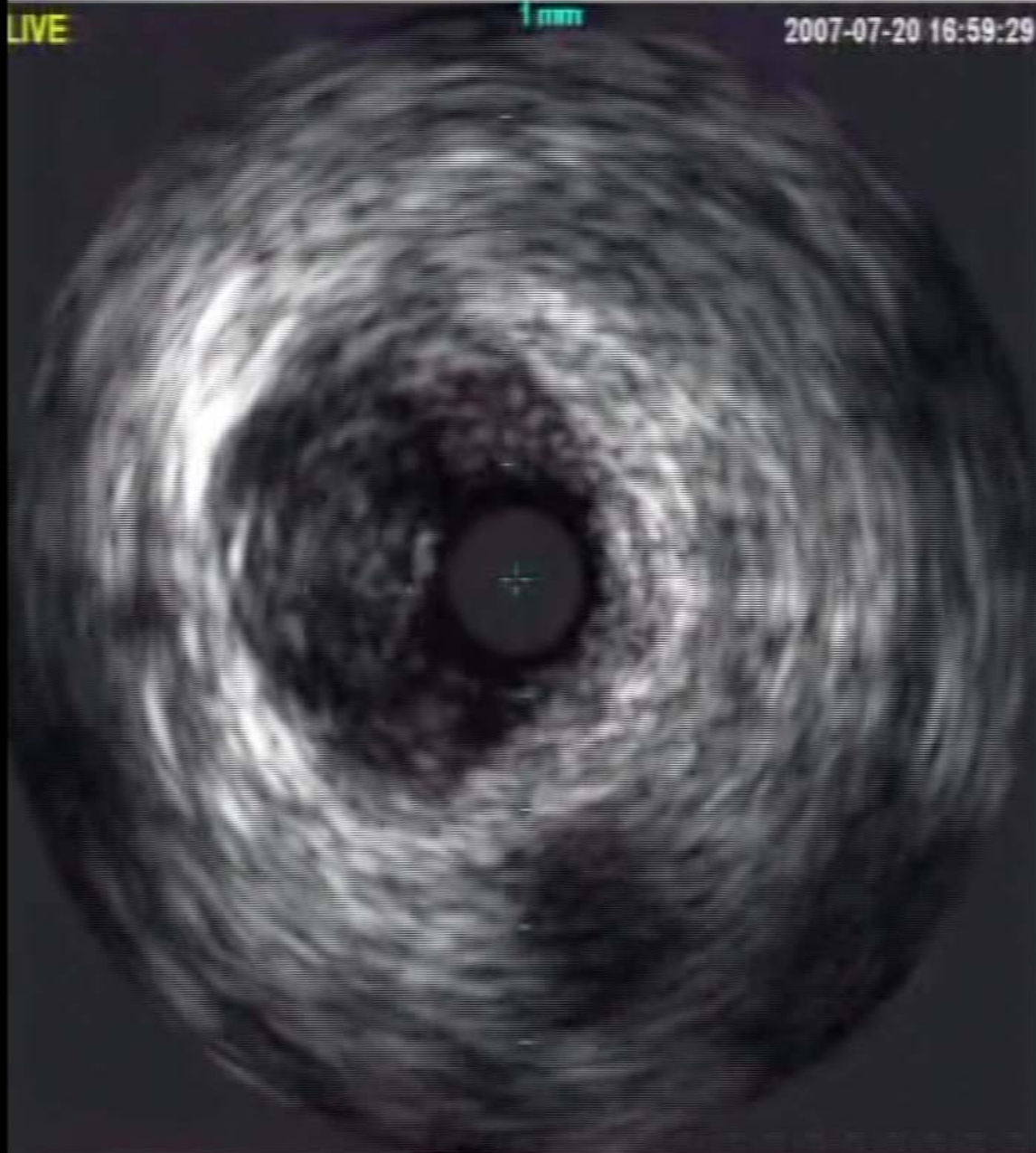
IVUS



LIVE

1mm

2007-07-20 16:59:29



Freeze

Save Frame

Record Loop

Ad



Summary 1

When?

IVUS guided wiring is the last resort after other strategies fail.



Summary 2

When?

IVUS guided wiring should be done before distal true lumen is collapsed.



Summary 3

How?

**All true trajectory is ideal.
Penetration strategy is
not recommended.**



Summary 4

How?

Three dimensional
orientation is important.
We should translate IVUS
image into fluoroscopic
image.



Summary 5

How?

Two images from vertical direction should be found. Rotational angiography is helpful.