
What are the devices that can facilitate CHiP interventions?

An Illustrative case

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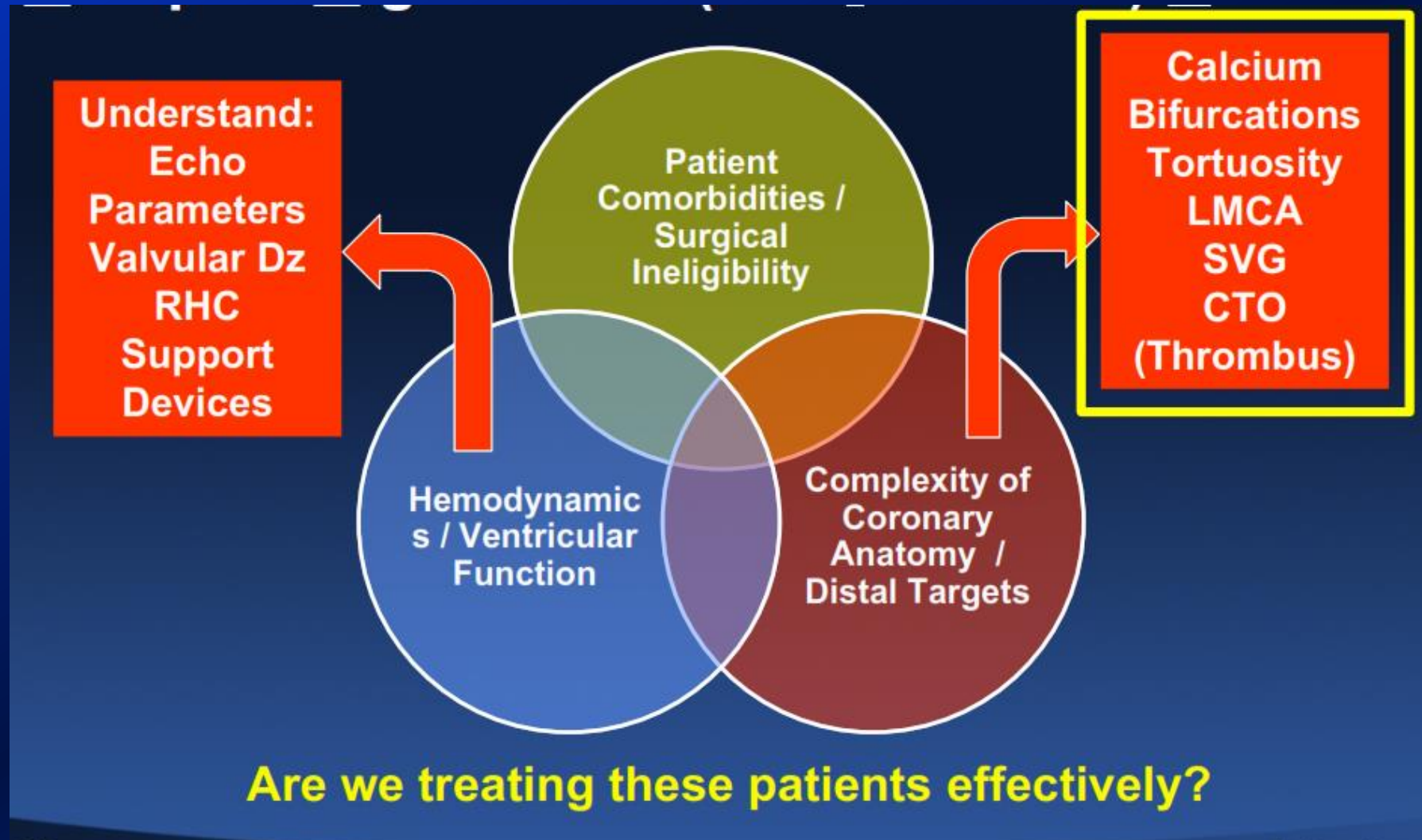
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What is a CHIP intervention?

- Complex High-risk Indicated Procedure

What makes an intervention “CHiP” ?

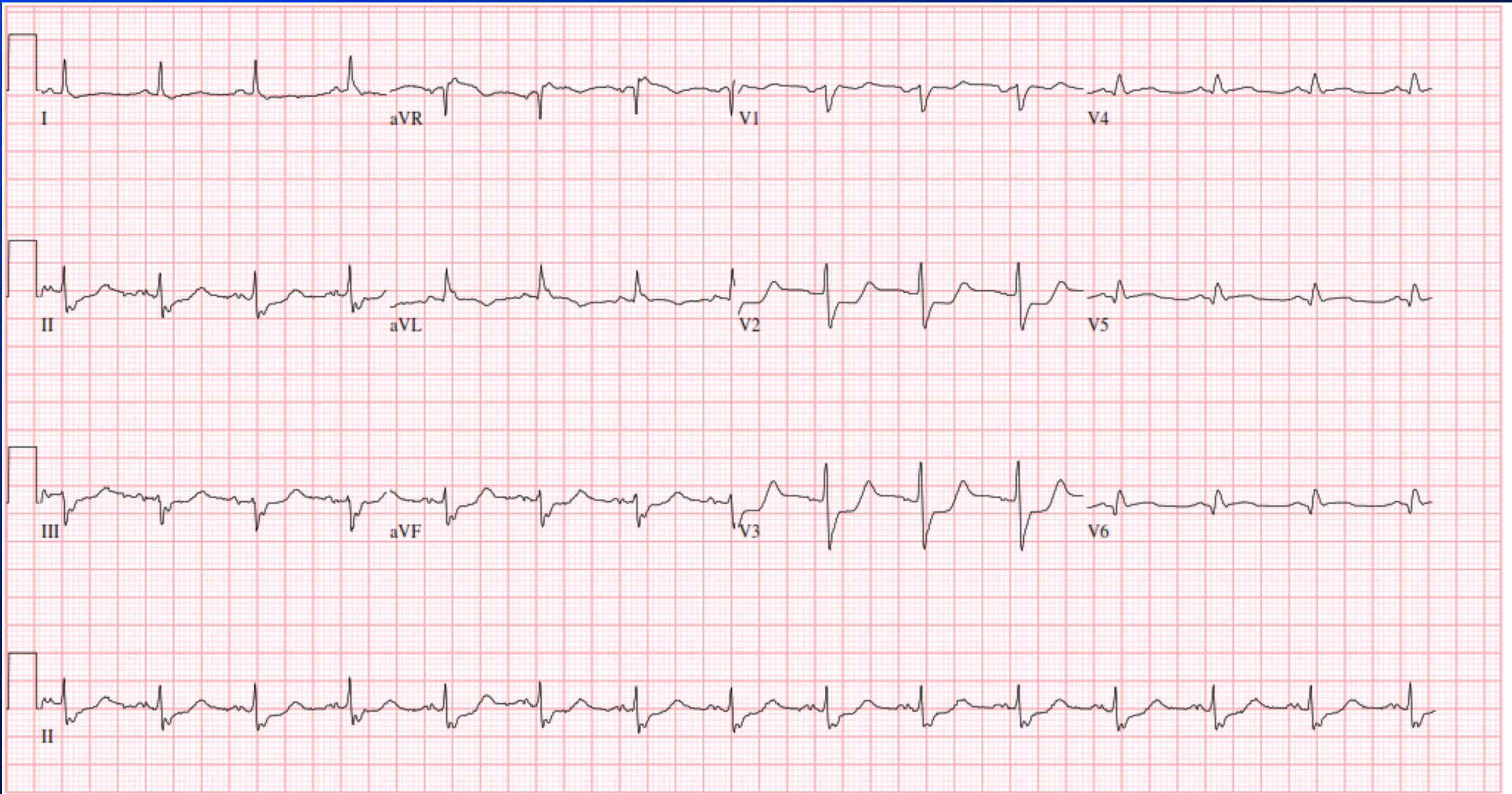


What do “devices” do

- They help
- In a variety of ways
- They sometime facilitate the PCI
- They sometimes enable the PCI
- They sometimes are impossible to do without

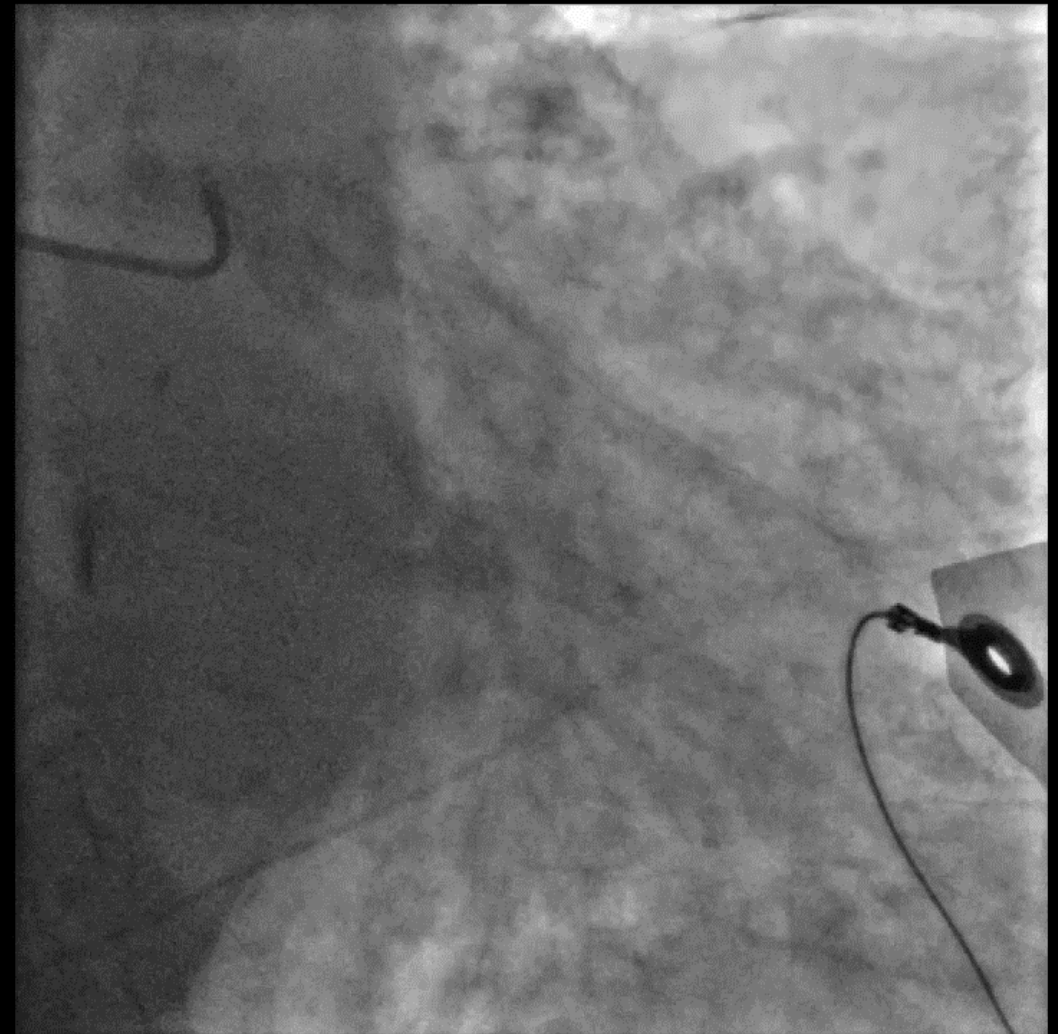
Case

- 91 year-old woman, independent, well and active
- Diabetes, hyperlipidemia
- Presented with **on-going** chest pain while shopping
 - ↑ Troponin I and ST depressions on EKG
- Due to on-going chest pain she was brought emergently to the cardiac catheterization laboratory

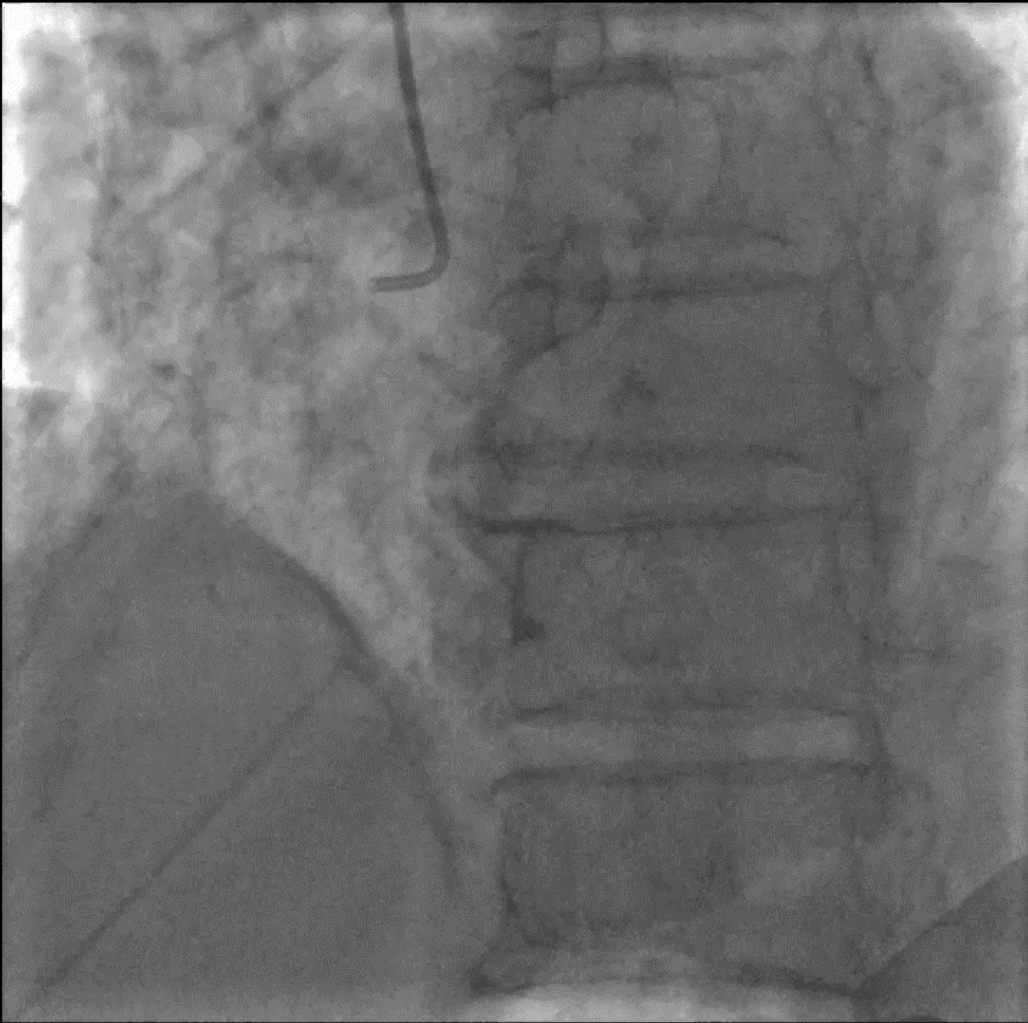




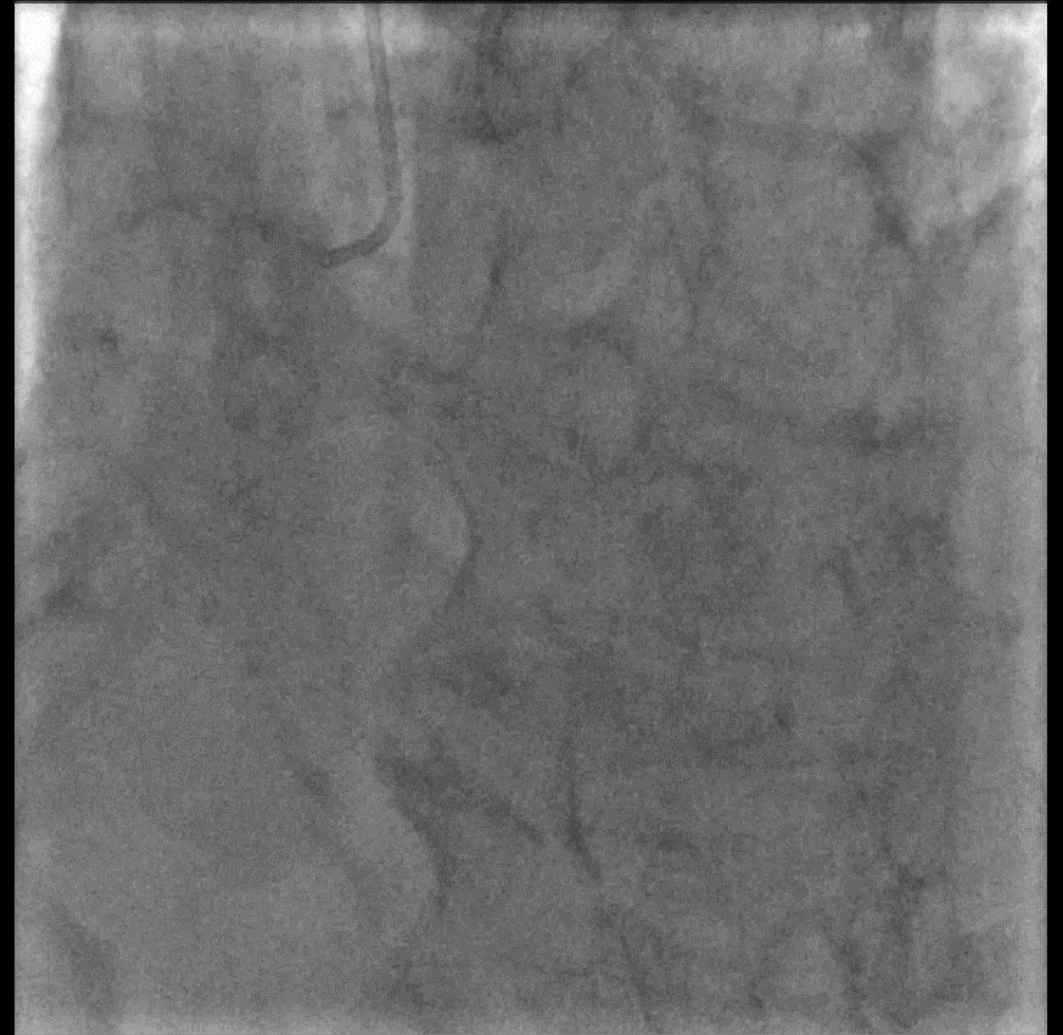
- Severe left main disease but TIMI 3 flow.



- LCx occluded with L-L collaterals



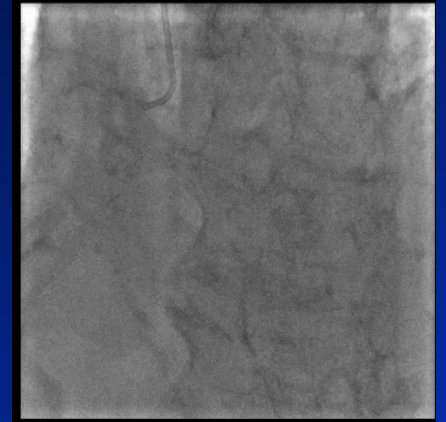
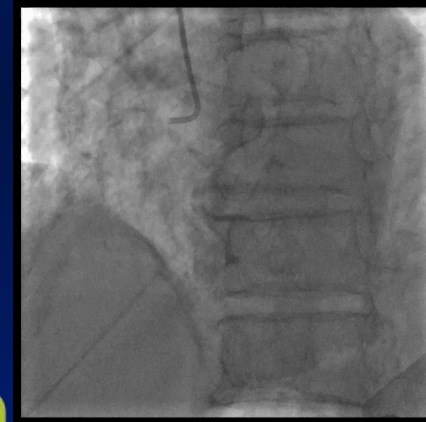
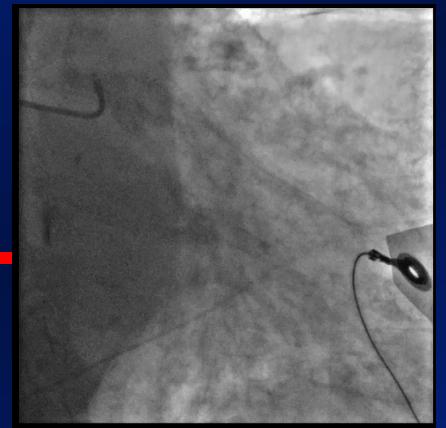
- Severe ostial RCA and **CALCIFIC** subtotaly occluded mid-distal RCA with TIMI 1 flow.

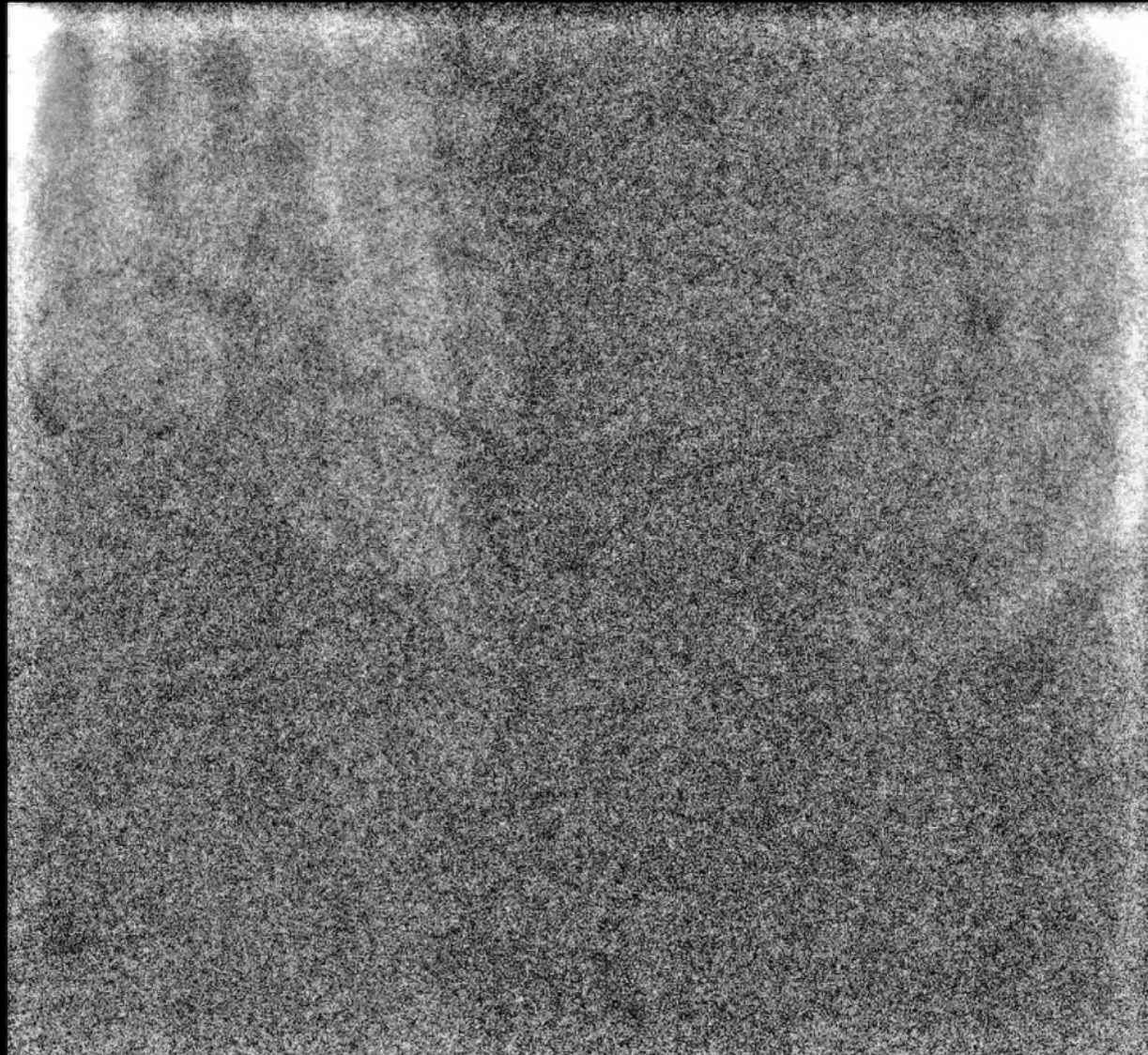


- Calcific subtotaly occluded RCA

What would you do ?

- A. Fix the RCA
- B. Fix the left main and LAD
- C. Fix both the left main/LAD and RCA together
- D. Fix the LCx

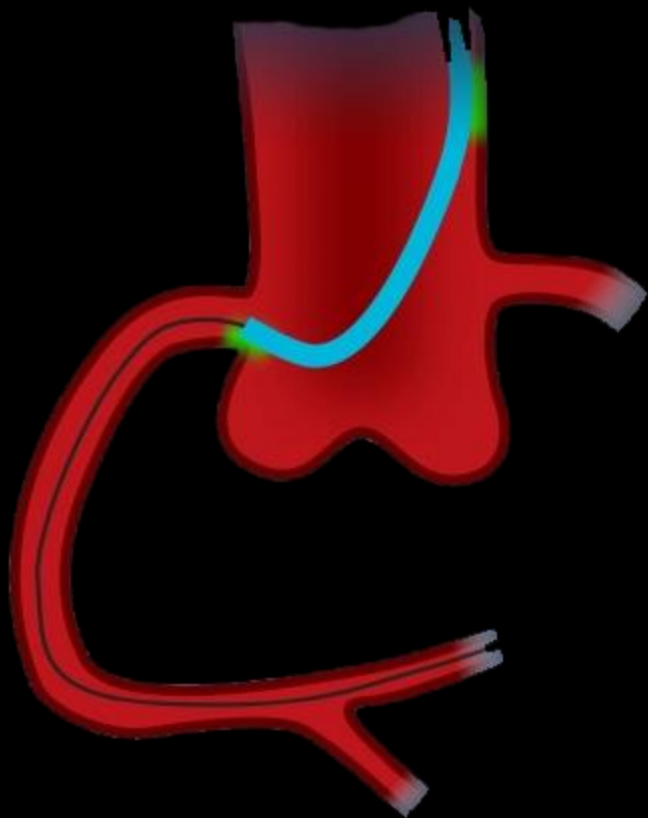




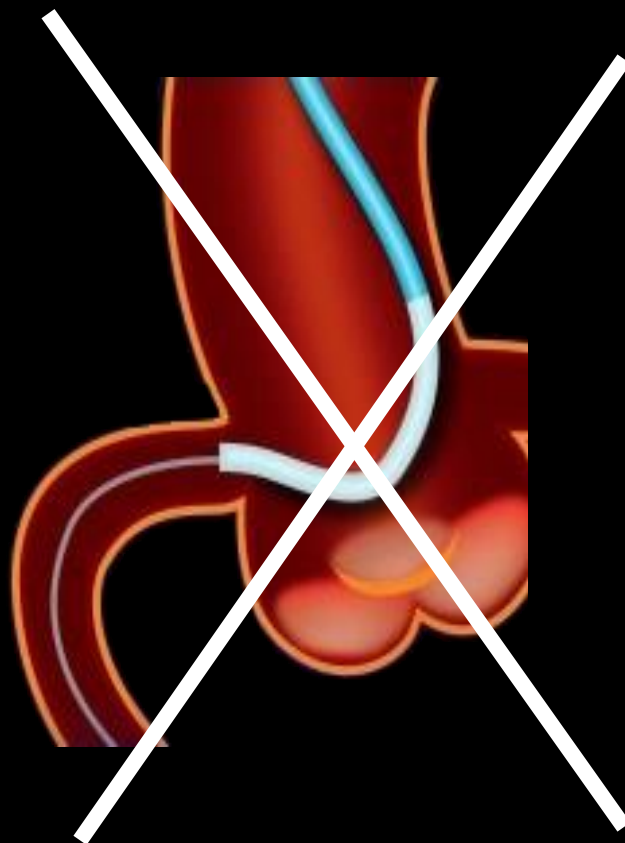
- JR4 guider Sion Blue wire.
- After extreme difficulty got 1.0 and then 2.0 mm balloon to dilate
- Then NOTHING would go

Device #1
A better guider !

Device #1
A better guider !



JR4 guide
Poor support



Amplatz guide
Strong support

Because of severe ostial RCA disease not feasible to use AL1 guider

Device #2

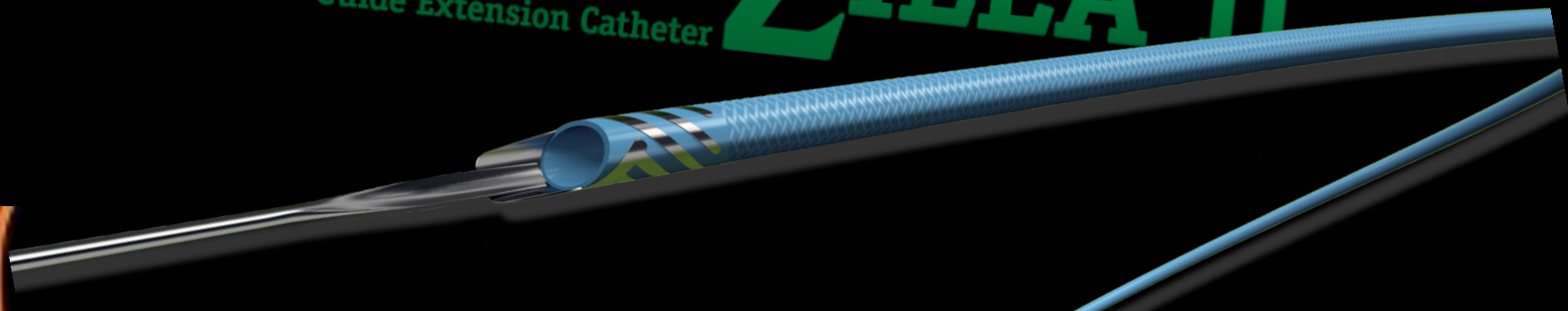
Guide catheter extension!

Device #2

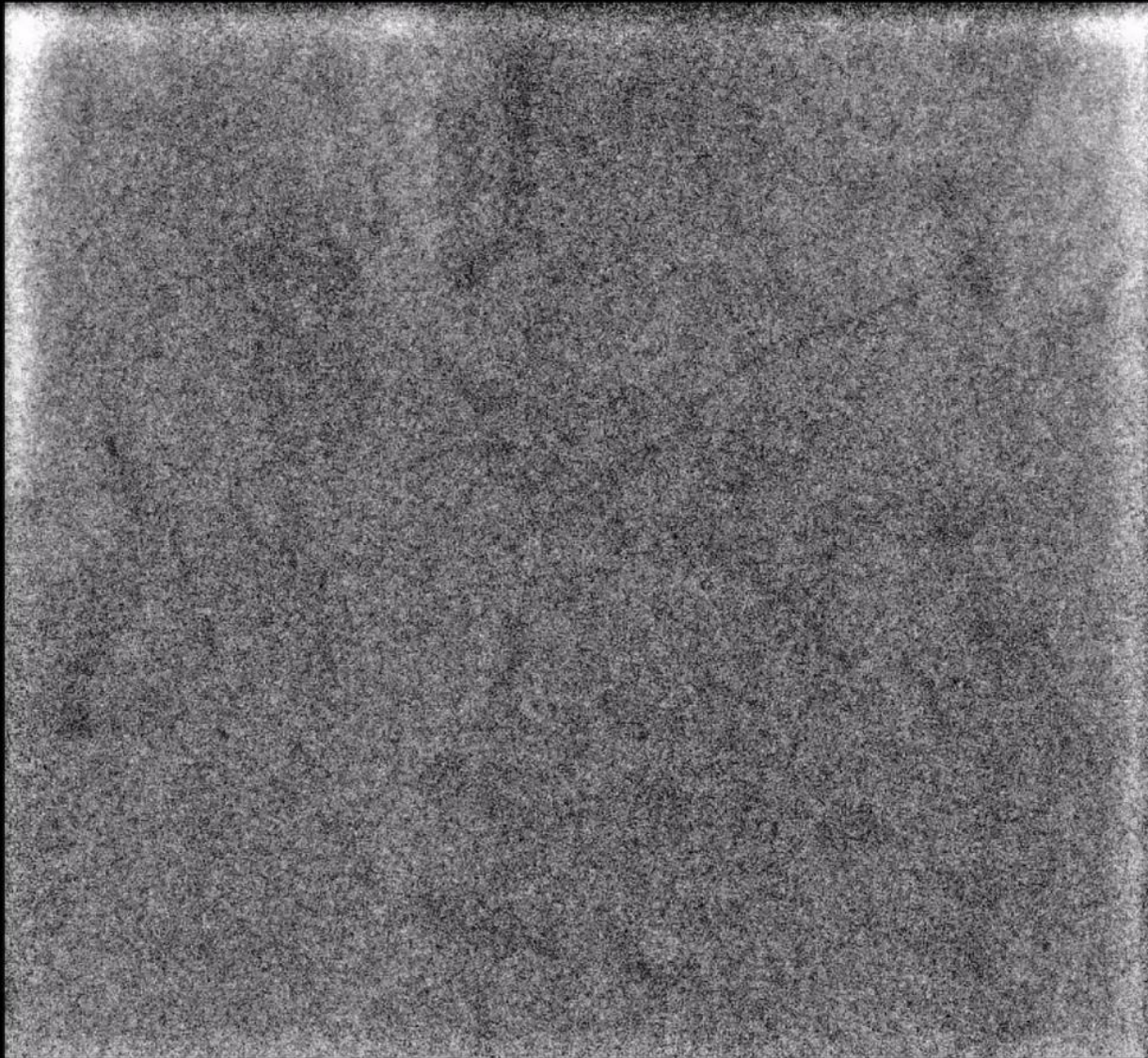
Guide catheter extension!

GUIDEZILLA™ II

Guide Extension Catheter



Features	GuideLiner V3	GUIDEZILLA™ II
Guide Segment	25 cm	25 cm on 6F,7F,8F (40 cm on 6F Long)
Working Length	150 cm	150 cm
Proximal Shaft	Stainless Steel Ribbon	Stainless Steel Hypotube
Radiopaque	Distal Marker Proximal Marker	Distal Marker band Radiopaque Collar
Coating	Silicone Wipe	Z-Glide™
Collar	All-Polymer	Platinum Iridium
Collar Transition	17 cm Half Pipe	6mm Hypotube Transition



- Unable to get Guideliner past ostial RCA
- Even after dilating ostial RCA
- Even after using a distal balloon “anchor” technique

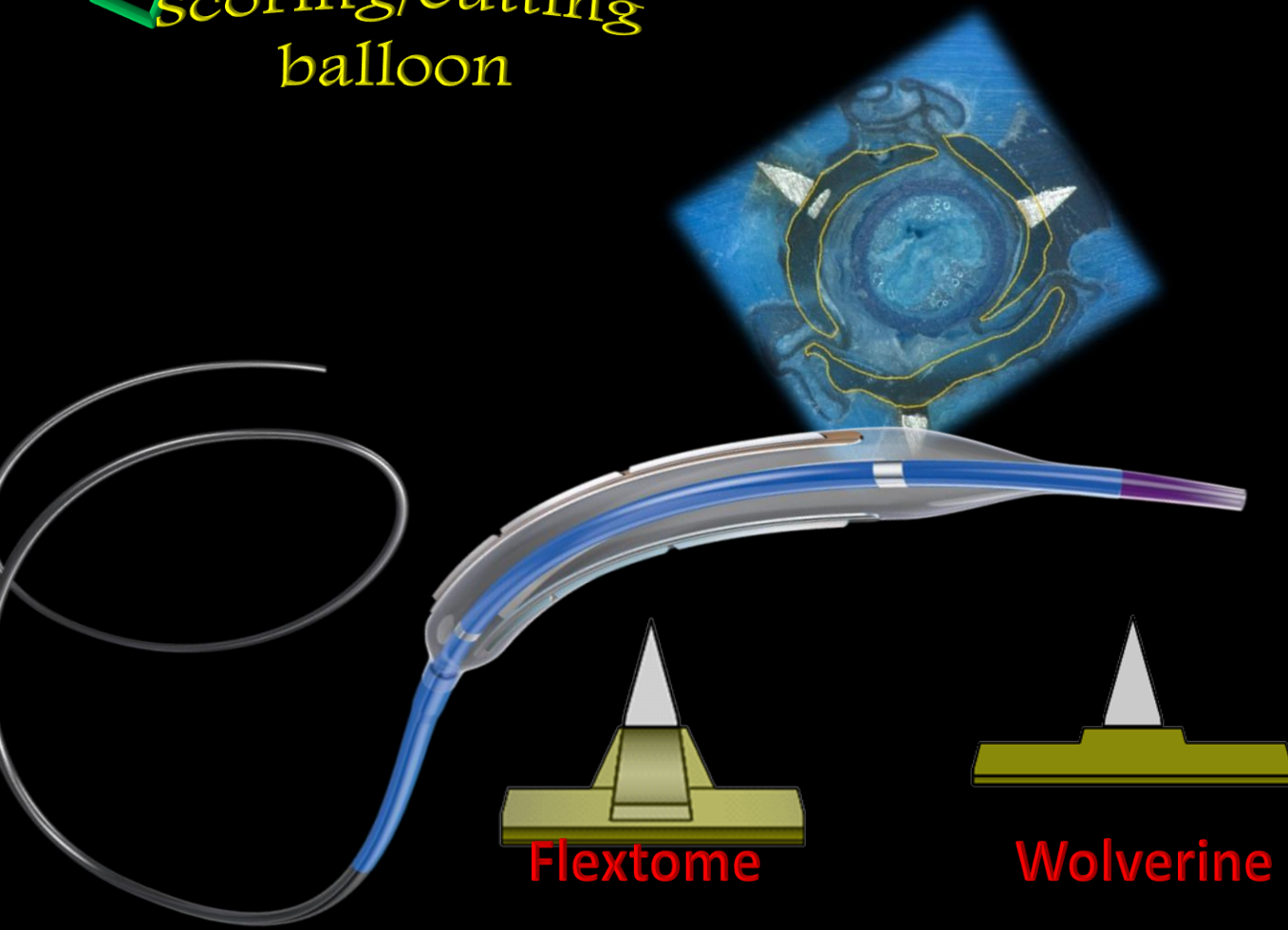


- Dilatation of ostial RCA with scoring balloon

Device #3

Scoring/cutting
balloon

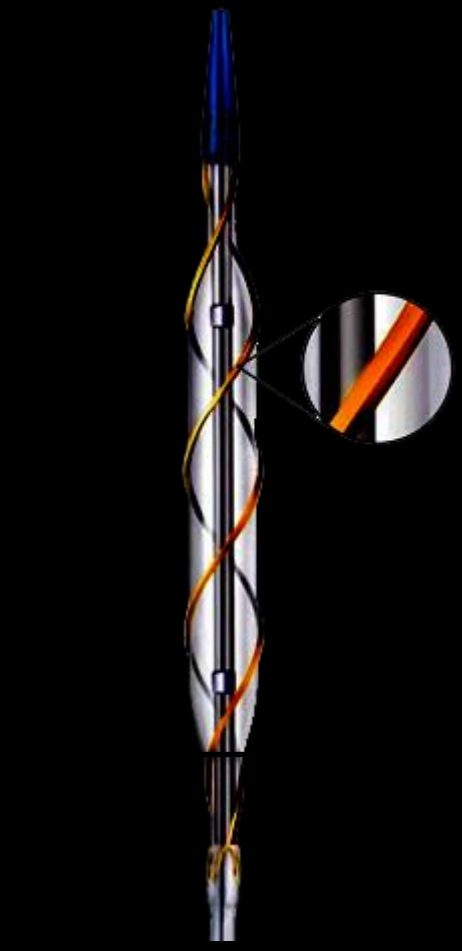
Device #3
Scoring/cutting
balloon



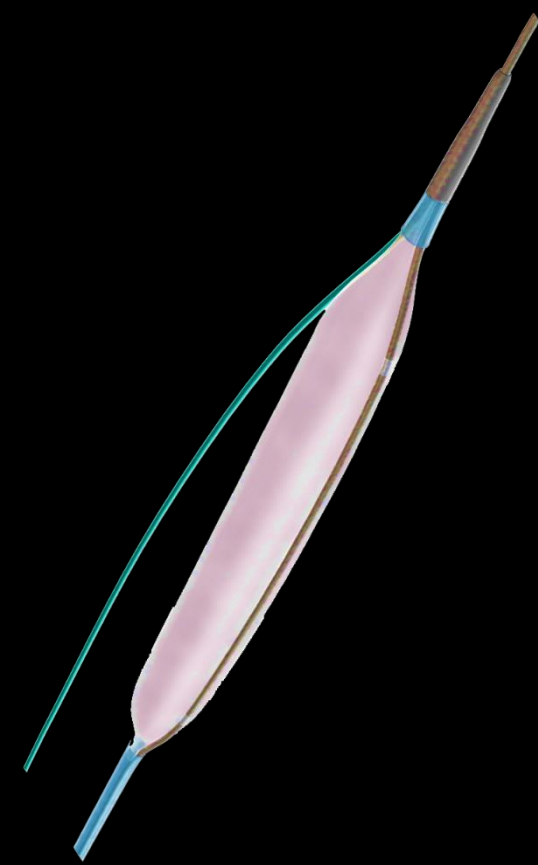
Flextome

Wolverine

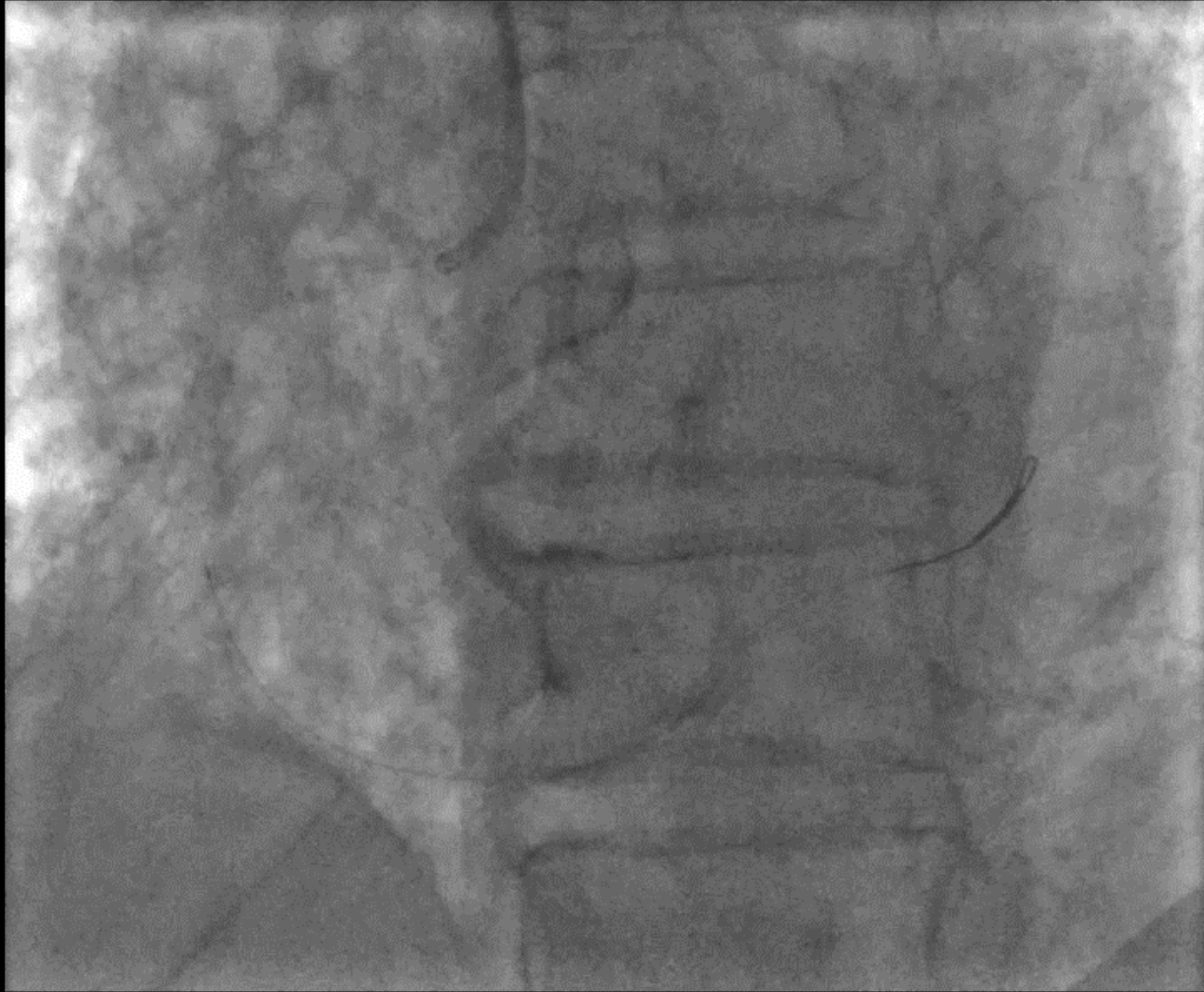
Flextome/Wolverine
Cutting Balloon



Angiosculpt



Scoreflex



- Now what?

What would you do ?

- A. Stop and go home
- B. Urgent CABG
- C. Rotational atherectomy



Device #4

Atherectomy

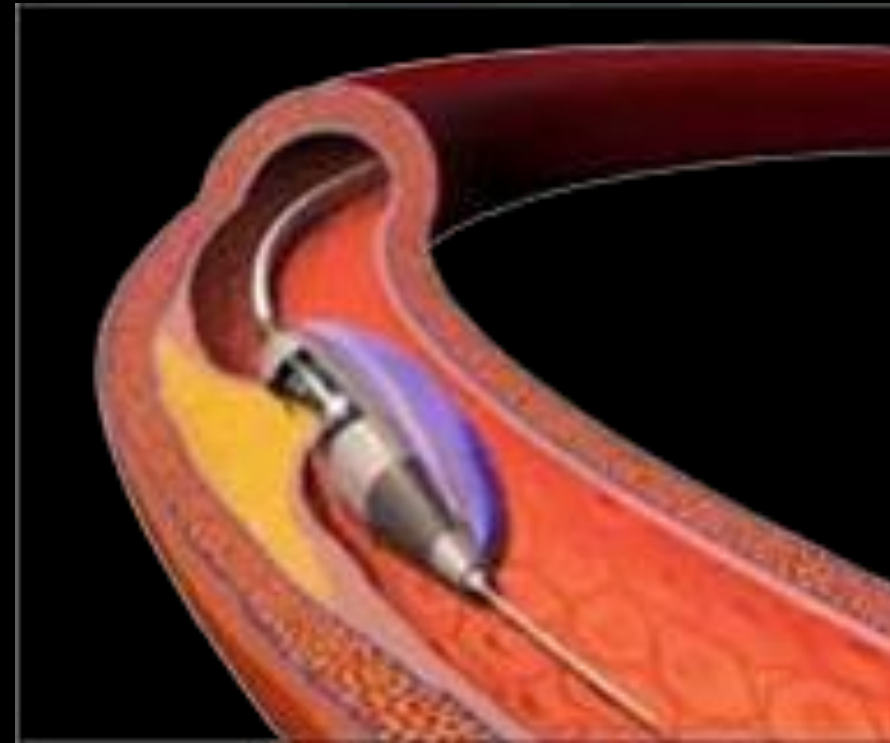
Device #4 Atherectomy



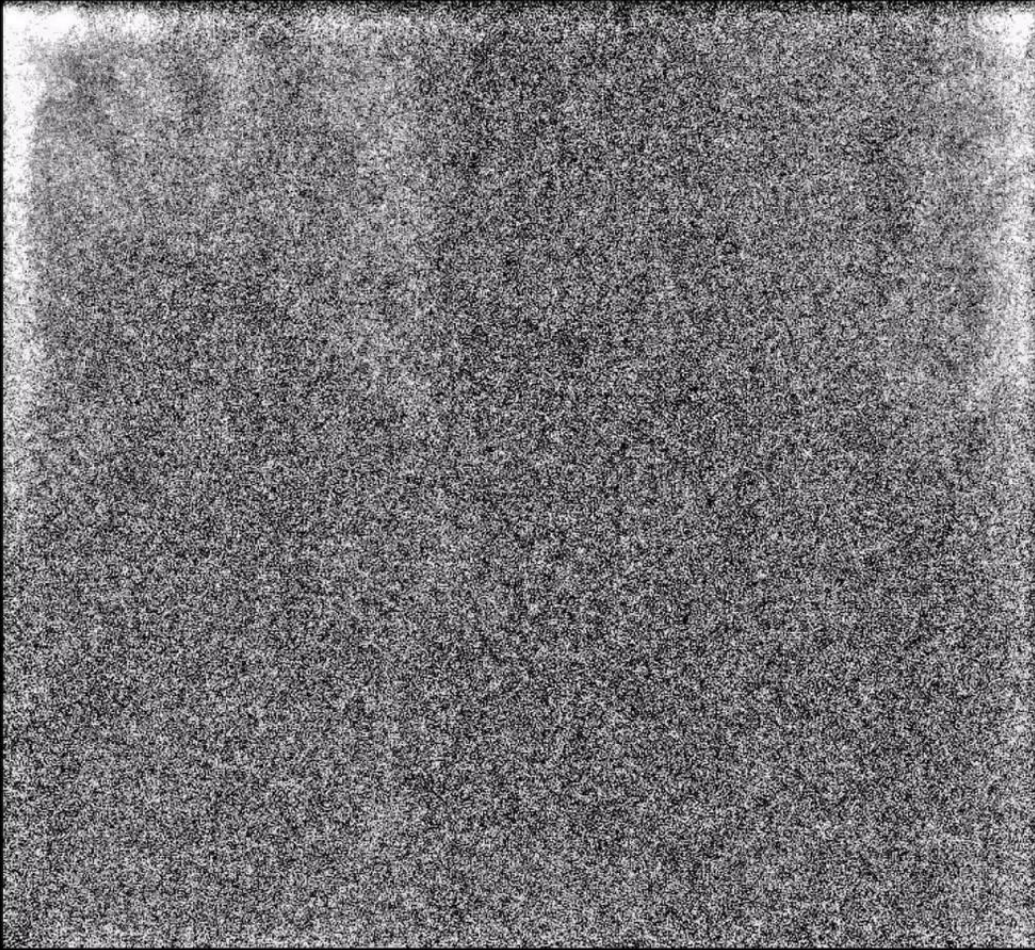
Rotational Atherectomy



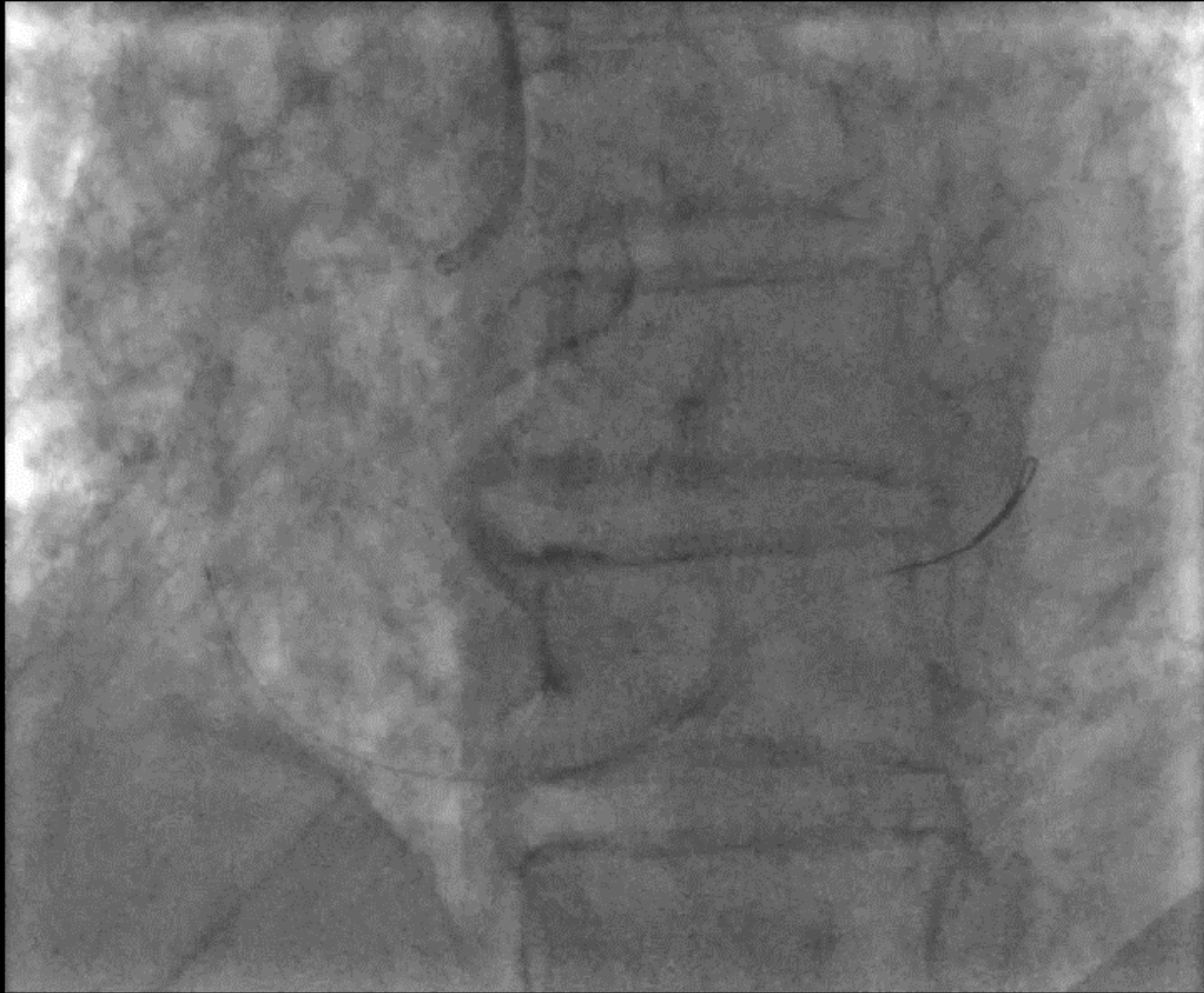
Orbital Atherectomy



Directional Atherectomy



- Swapped work-horse wire for Rota-Extra Support wire, 1.5 mm burr

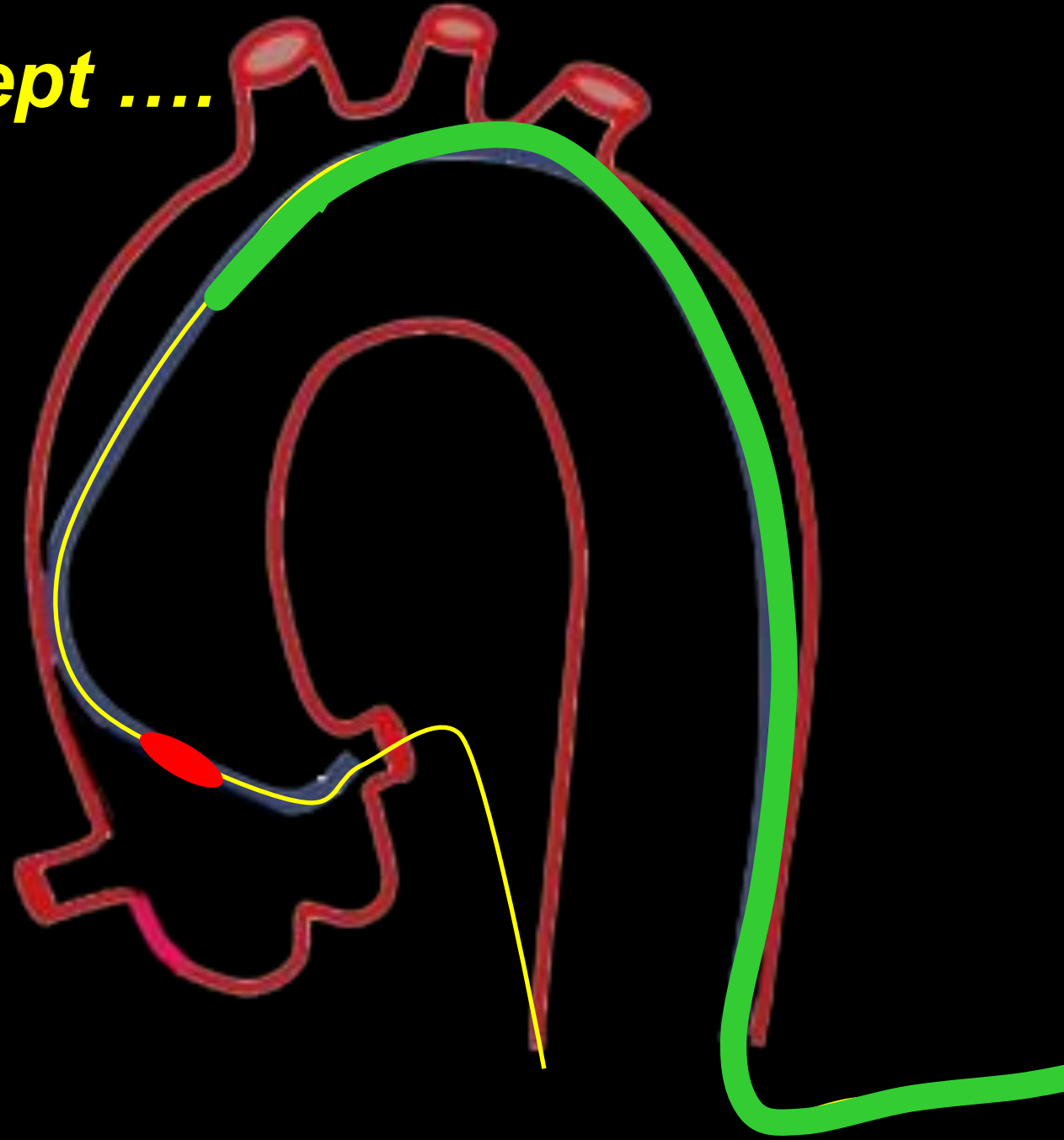


- Reminder: we had this horrible looking vessel, how do you swap wires?

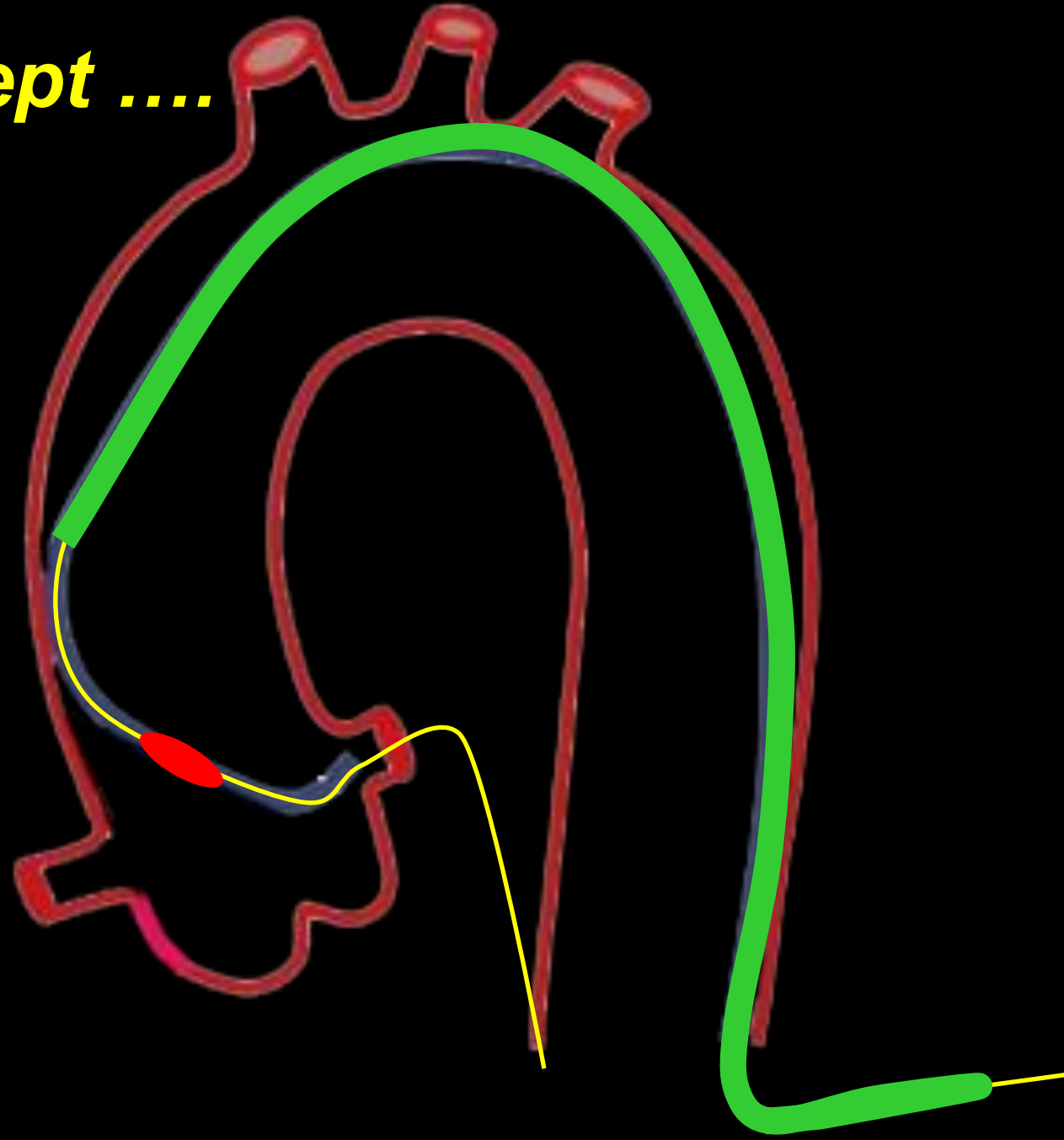
Device #5

Trapping balloon!

Basic Concept



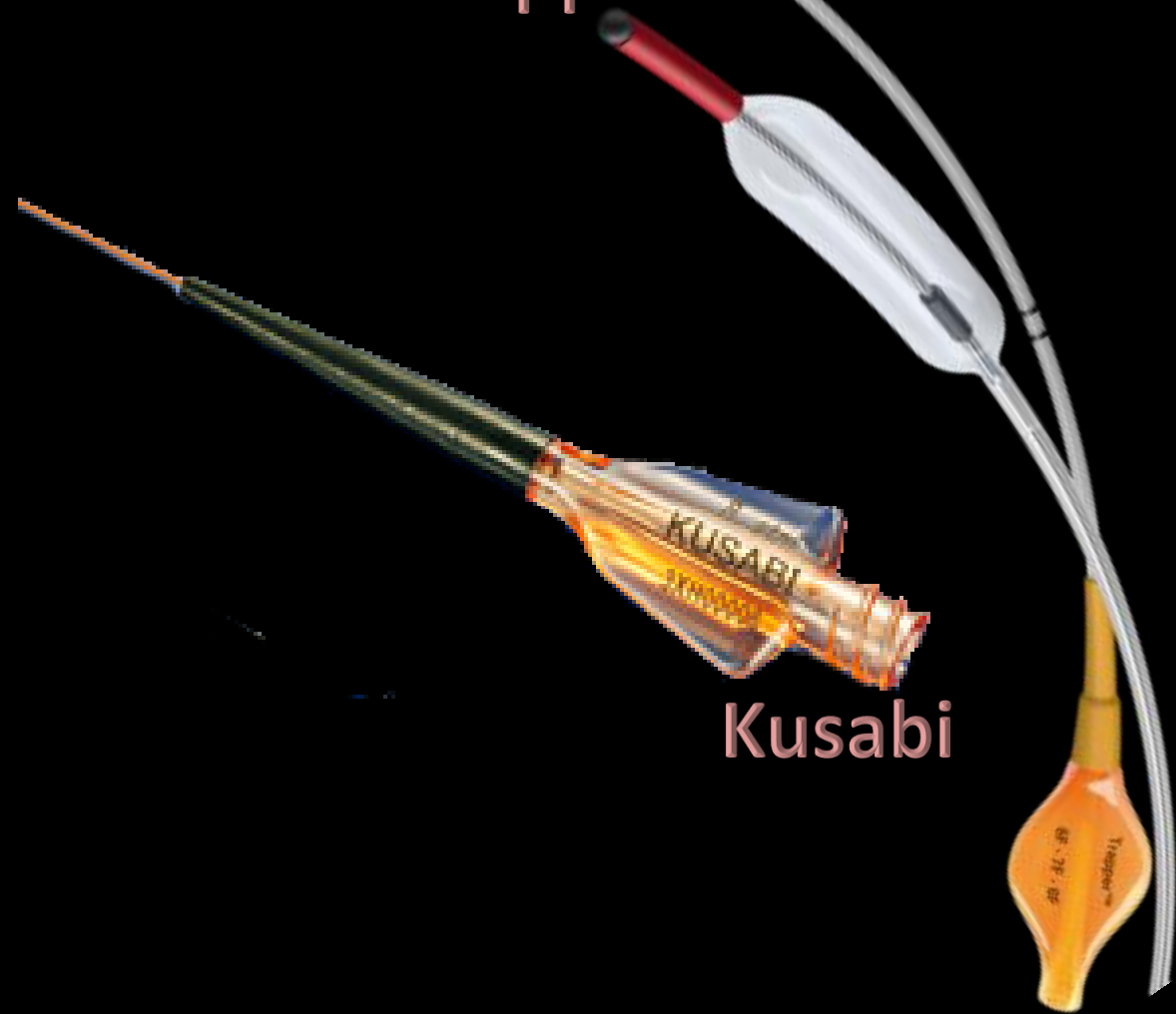
Basic Concept



Device #5

Trapping balloon!

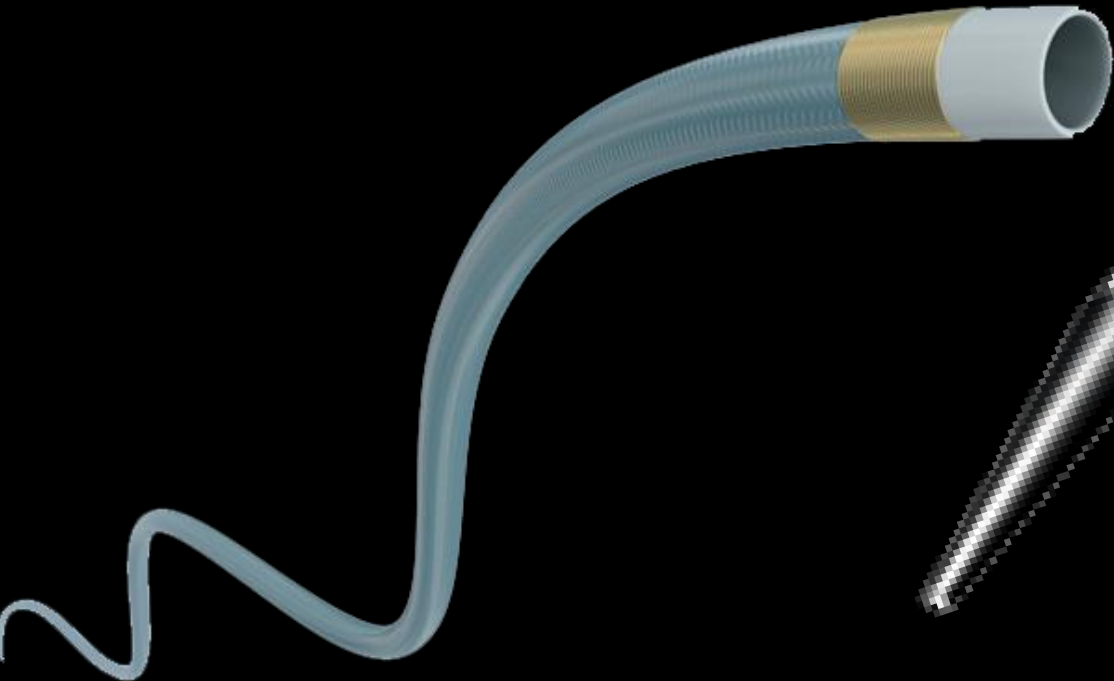
Boston Trapper



Kusabi



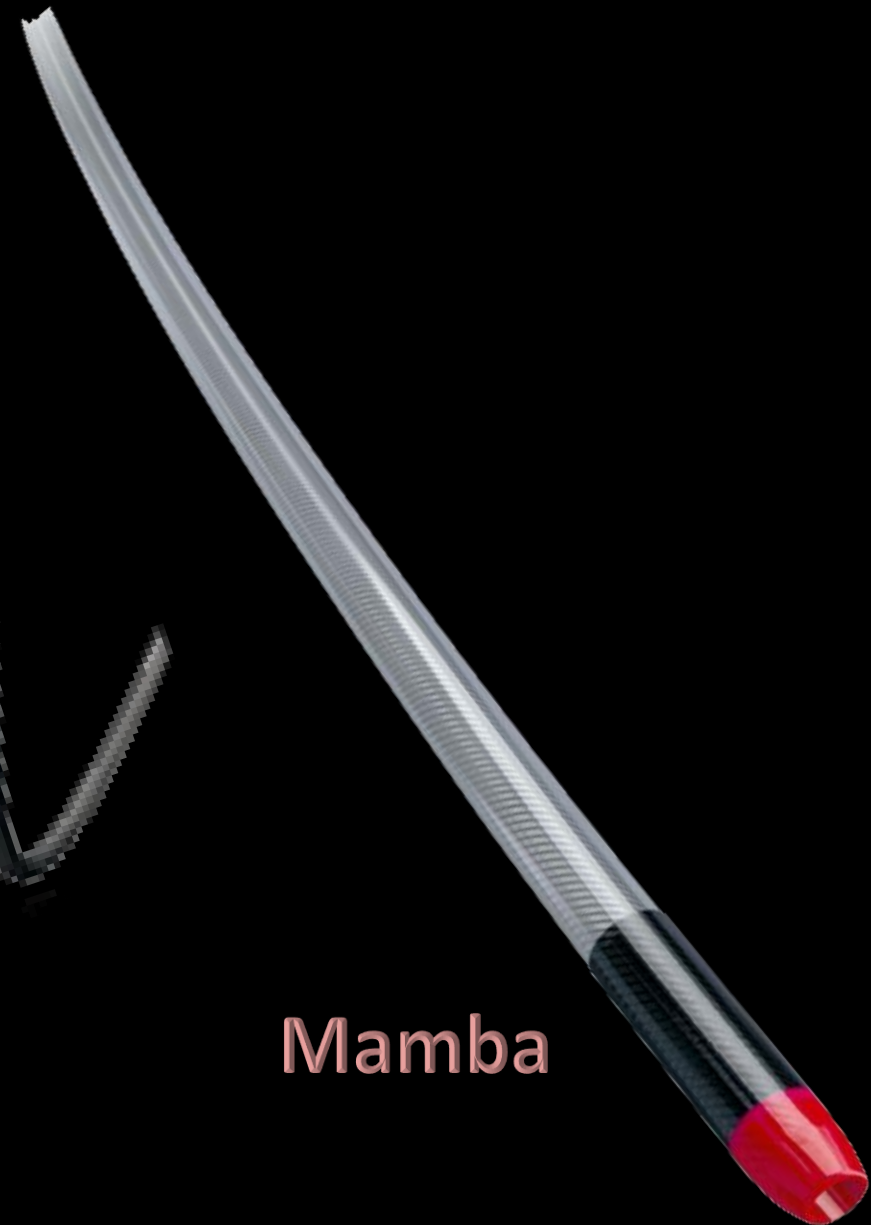
Device #5
Microcatheters



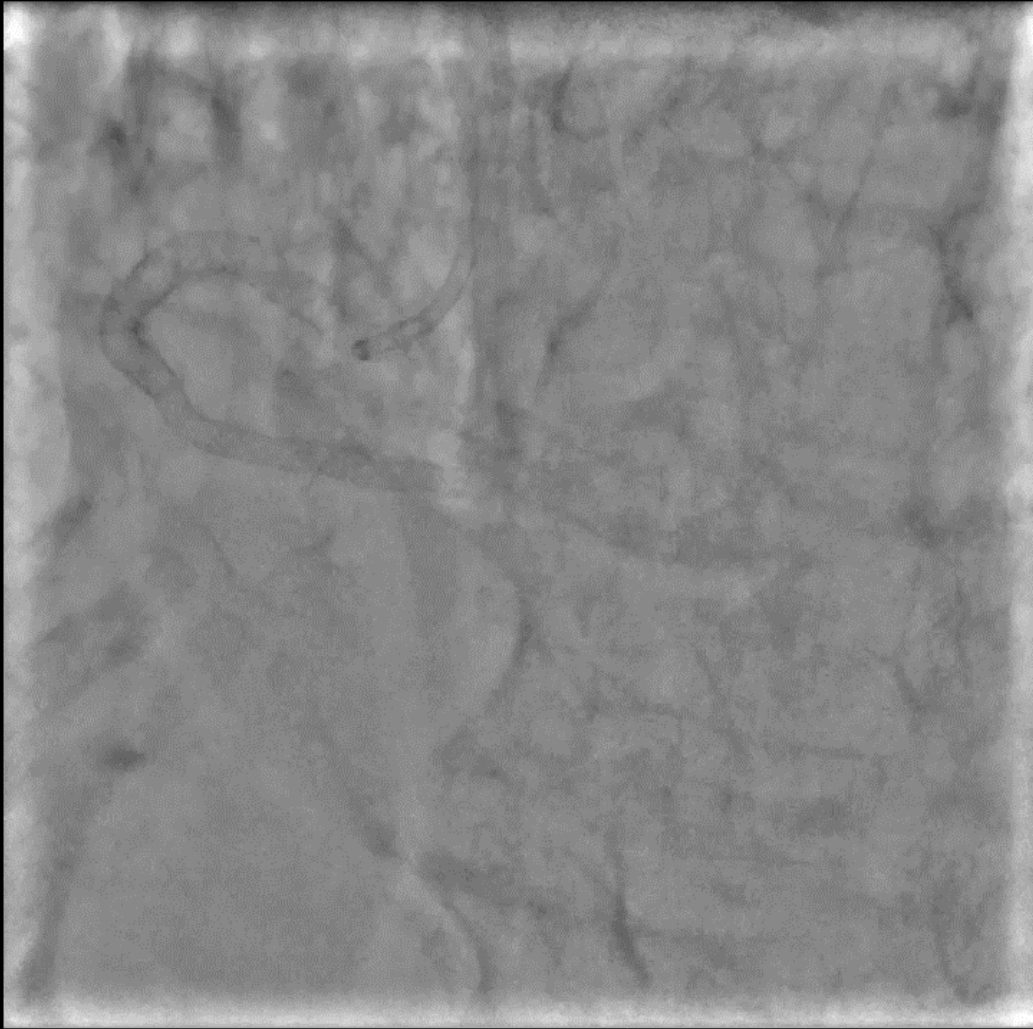
Finecross



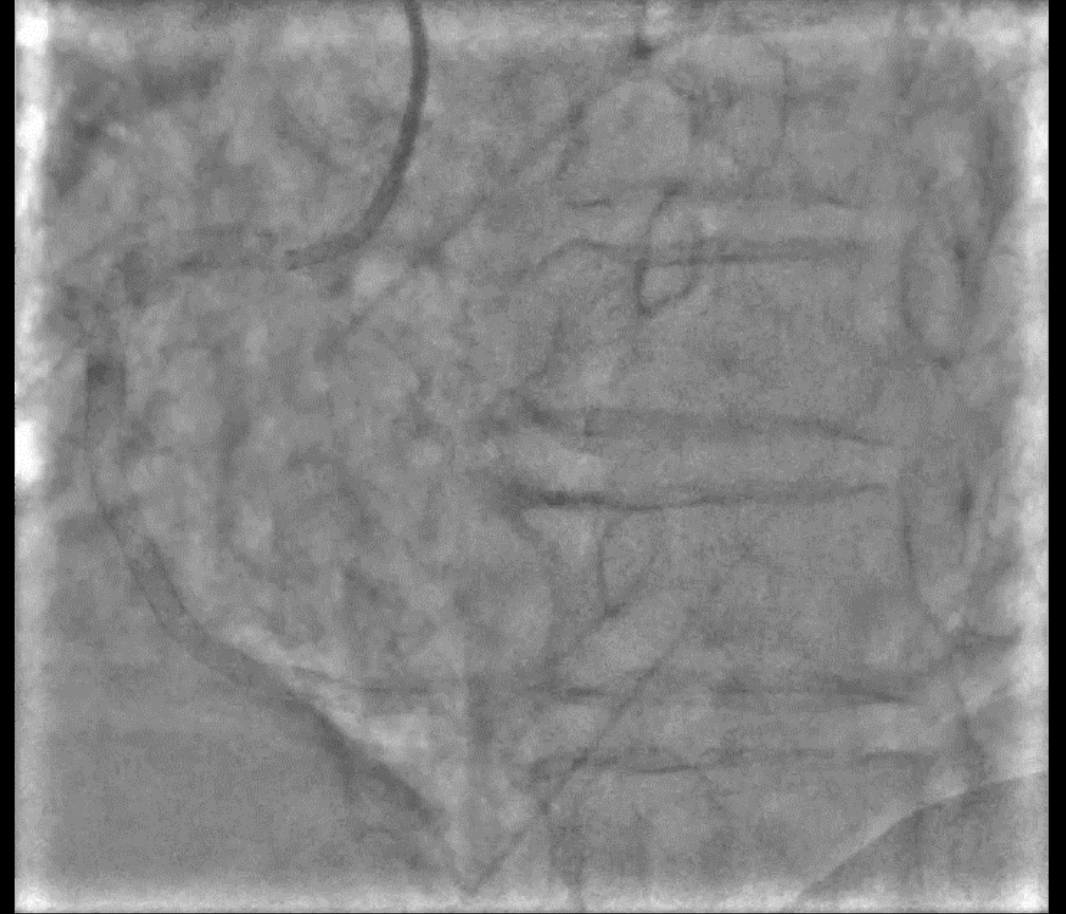
Corsair



Mamba



- Final



- Final

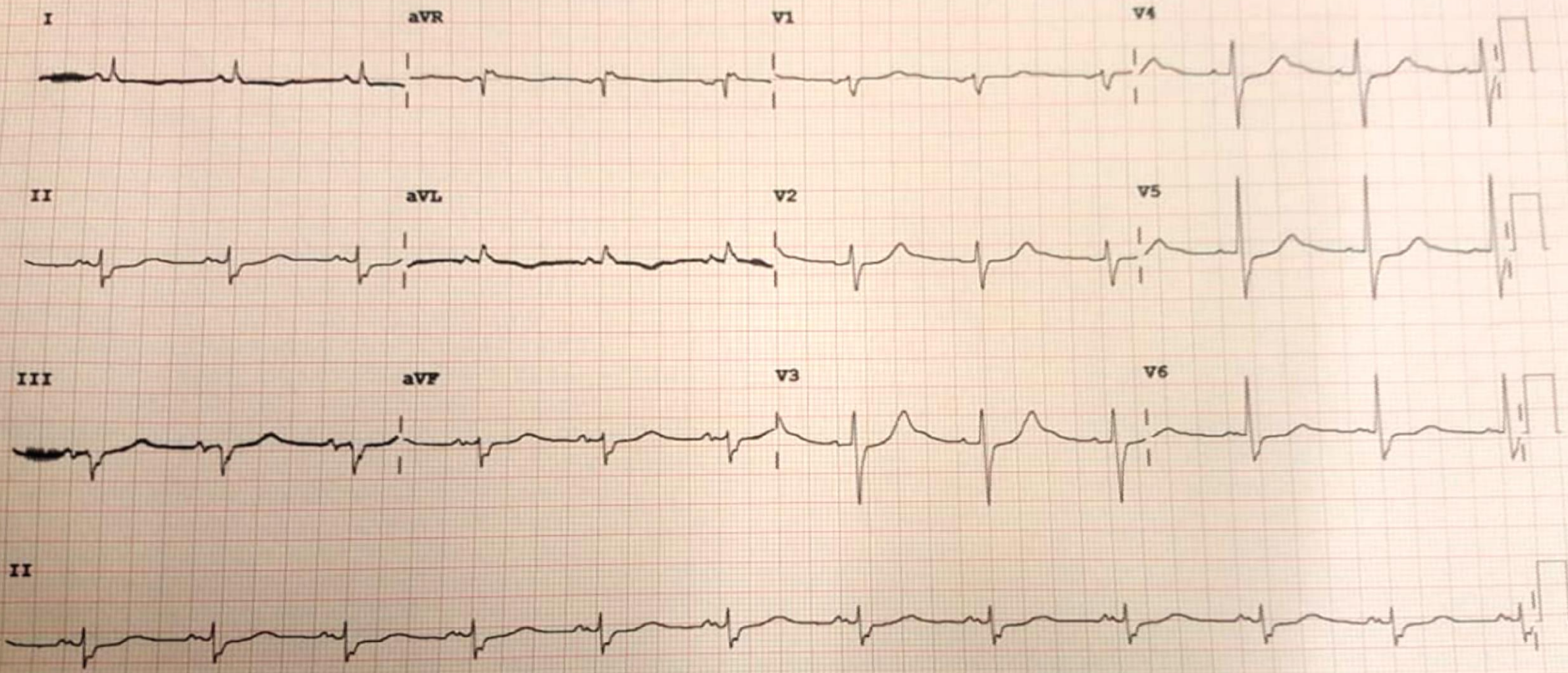
Post procedure

- Patient remained well
- Renal function stable, no recurrence of chest pain
- Post procedure EF 40% with inferior hypokinesis
- EKG post PCI immediately normalized

QRS -62
T 101
12 Lead; Standard Placement

- ABNORMAL ECG -

Unconfirmed Diagnosis



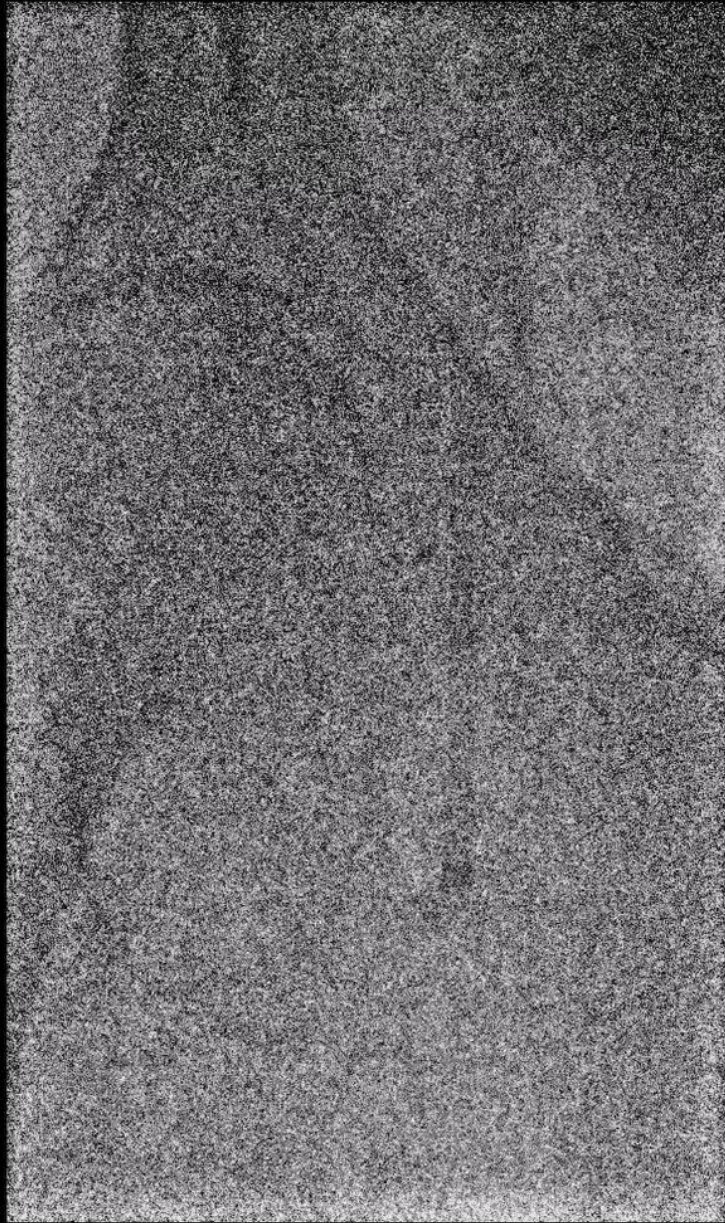
Device: Speed: 25 mm/sec Limb: 10 mm/mV Chest: 10.0 mm/mV

F 50~ 0.15-100 Hz

PH100B CL

So ...

- We were happy with ourselves we fixed the 'culprit' artery
- Plan to stage the left main and LAD 3 days later



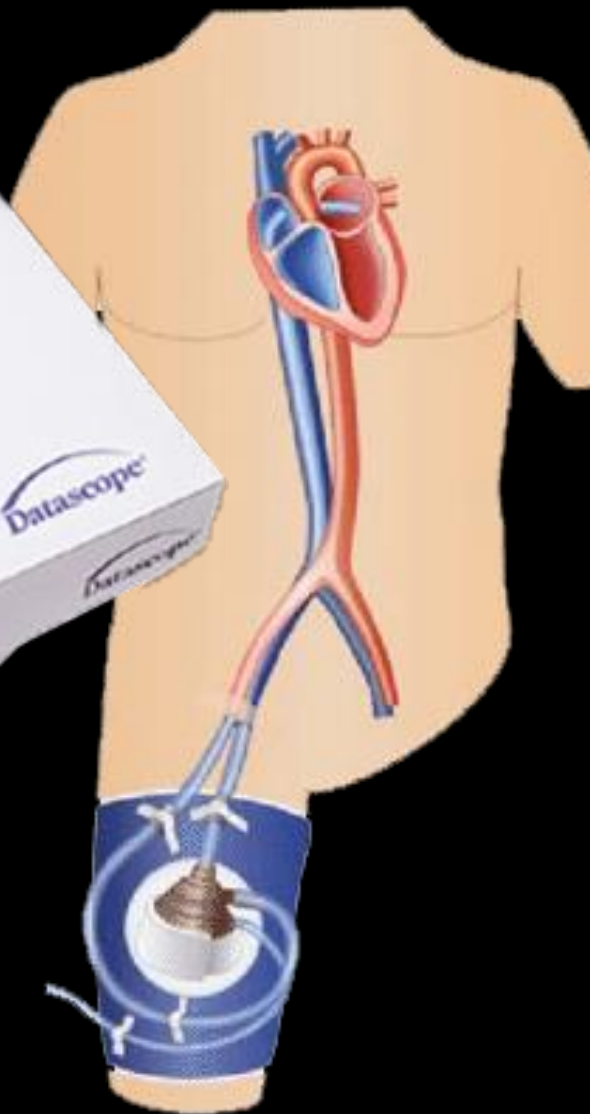
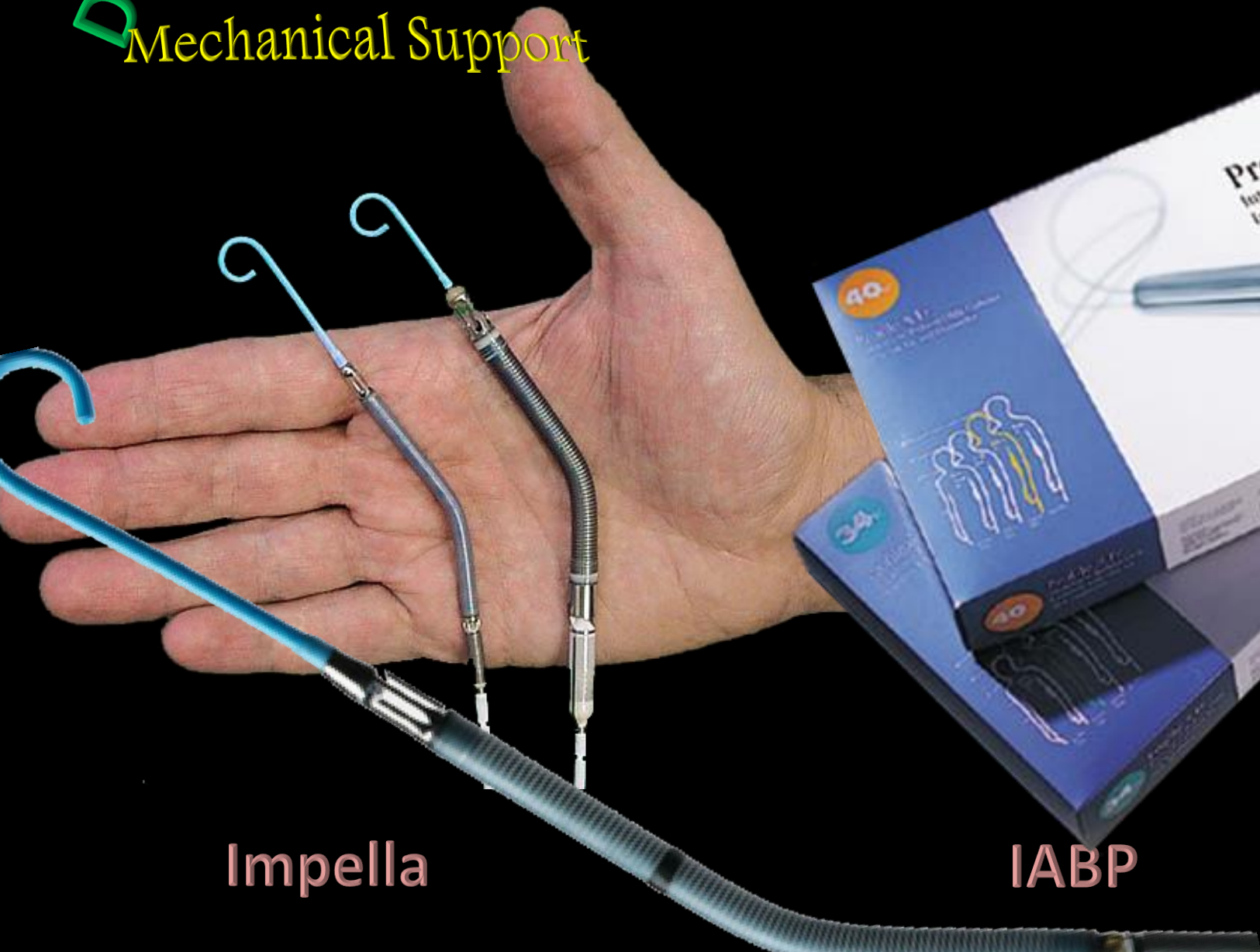
- Kept a 4F sheath in the right femoral artery “just in case”
- Did PCI via right radial artery approach

Device #6

Mechanical Support

Device #6

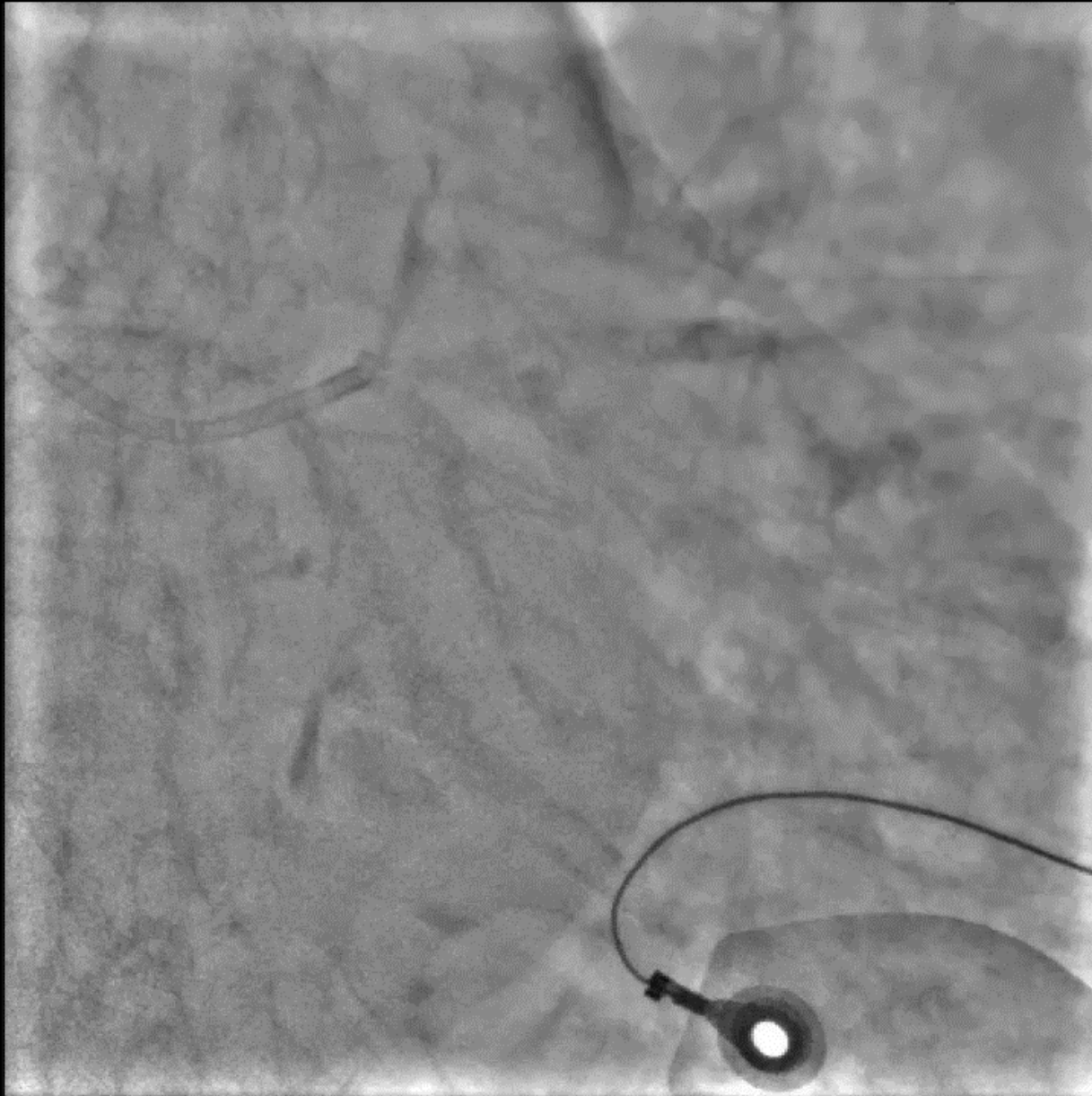
Mechanical Support



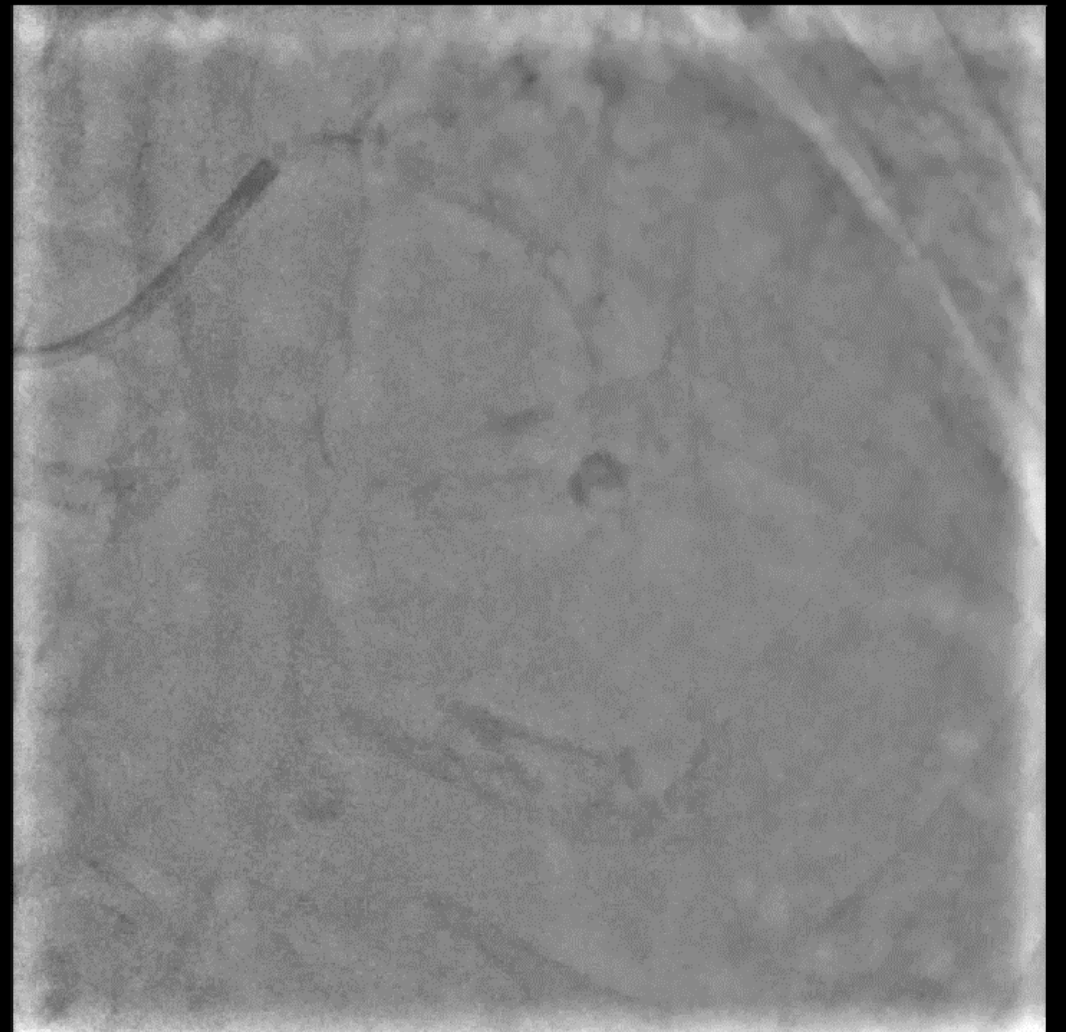
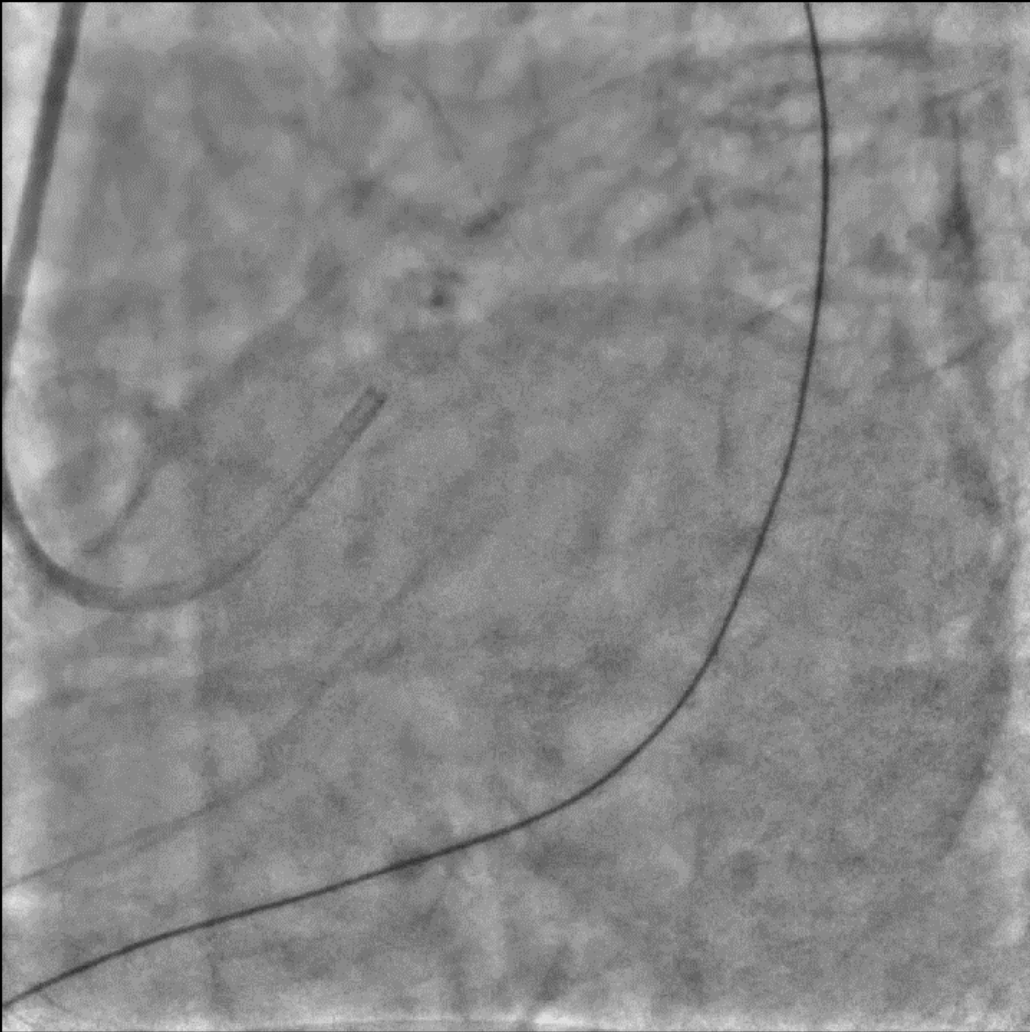
Impella

IABP

ECMO



- First picture – previously presumed “chronically occluded” LCx is back !!
- Looks like we fixed the wrong “culprit” !



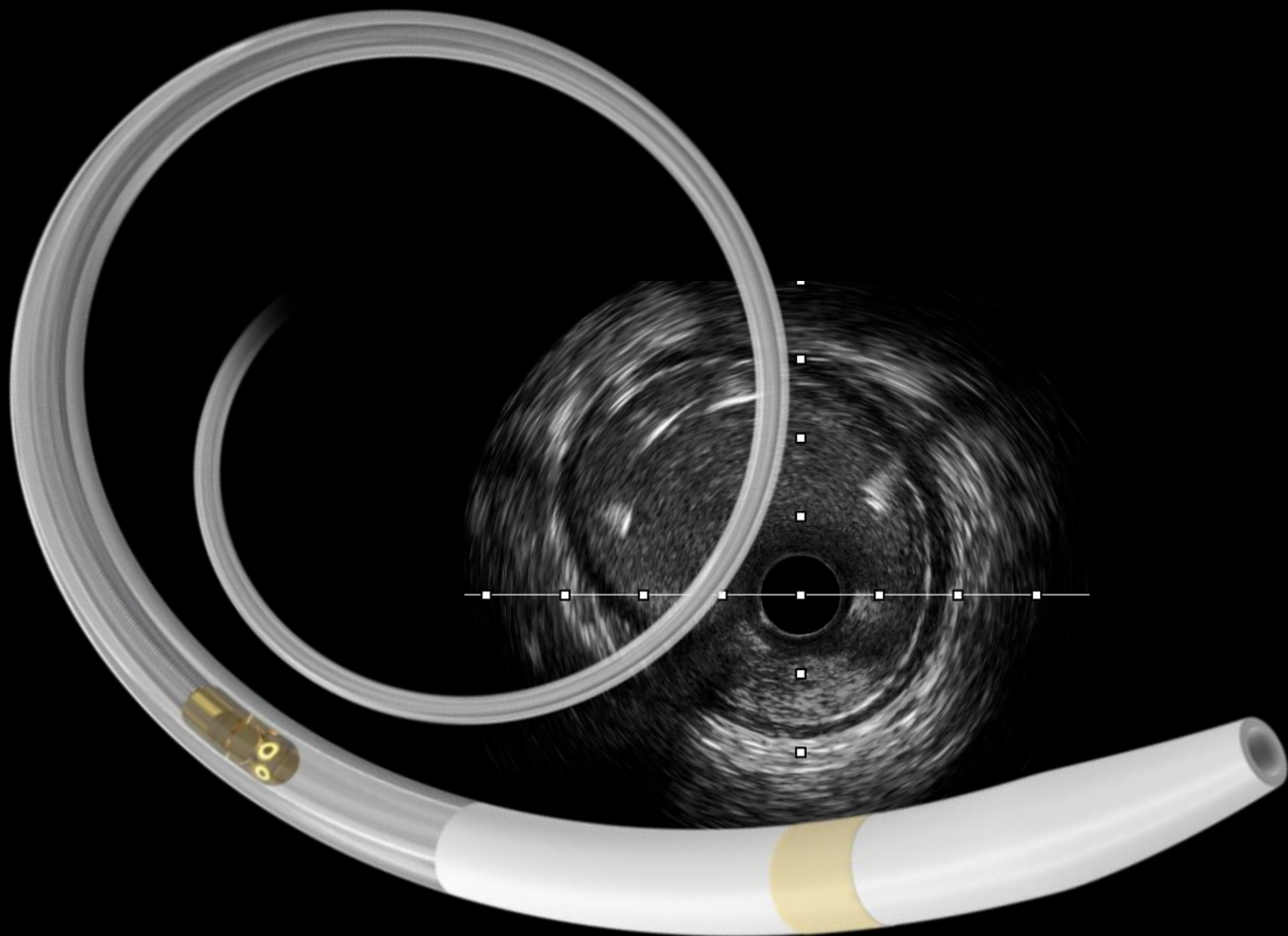
- LCx is a pretty big vessel !



- OCT – heavily calcific plaque in LAD and distal left main

Device # >

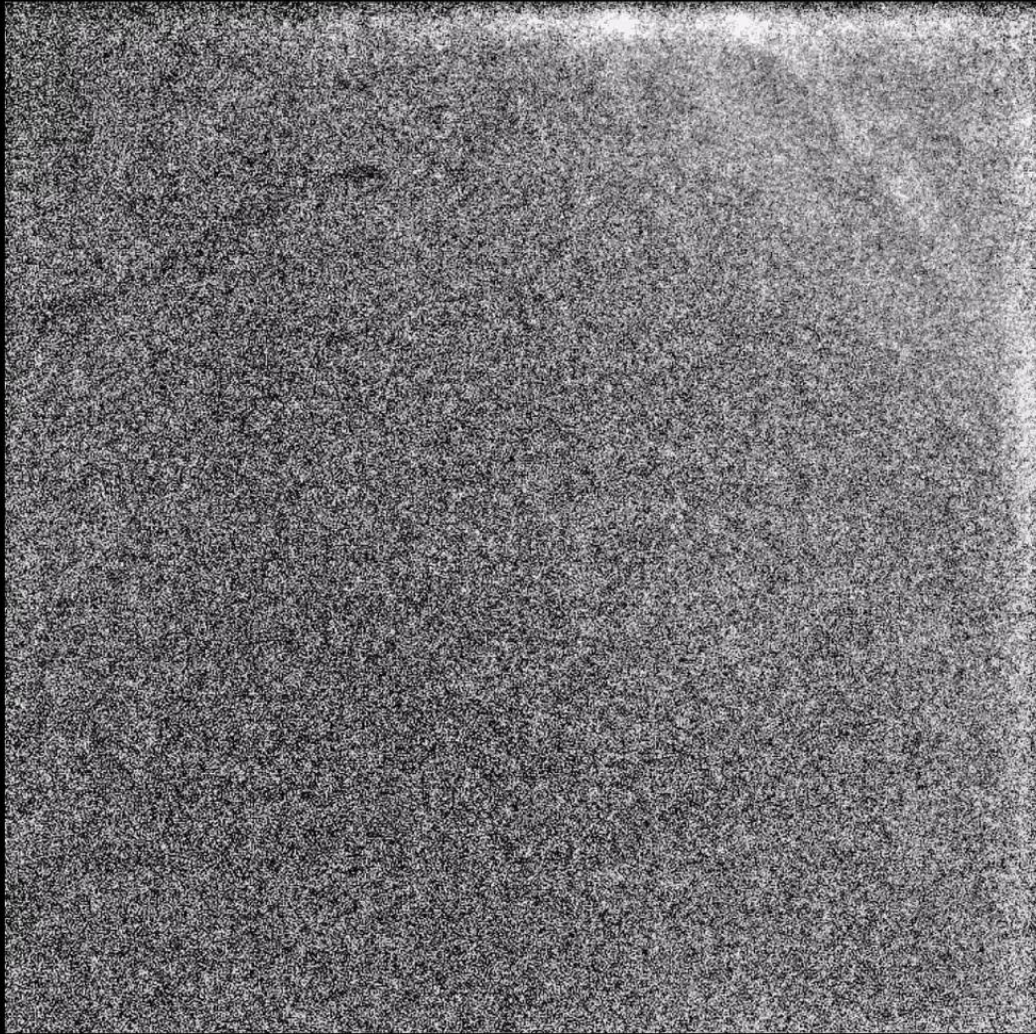
Intracoronary imaging



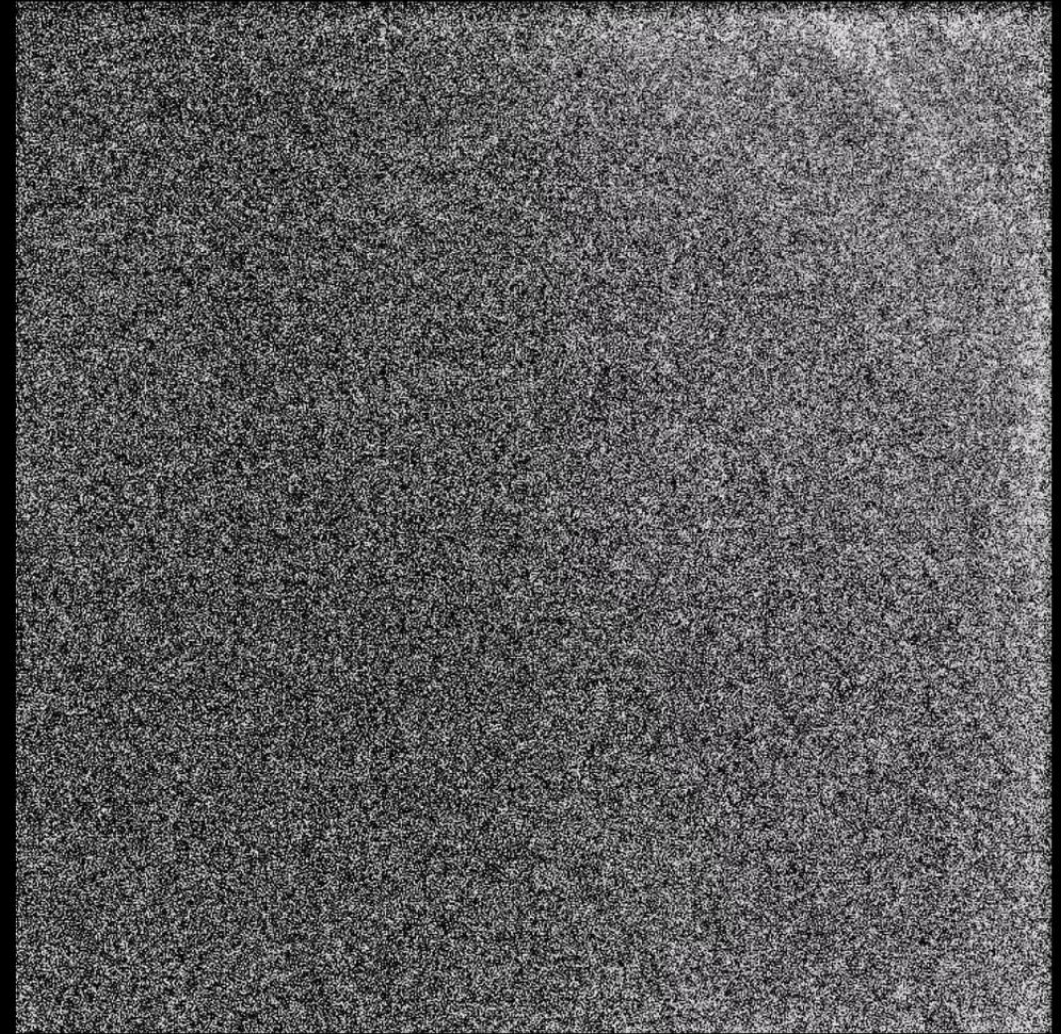
IVUS



OCT



- Rotablation



- After rotational atherectomy



- LCx dilated with a scoring balloon then treated with drug-coated balloon

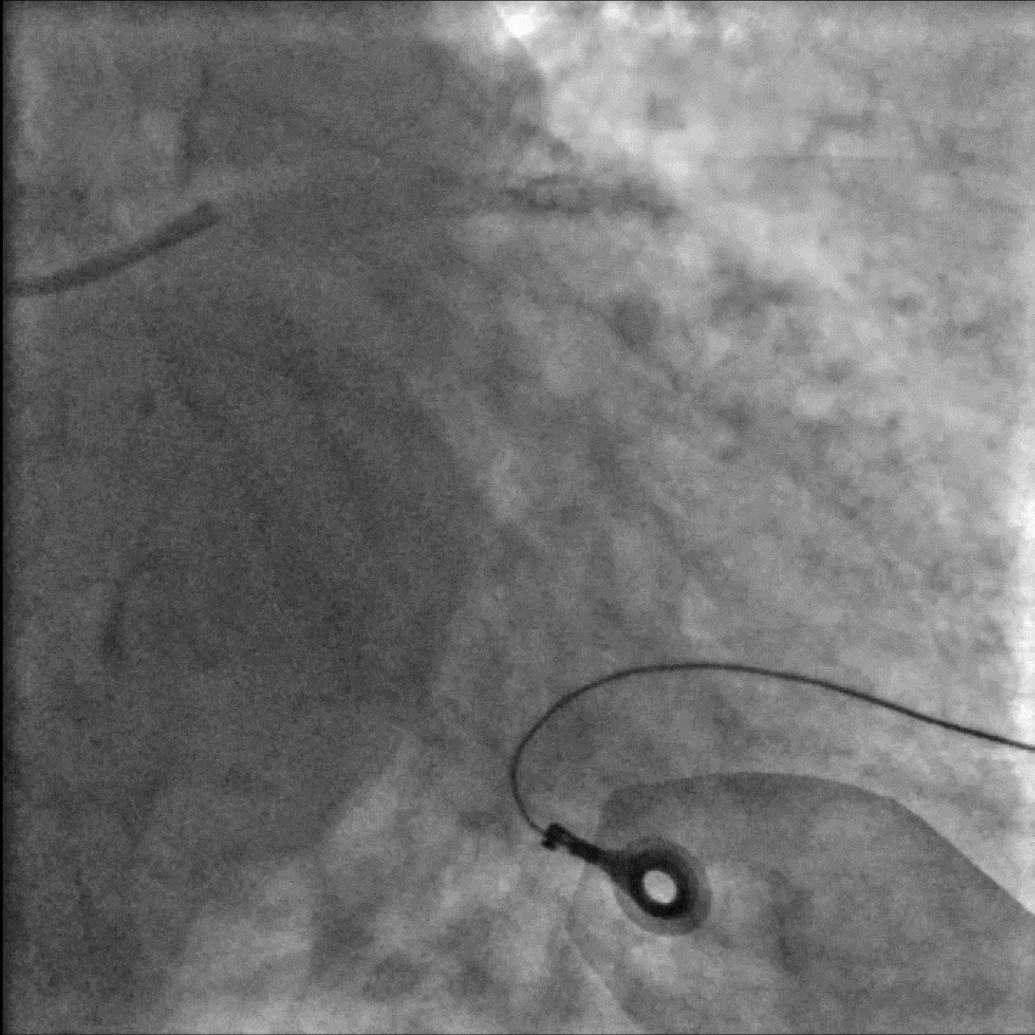
Device #8
Drug-coated balloon

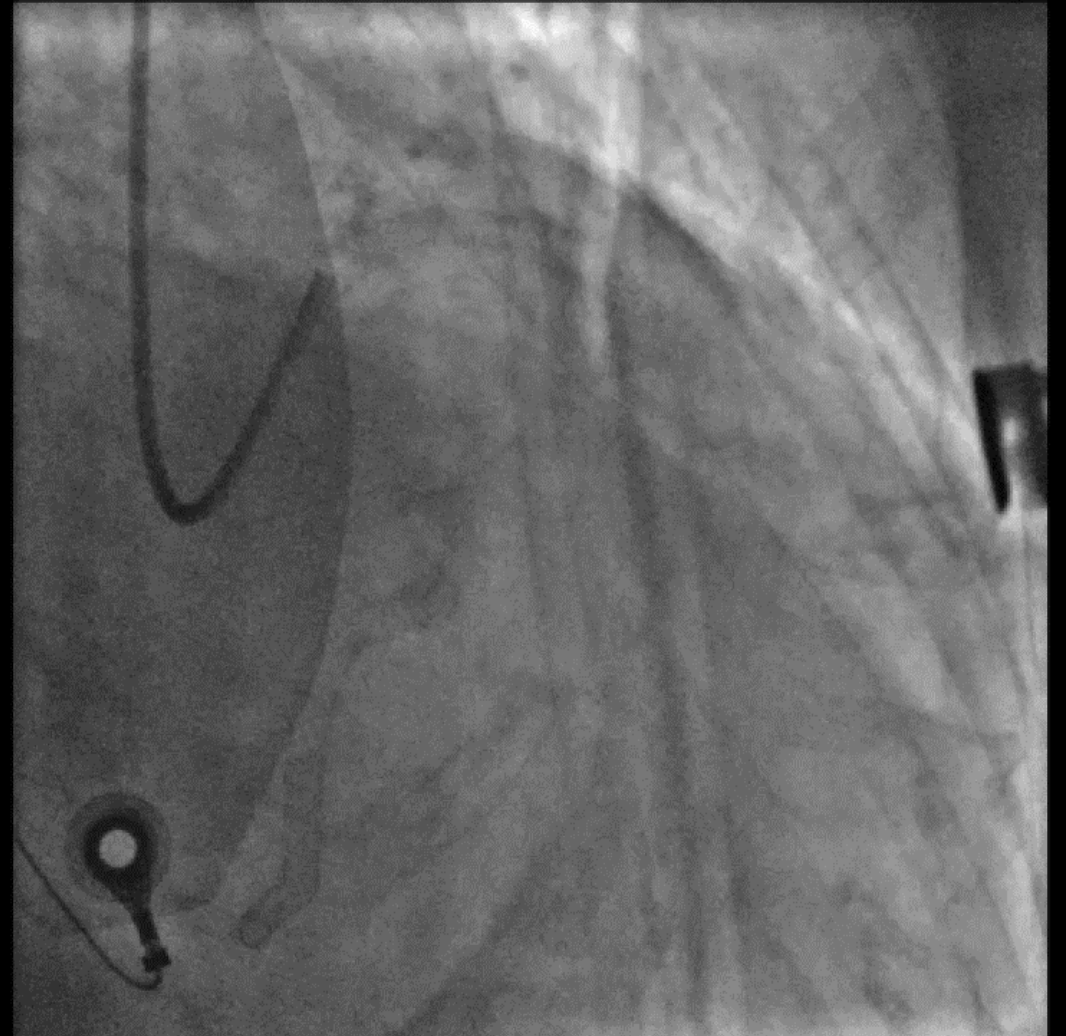
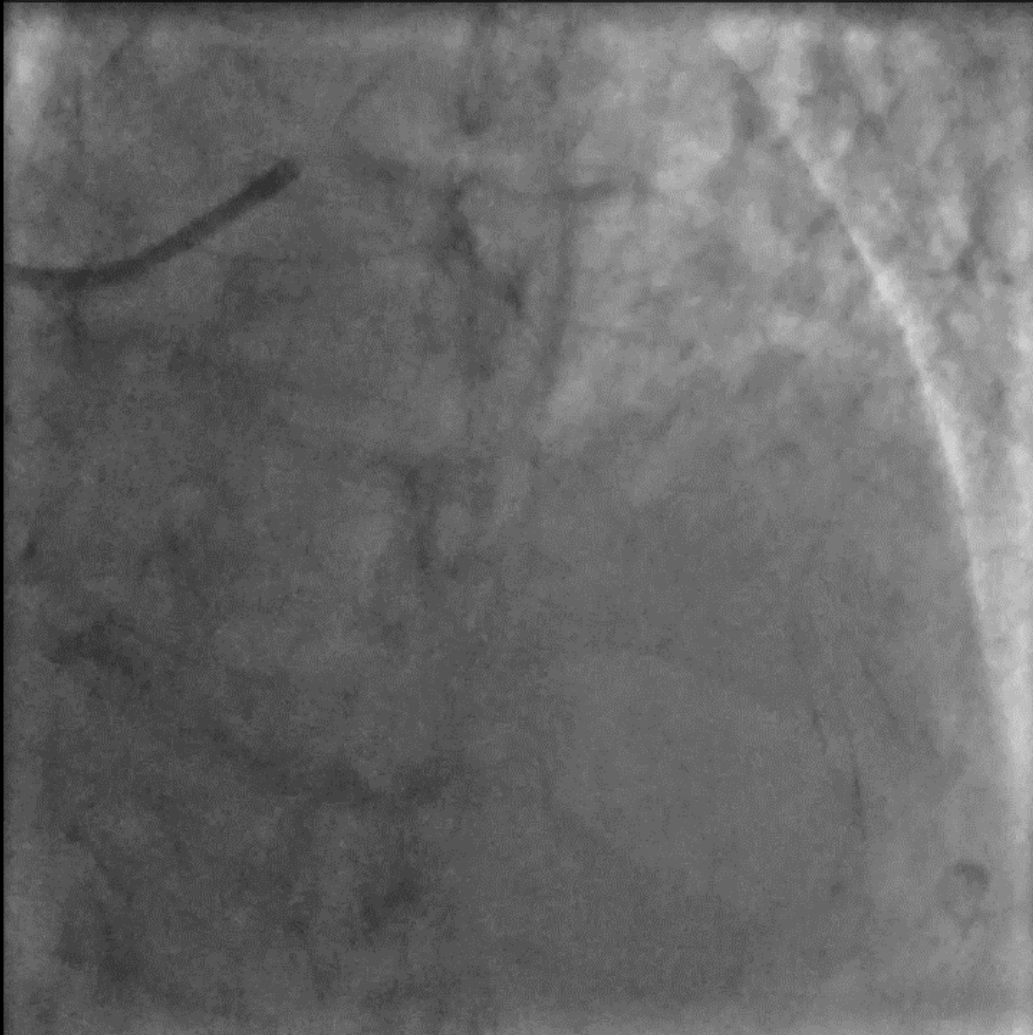


Agent paclitaxel coated balloon



Sequent Please paclitaxel coated balloon





Conclusions

- CHiP interventions in some form or the other are a fact of life in the cardiac catheterization laboratory
- It is almost impossible to do a complex PCI without devices
- Liberal but thoughtful use of devices can make the difference between a successful and failed PCI
 - And may prevent the “C” in CHiP changing to “**complicated**”
- It is important for interventionalists today to be well familiar with different devices

धन्यवाद!

谢谢

SALAMAT

DANKE

Ca'm en

شكر

ကျေးဇူးတင်ပါတယ်

ありがとう

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Спасибо

Gracias

감사

MERCI!