

# Is There a Role for DCB in STEMI?

**Sandeep Basavarajaiah MD, MRCP, FESC**

**Heartlands Hospital**

**University Hospitals Birmingham, United Kingdom**

# Disclosure

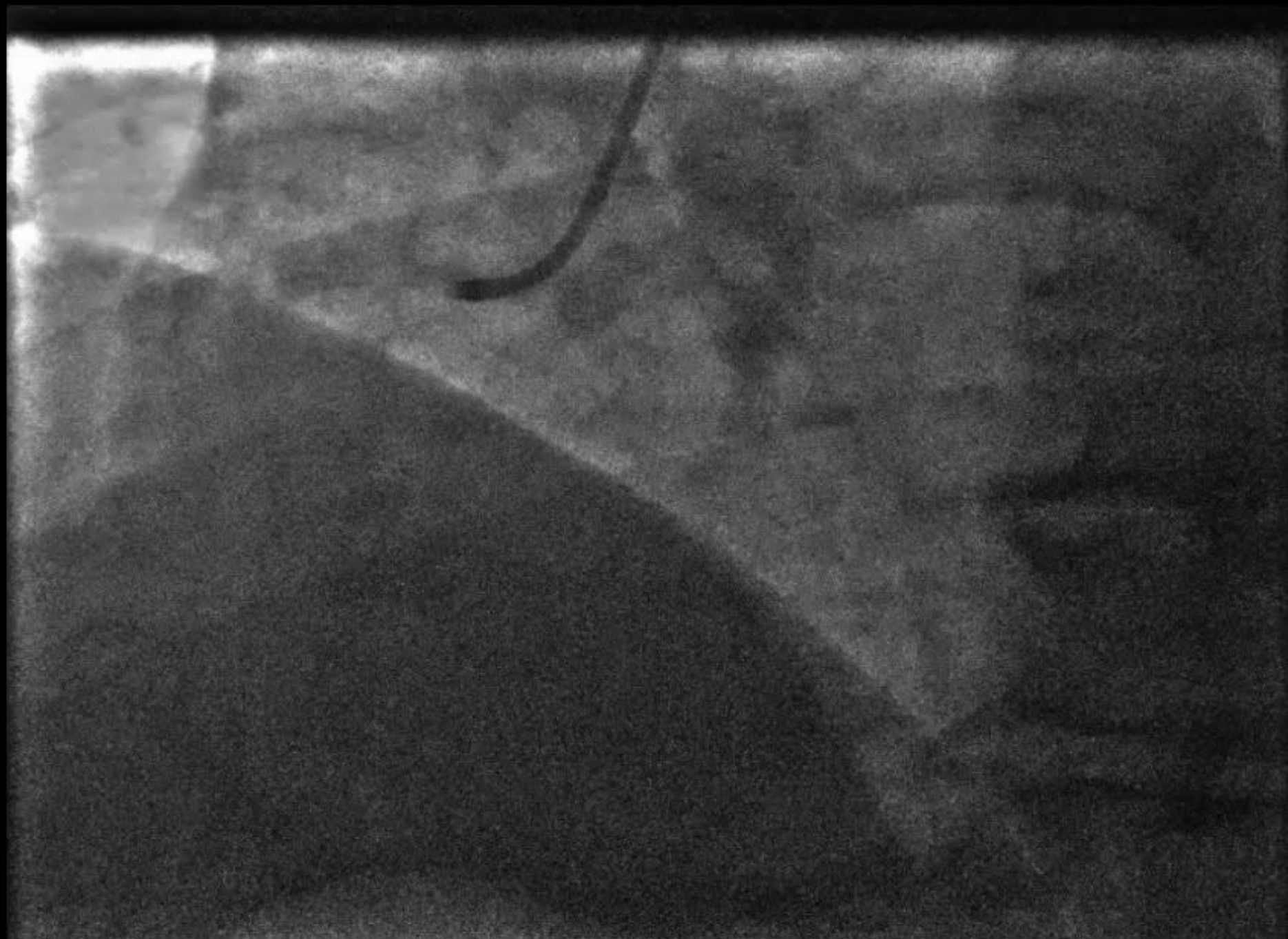
- No conflicts of interest to declare for this talk

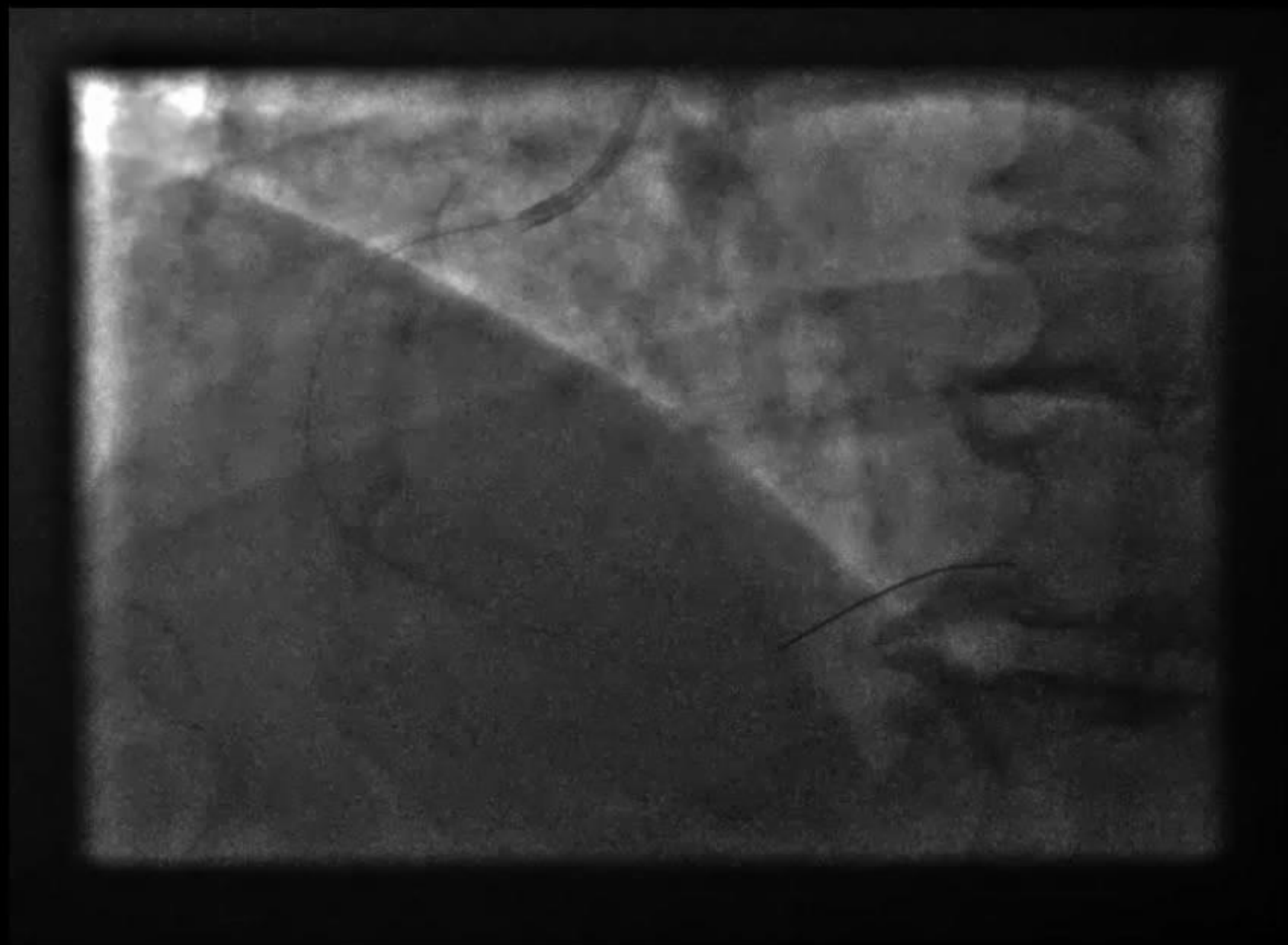
# Main goals during STEM-PCI

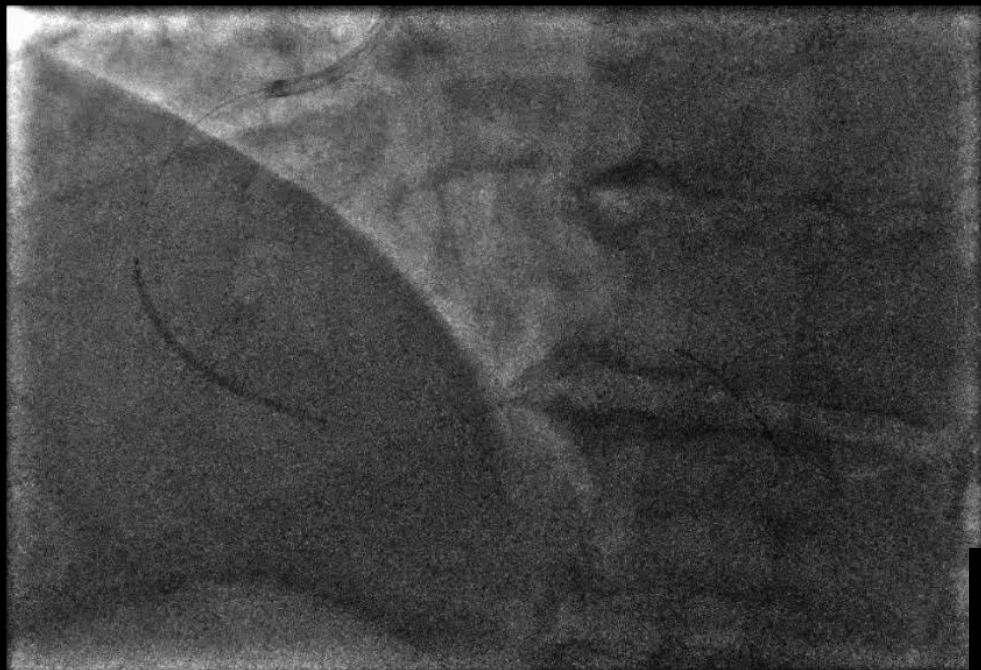
- Establish TIMI3 flow
- To keep the procedure simple and short

# Factors that hinders this goal?

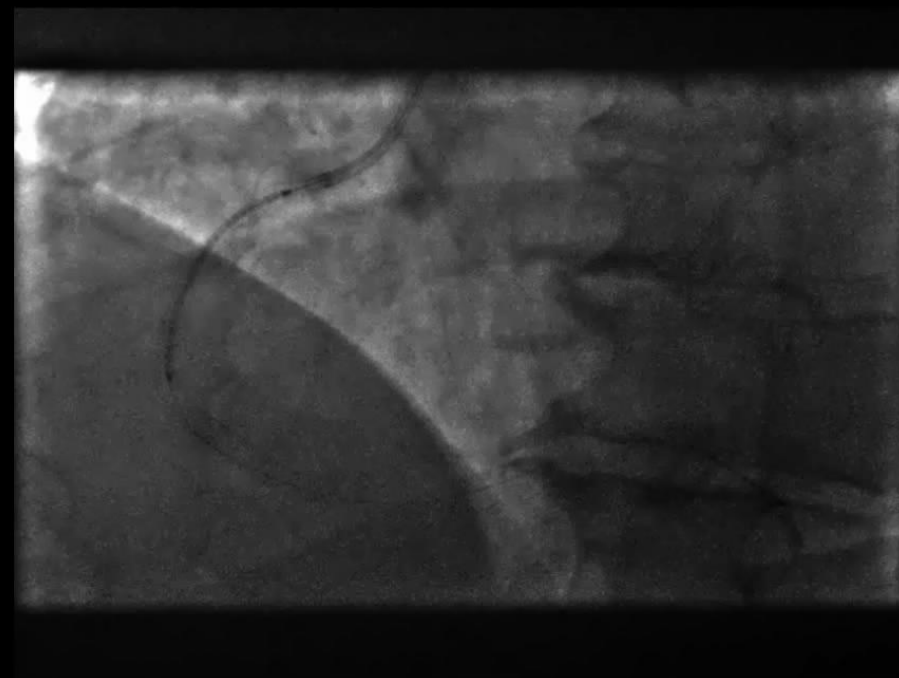
- High thrombus burden
- Slow flow (from thrombus and stent optimization)
- Complex anatomy
- Vessel size is underestimated during STEMI





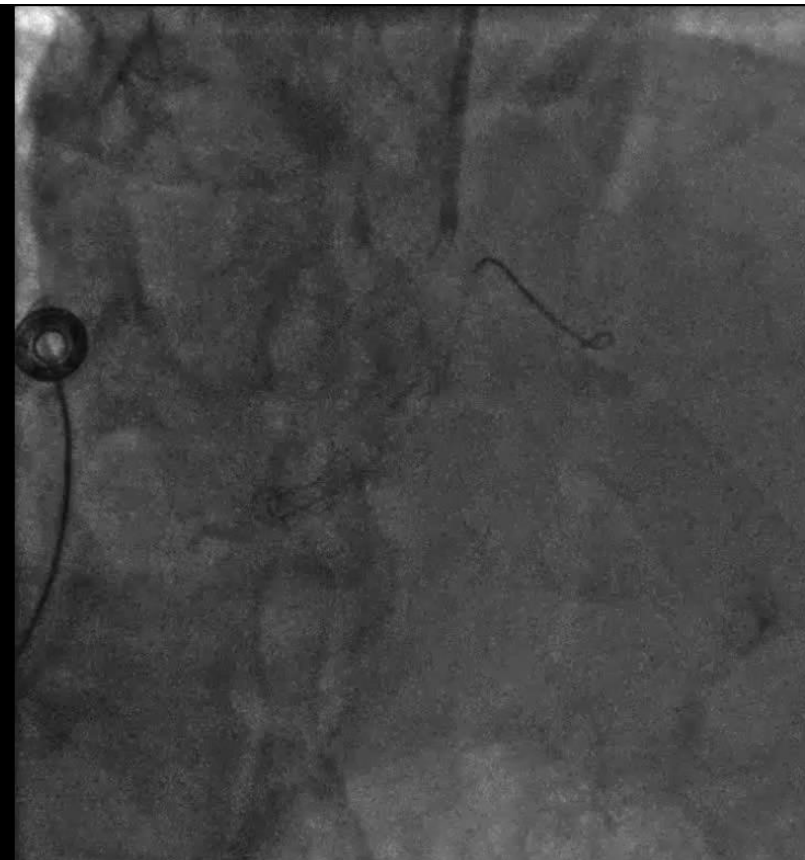


**2 DES**

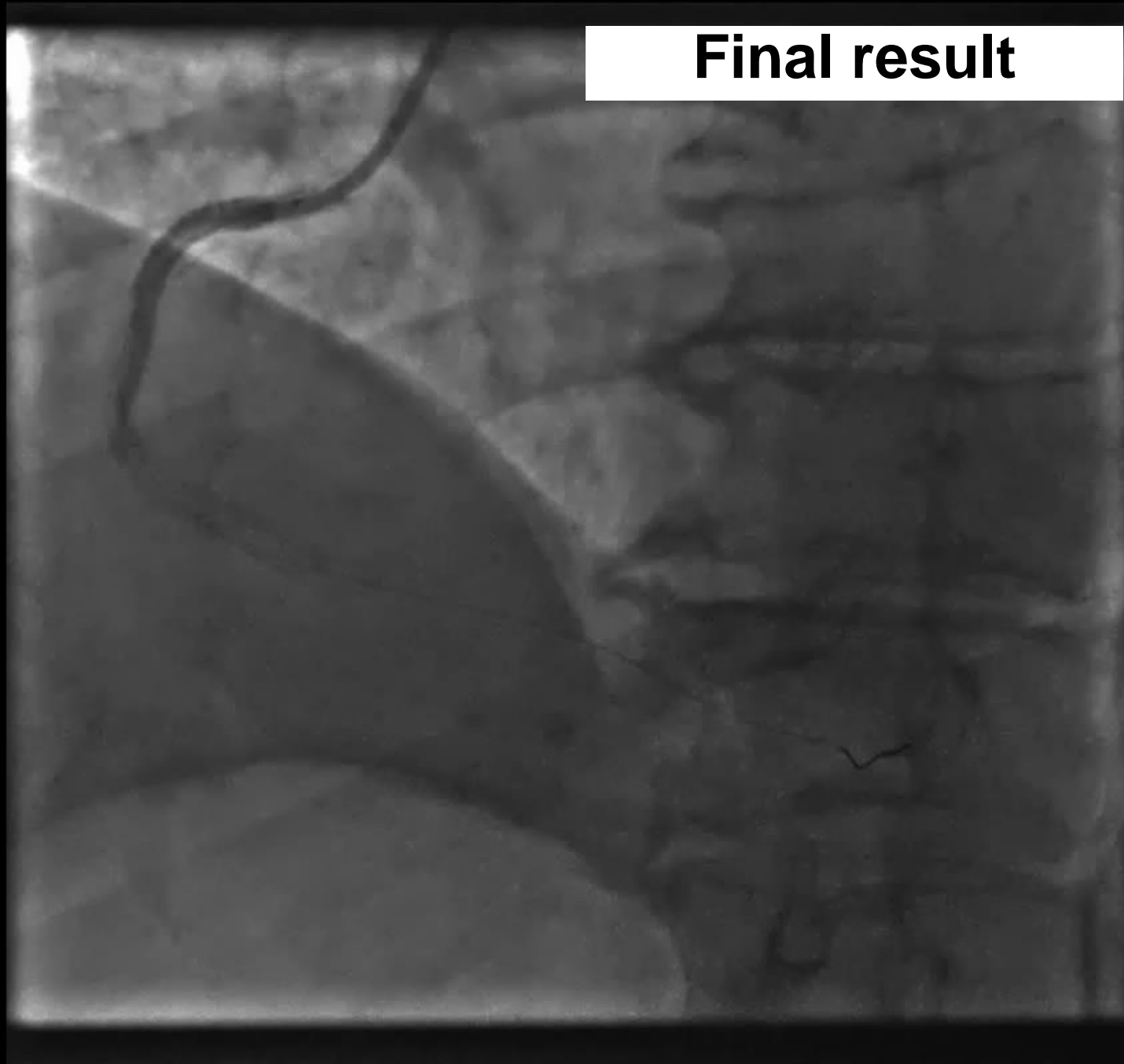




**Slow flow**



**Final result**

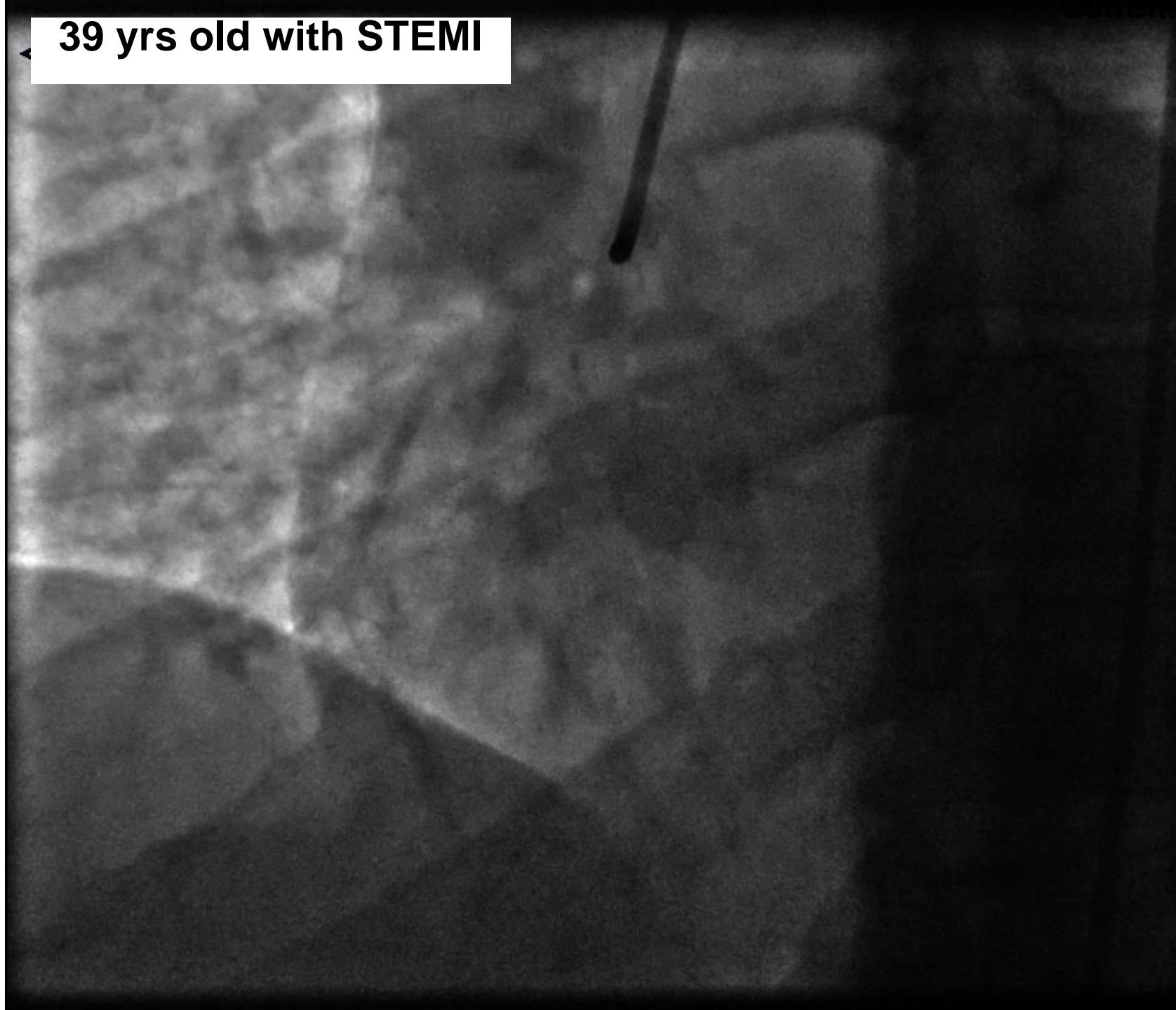


# Is there a role for DCB in STEMI?

# Potential advantages of DCB in STEMI

- Simplifies PCI (pre-dilatation and DCB, finish)
- Maintains original artery anatomy
- DAPT can be shortened if any future issues
- No risks of stent thrombosis or ISR

39 yrs old with STEMI



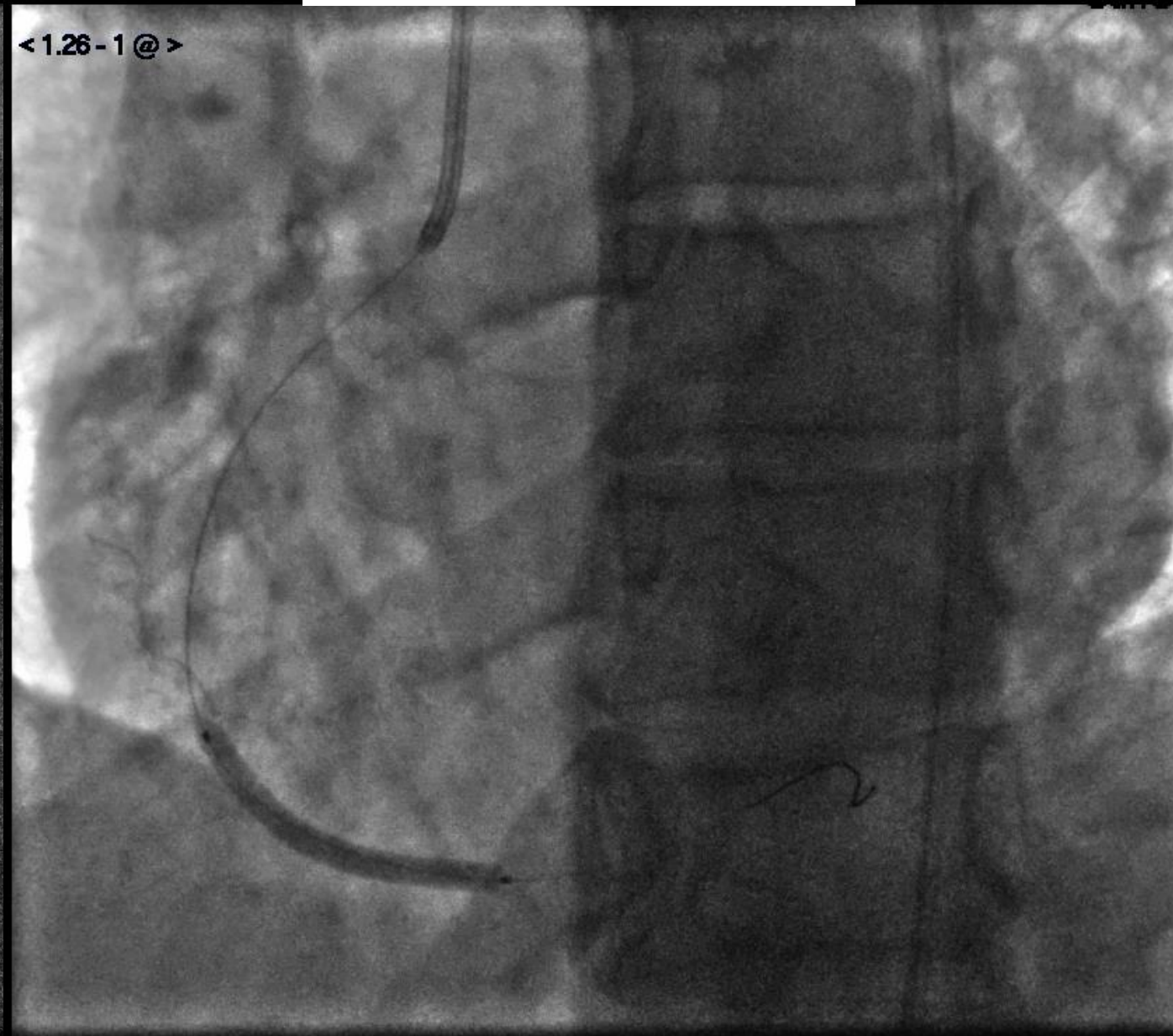
**2.5 x 30 SCB**

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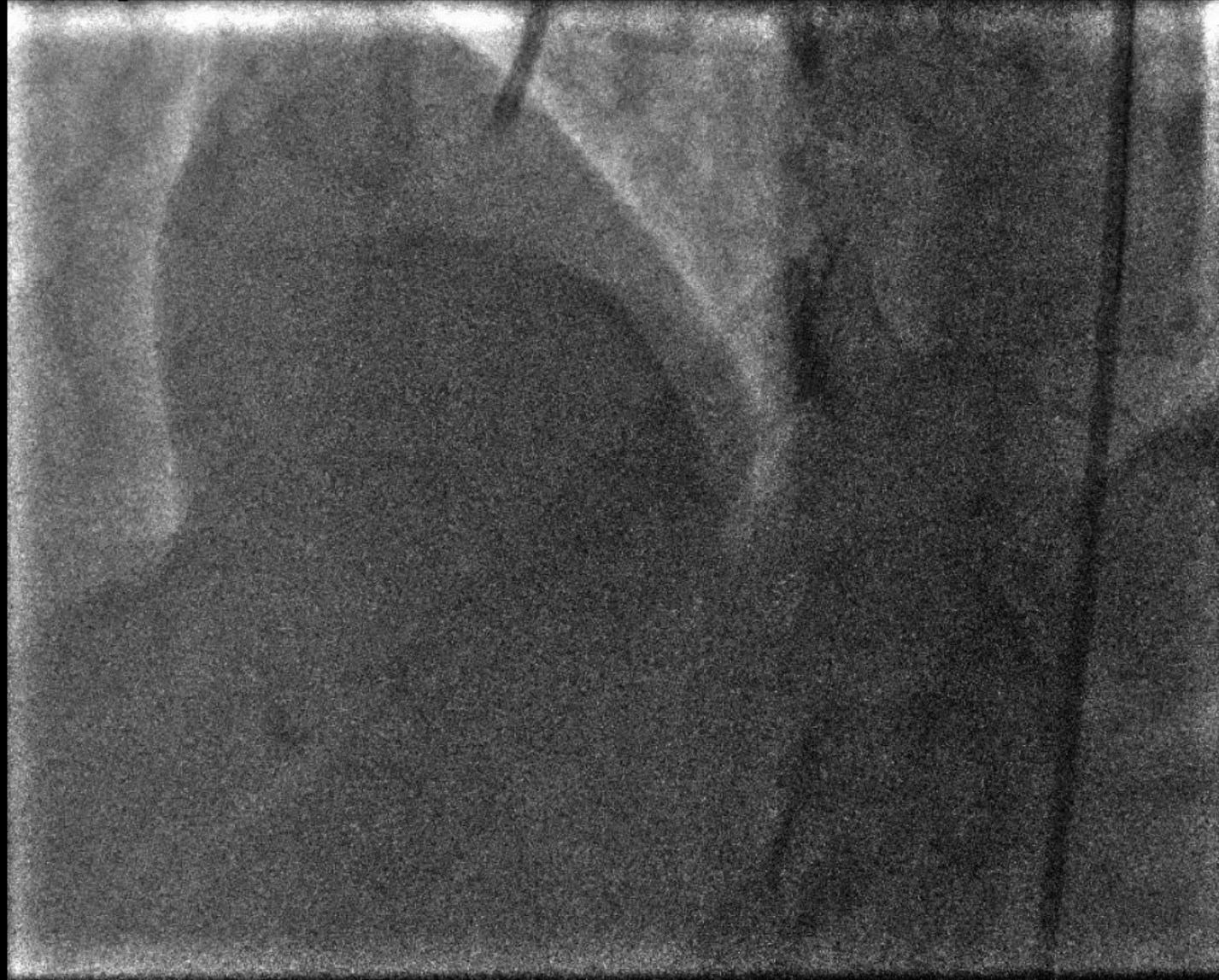


**3.0 x 30 SCB**

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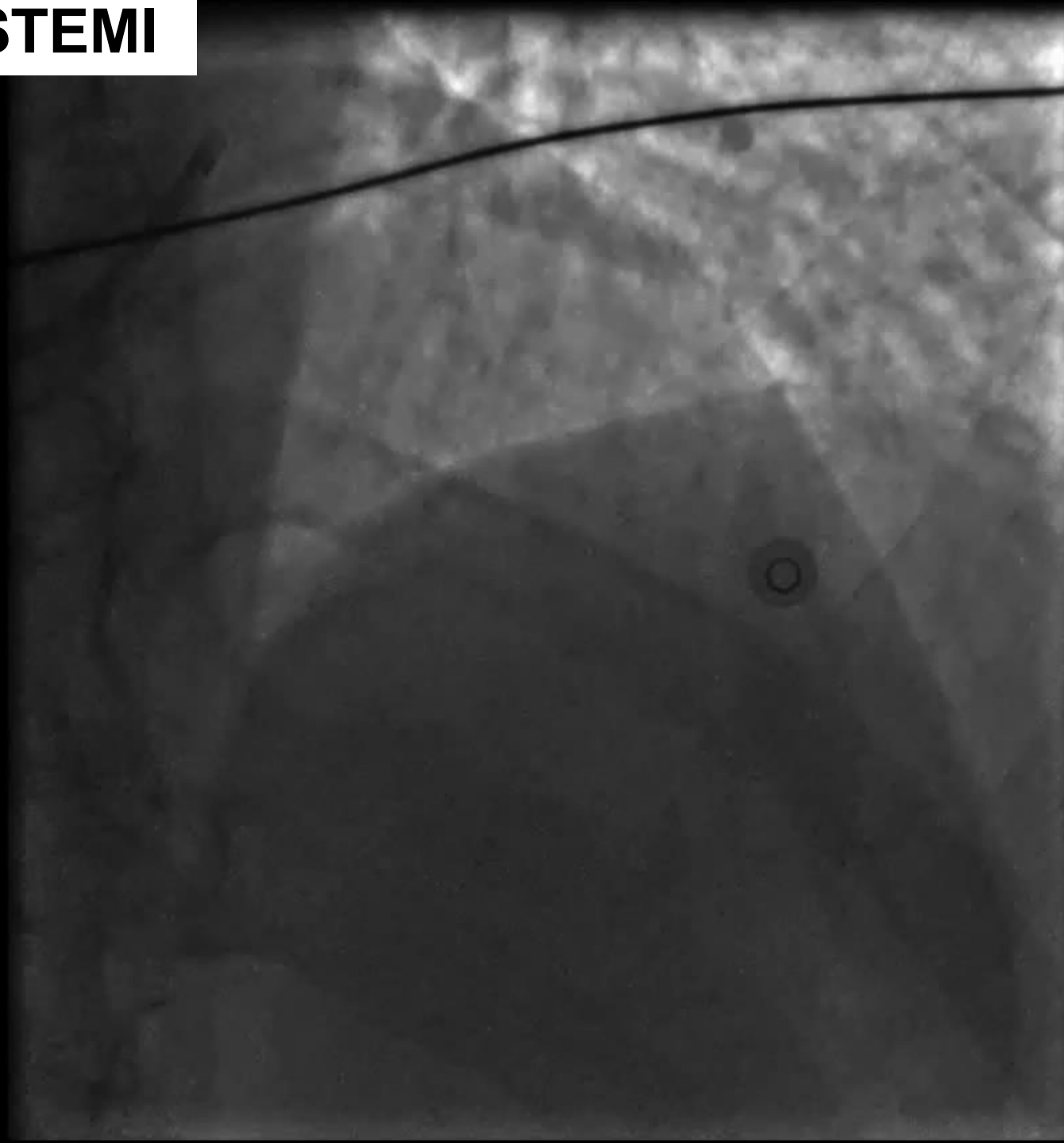
## Final result



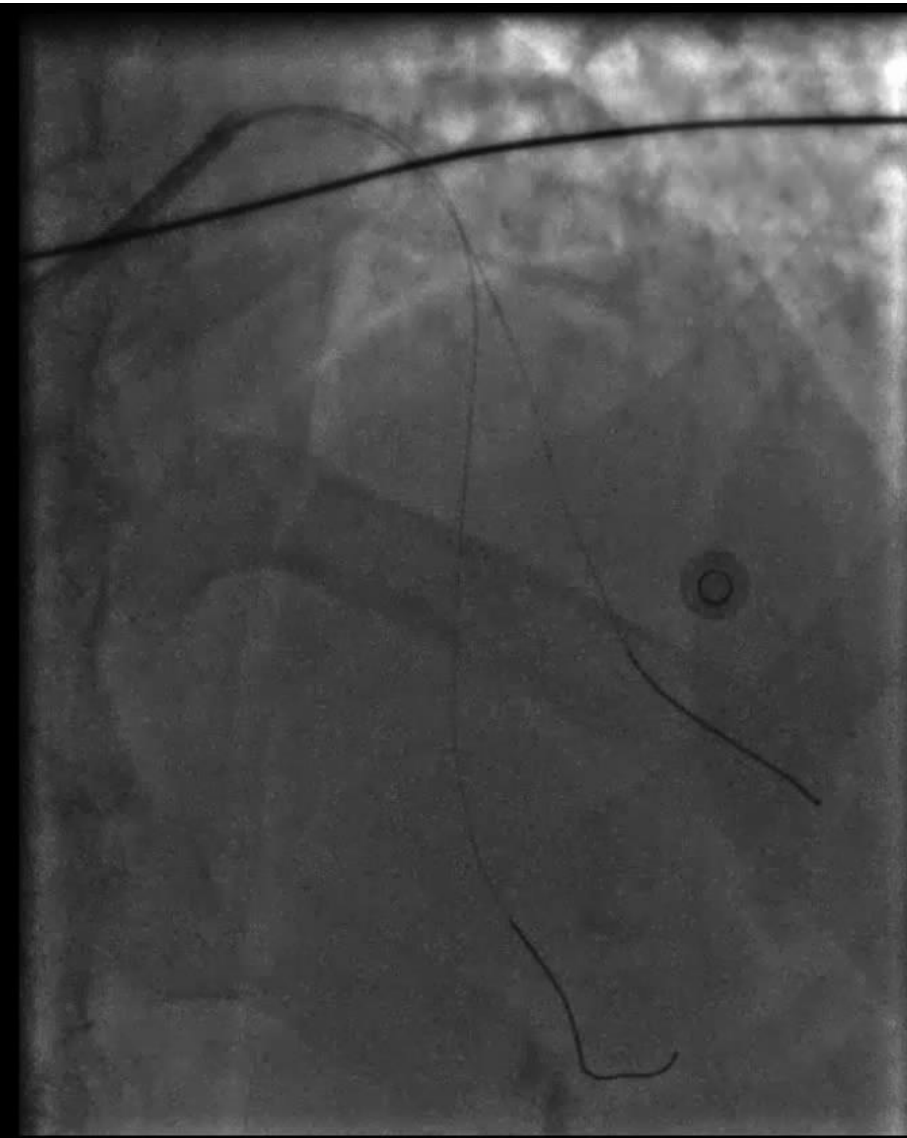
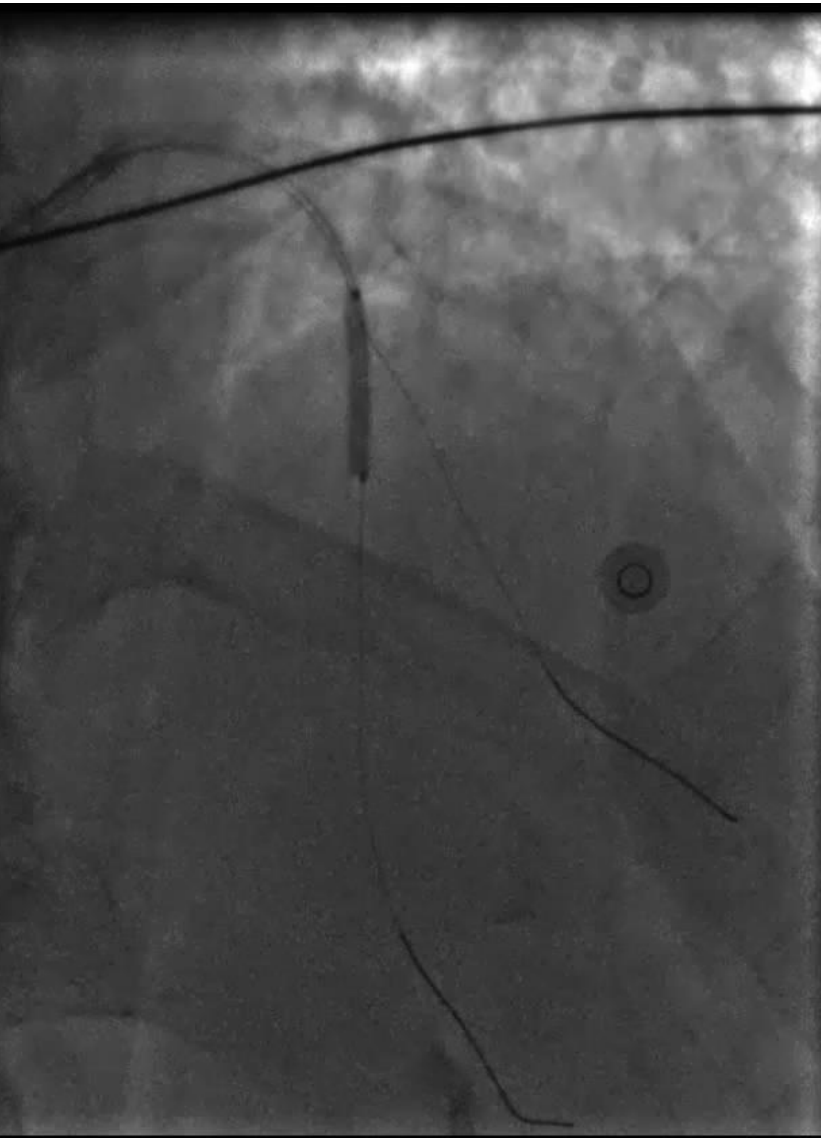
## Follow-up angiogram



# Anterior STEMI



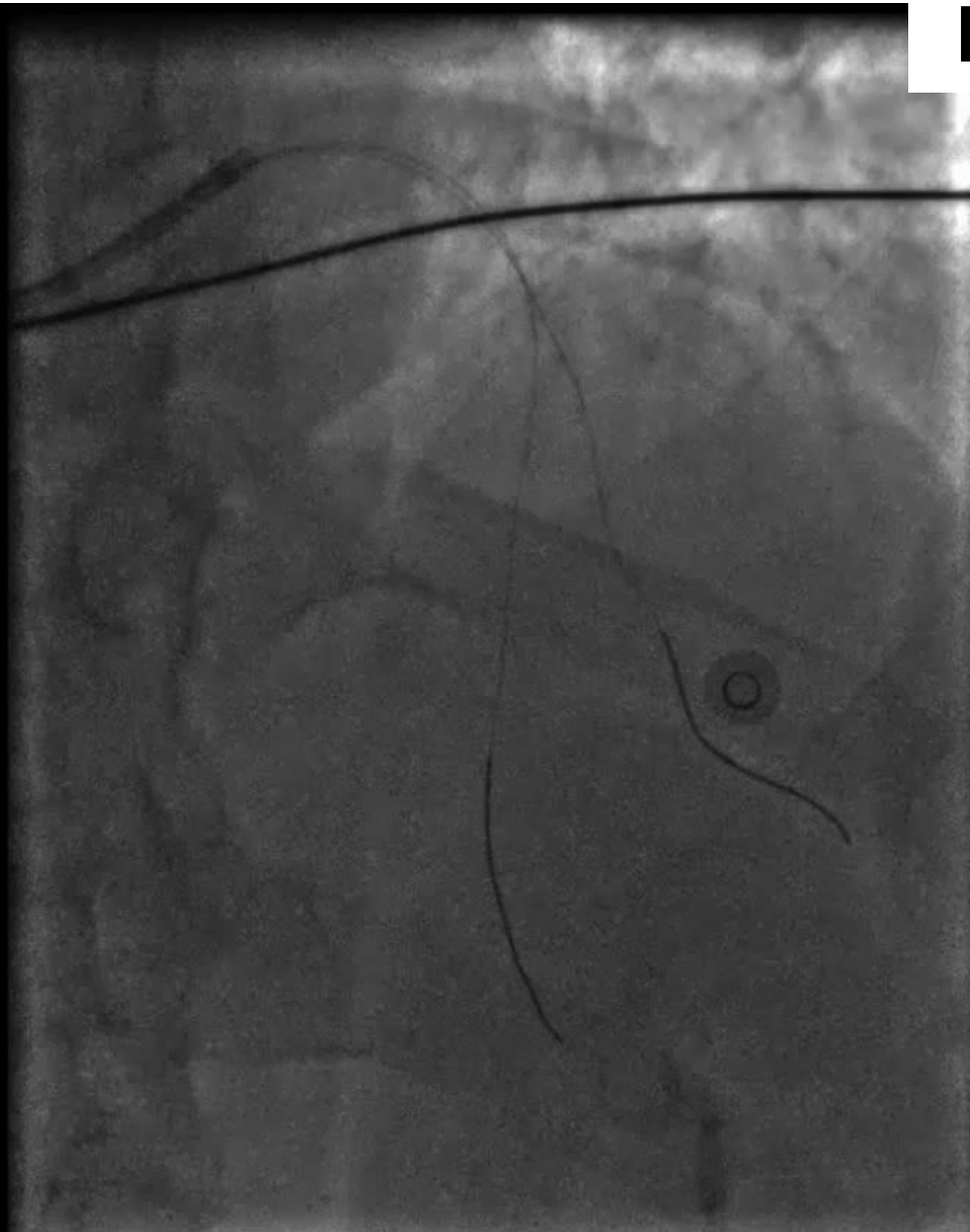
# POBA



**2.5 x 40 mm DCB**



**Final result**



# Pit falls of DCB in STEMI

Can drug be absorbed in the presence of thrombus?

Particle embolization (especially for crystalline formulations)

Lack of evidence?

# Evidence

No proper RCTs (comparing DES vs. DCB)

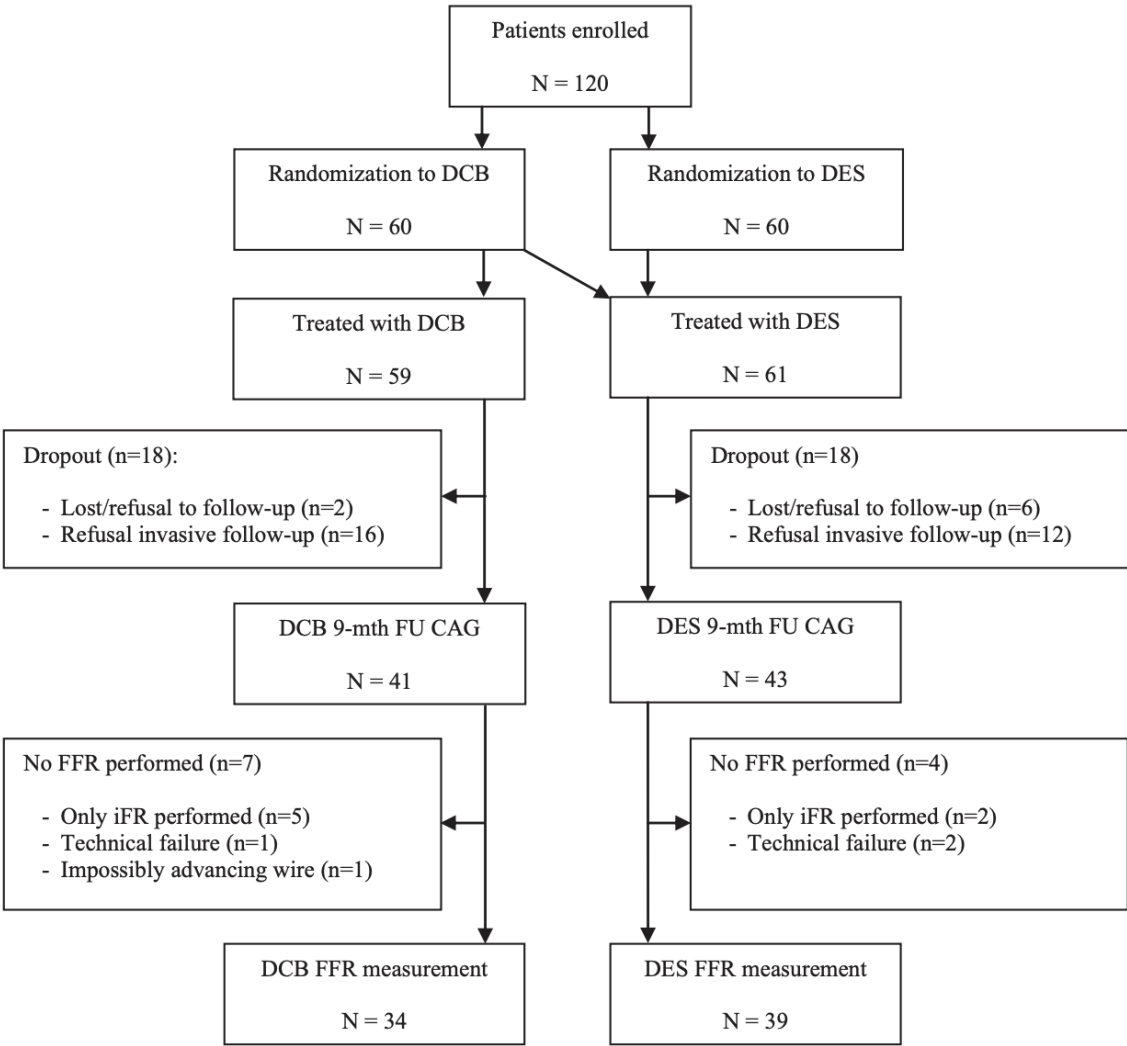
Observational data

PICCOLETTO STEMI (ongoing in Spain, comparing DES vs DCB)

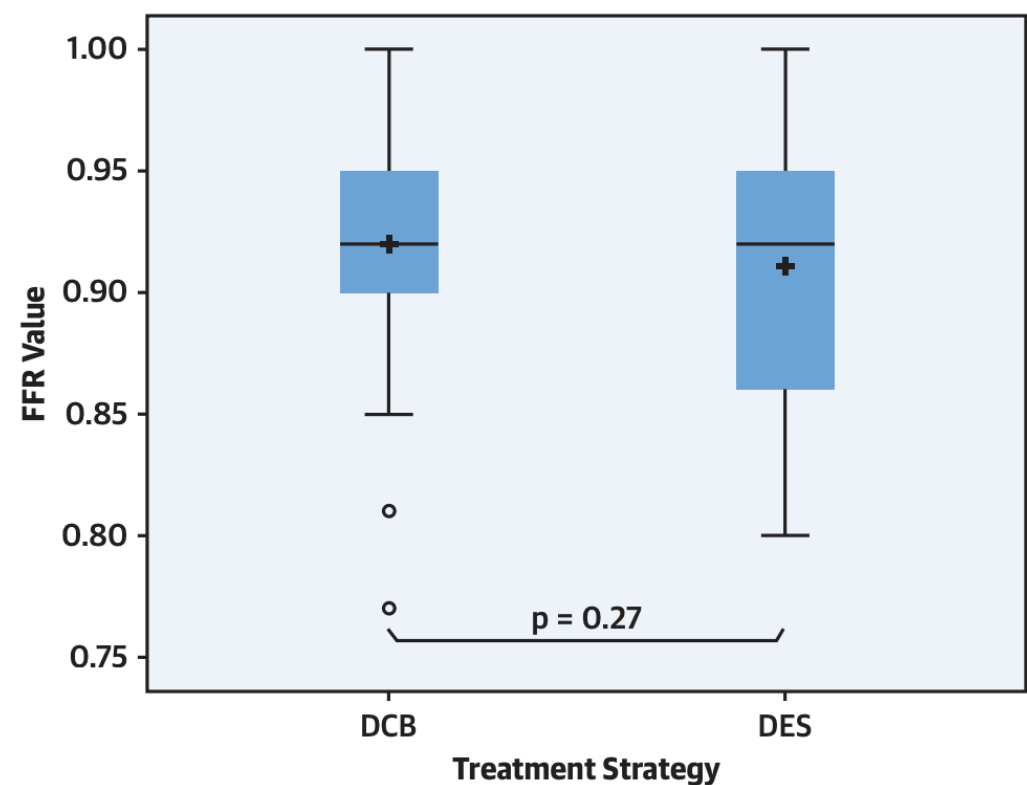
# Paclitaxel-Coated Balloon Angioplasty Versus Drug-Eluting Stent in Acute Myocardial Infarction

## The REVELATION Randomized Trial

Nicola S. Vos, MD, Nick D. Fagel, MD, Giovanni Amoroso, MD, PhD, Jean-Paul R. Herrman, MD, PhD, Mark S. Patterson, MD, PhD, Lieuwe H. Piers, MD, PhD, René J. van der Schaaf, MD, PhD, Ton Slagboom, MD, Maarten A. Vink, MD, PhD

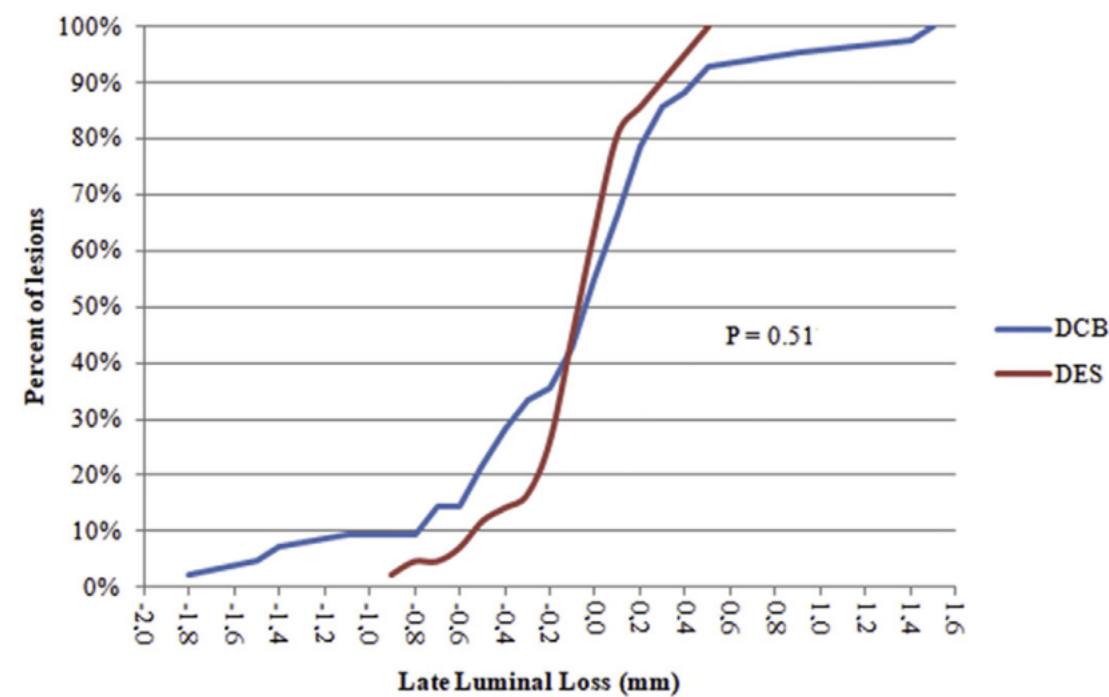


**CENTRAL ILLUSTRATION** Primary Endpoint: FFR Value at 9-Months Follow-Up



Vos, N.S. et al. J Am Coll Cardiol Interv. 2019;12(17):1691-9.

**FIGURE 3** Late Luminal Loss at 9-Months Follow-Up



Line graph of distribution of late luminal loss of drug-coated balloon versus drug-eluting stent strategy. Abbreviations as in [Figure 1](#).

Two-Year Clinical Outcomes of the REVELATION Study: Sustained Safety and Feasibility of Paclitaxel-Coated Balloon Angioplasty Versus Drug-Eluting Stent in Acute Myocardial Infarction

Sander R. Niehe, MD; Nicola S. Vos, MD, PhD; René J. Van Der Schaaf, MD, PhD; Giovanni Amoroso, MD, PhD; Jean-Paul R. Herrman, MD, PhD; Mark S. Patterson, MD, PhD; Ton Slagboom, MD; Maarten A. Vink, MD, PhD

TABLE 2. Clinical endpoints at 2-year follow-up.

Clinical Endpoints	Drug-Coated Balloon <sup>a</sup>	Drug-Eluting Stent <sup>a</sup>	P-Value
MACE			.34
Cardiac death	0/60 (0%)	0/60 (0%)	
Recurrent MI	1/56 (1.8%)	0/53 (0%)	
TLR	3/56 (5.4%)	1/53 (1.9%)	

Data presented as number/total (event rate).  
<sup>a</sup>Kaplan-Meier estimates.  
MACE = major adverse cardiac event; MI = myocardial infarction; TLR = target-lesion revascularization.

# Where do I use DCB in STEMI

In my practice, DES is still the 1<sup>st</sup> choice during STEMI

However, I use DCB in following situations

- ***Small vessels (<3.0) and diffuse disease***
- ***Younger patients***
- ***DAPT issues***
- ***Unusual anatomies (ectasia, SB occlusions)***

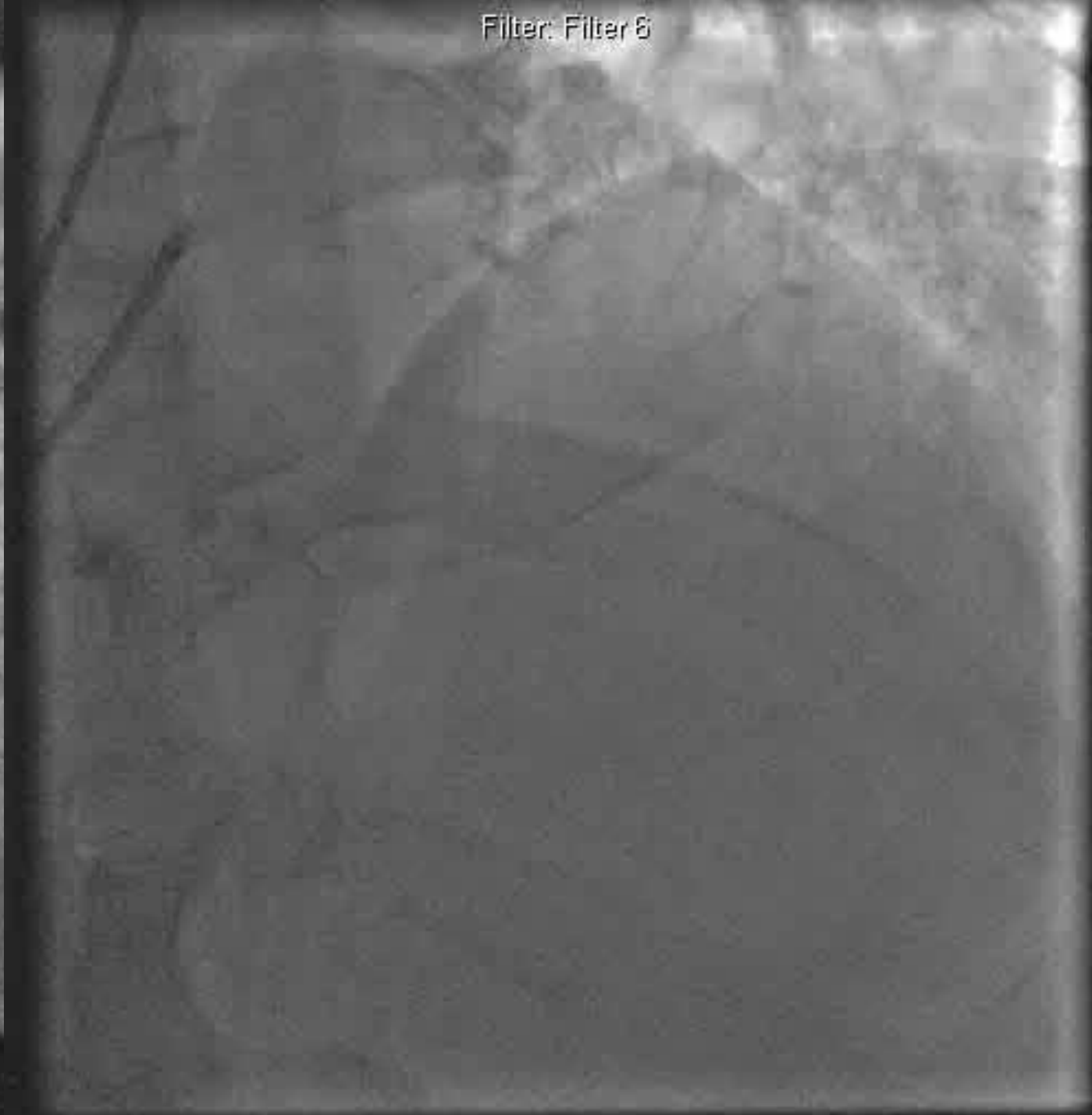
# Case 1

70-year old with lateral STEMI

Filter: Filter 6



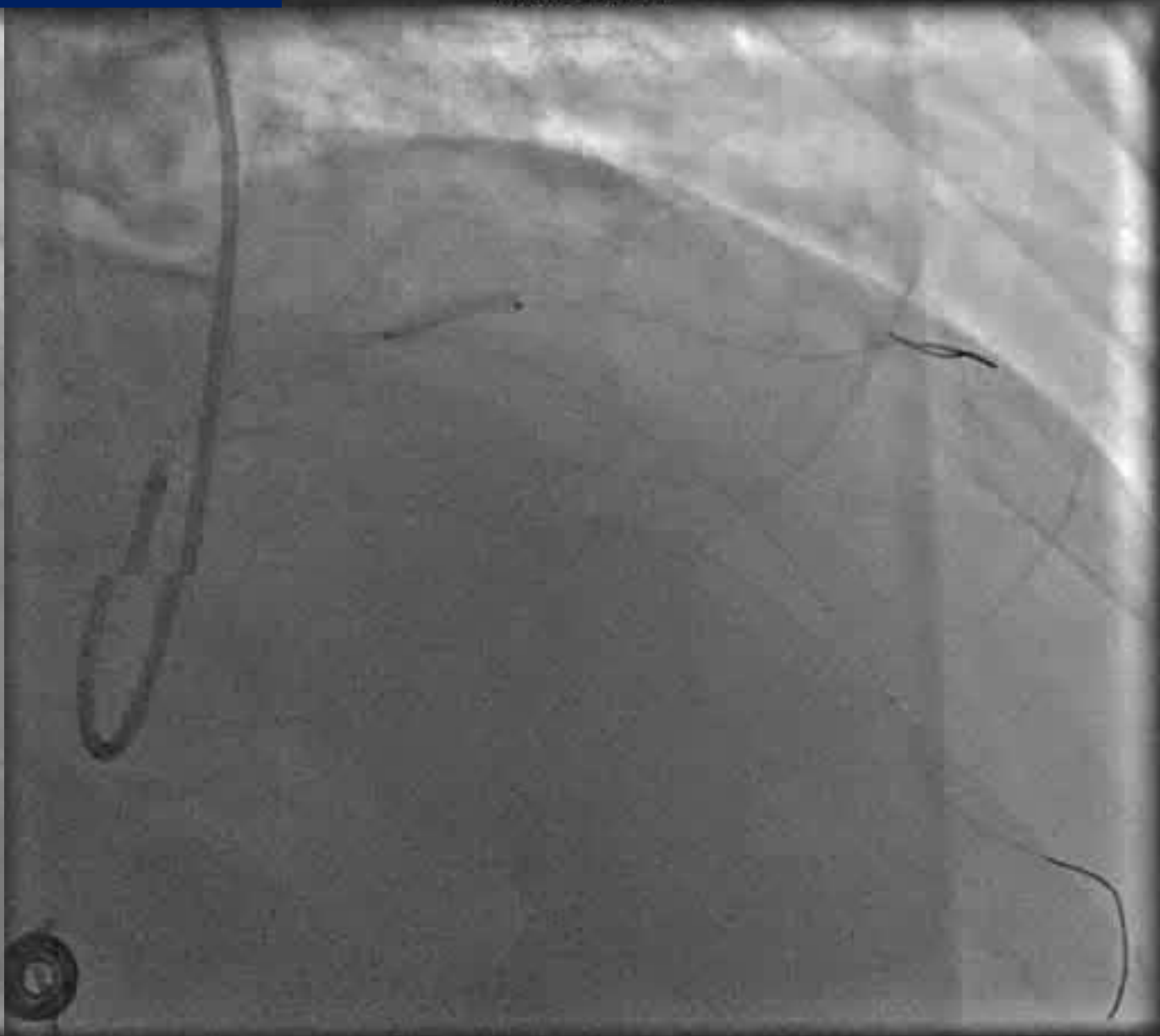
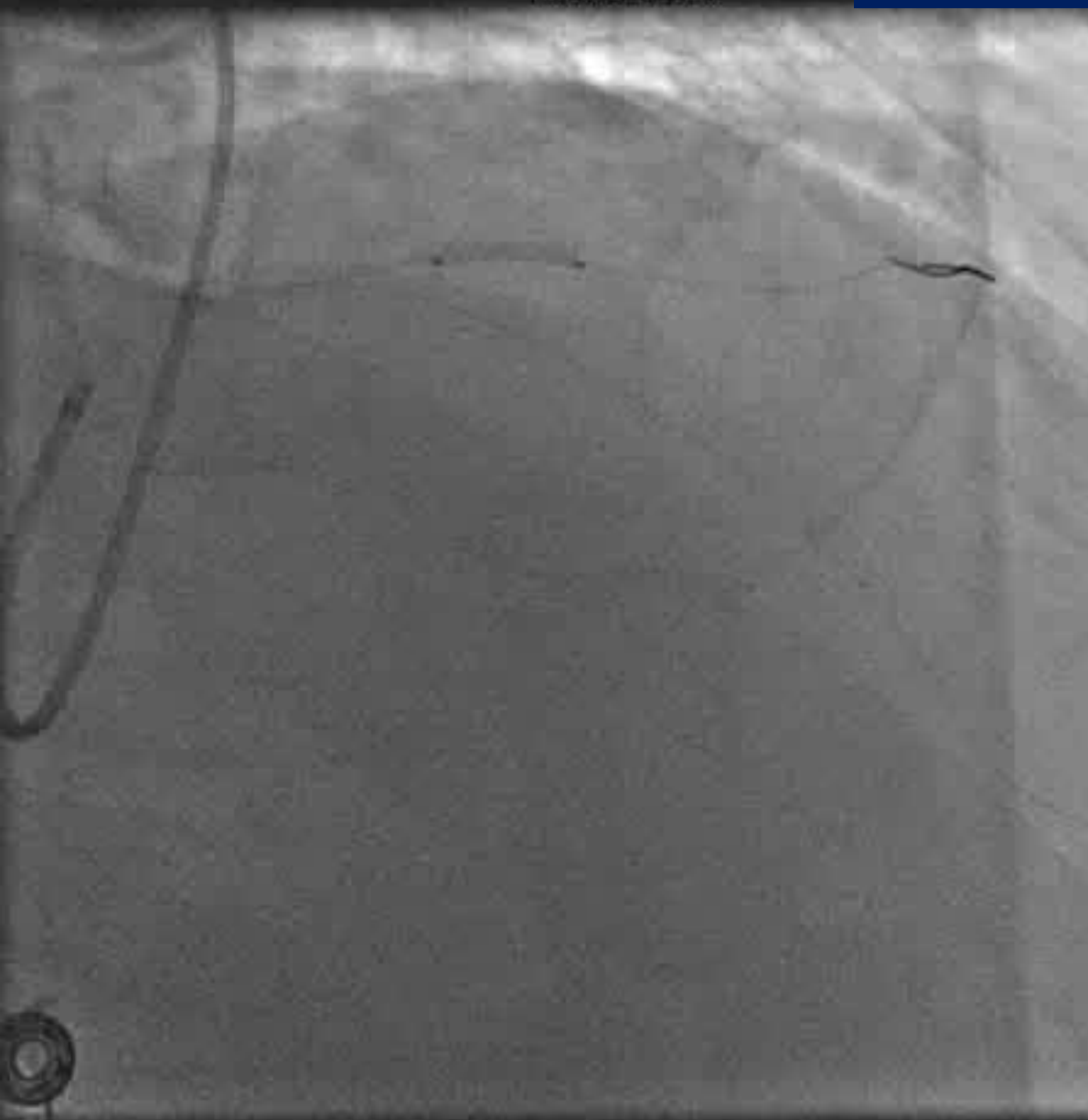
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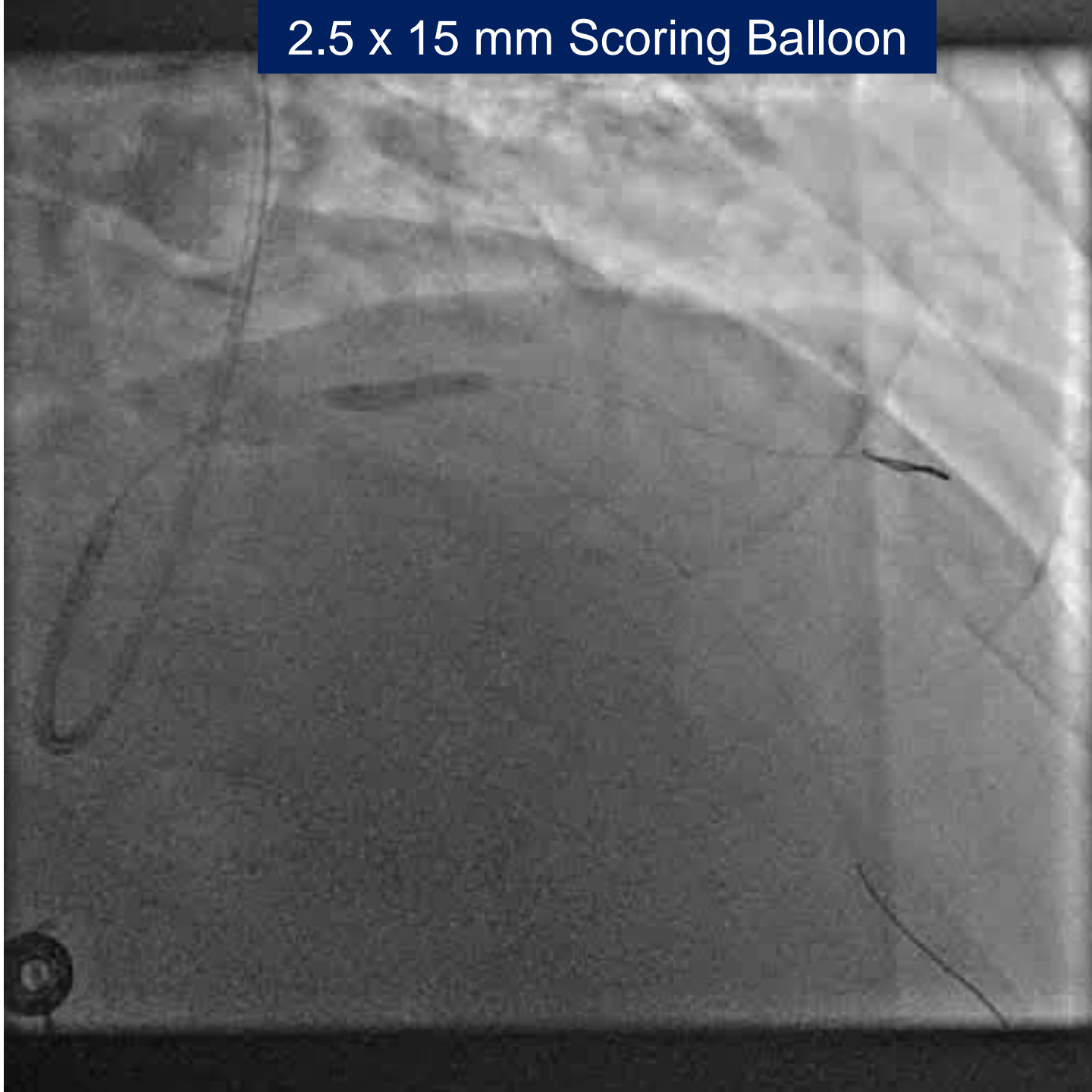
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2.0 x 15 mm POBA

Filter: Filter 6



## 2.5 x 15 mm Scoring Balloon

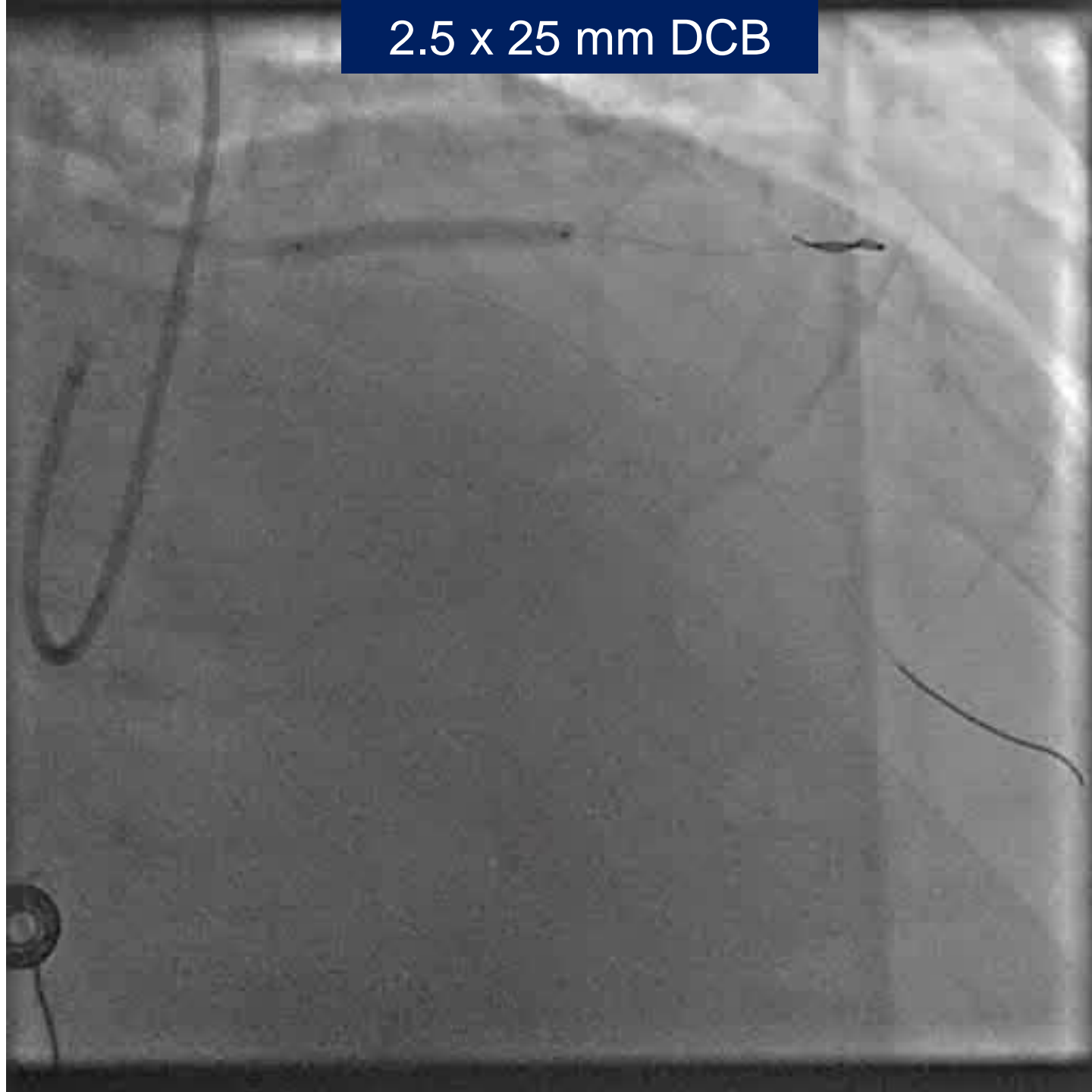


Post POBA

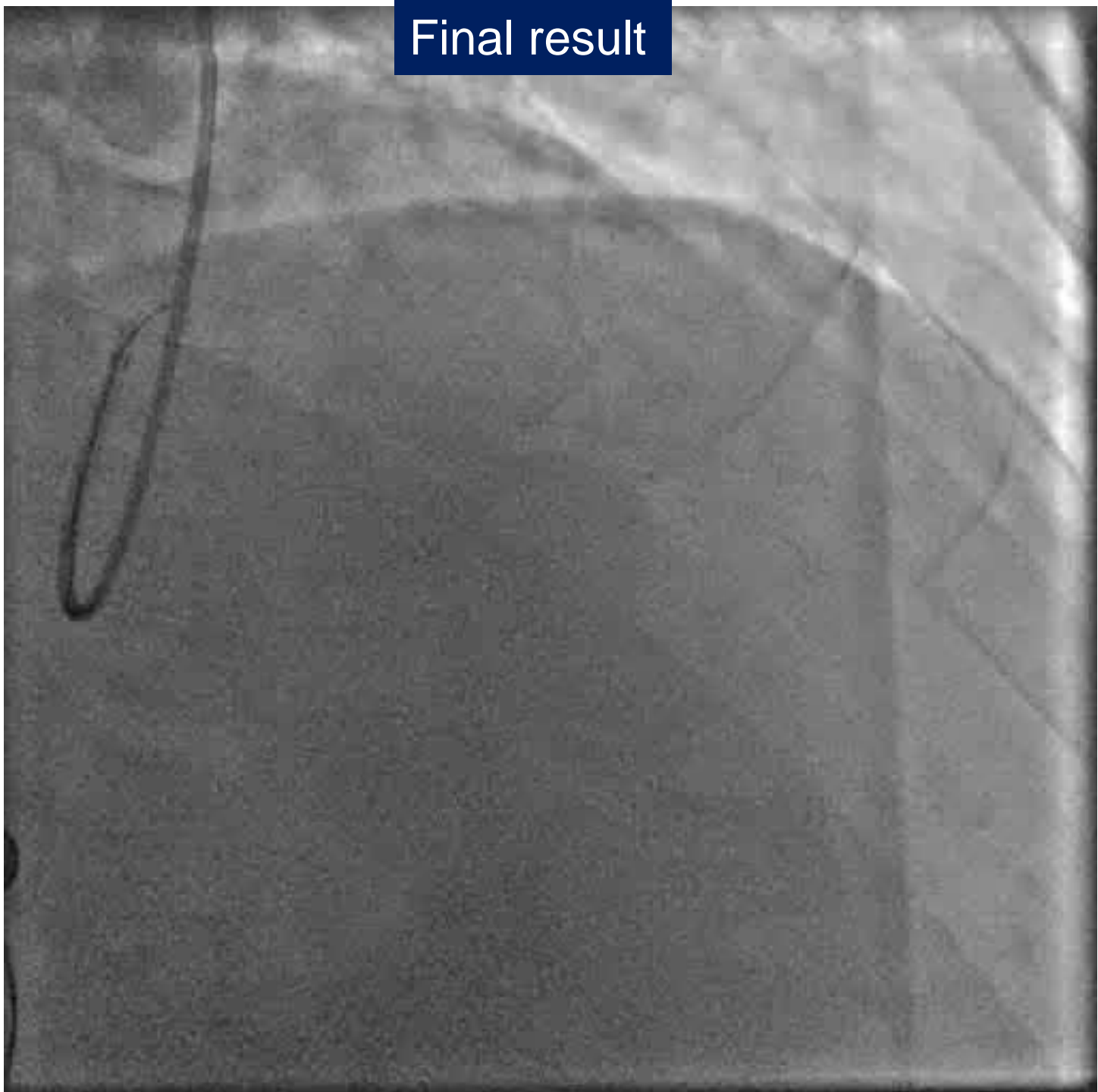


Strategy?

2.5 x 25 mm DCB

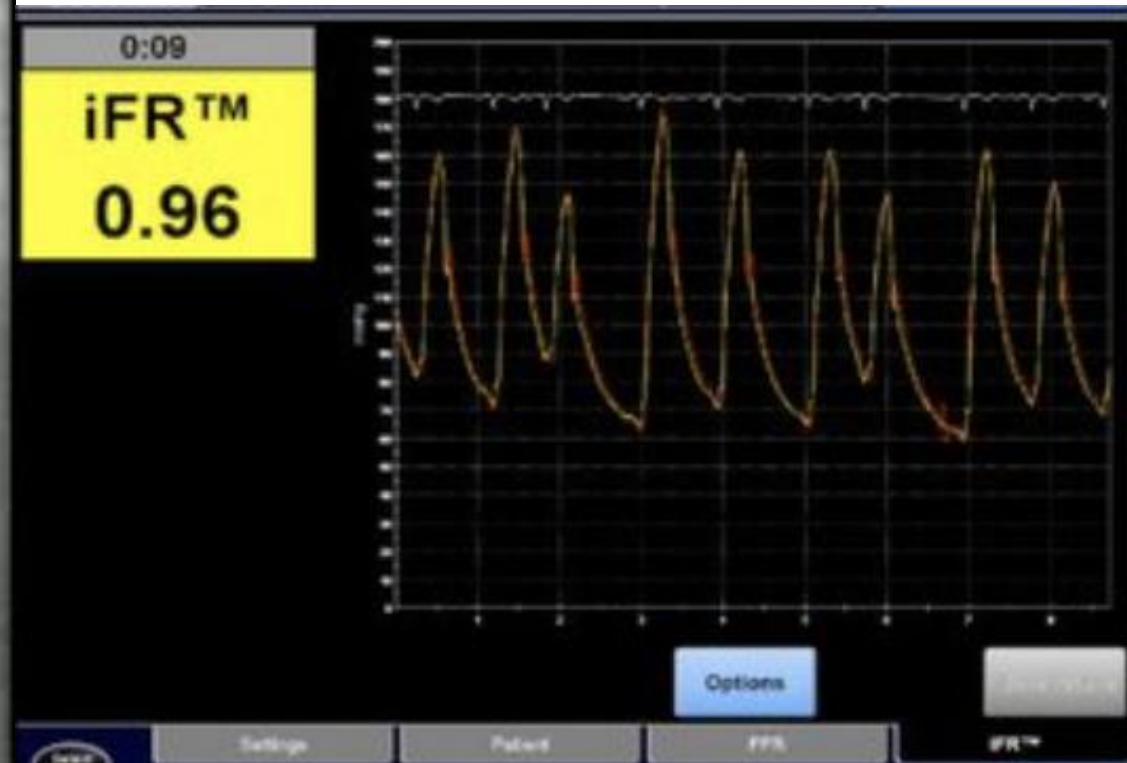


Final result

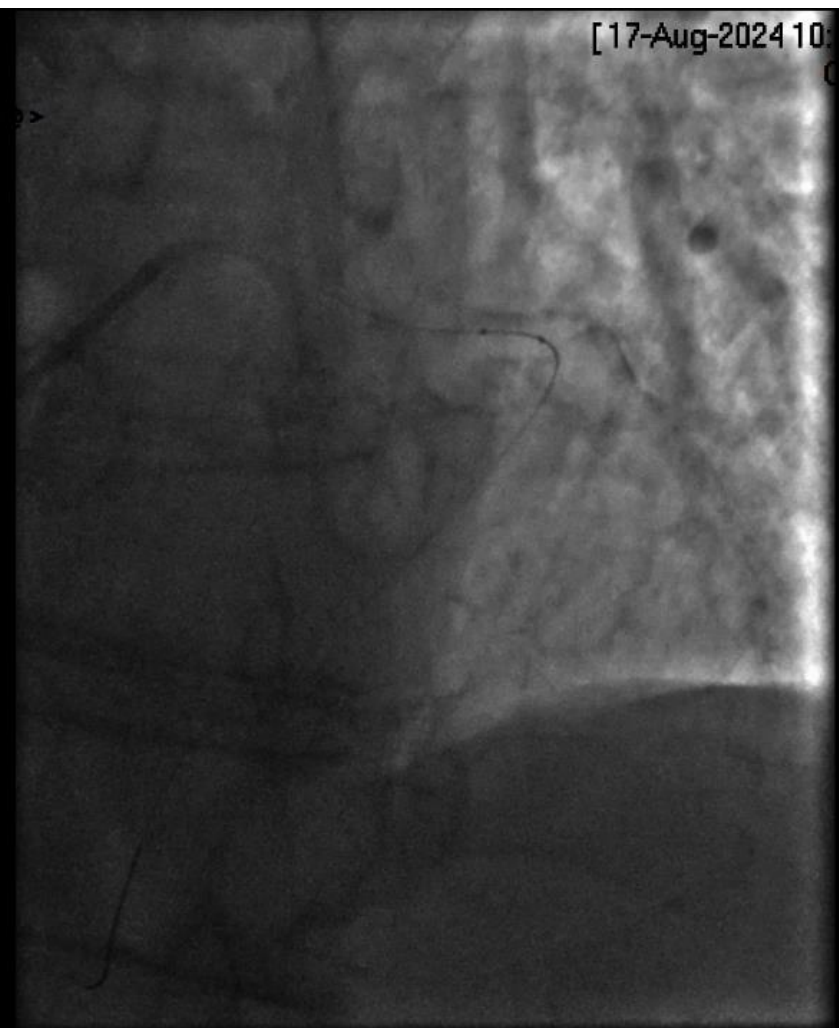


## Follow-up angiogram at 4-months

iFR (D1)= 0.96



# Case 2



[17-Aug-2024 10:00:00]

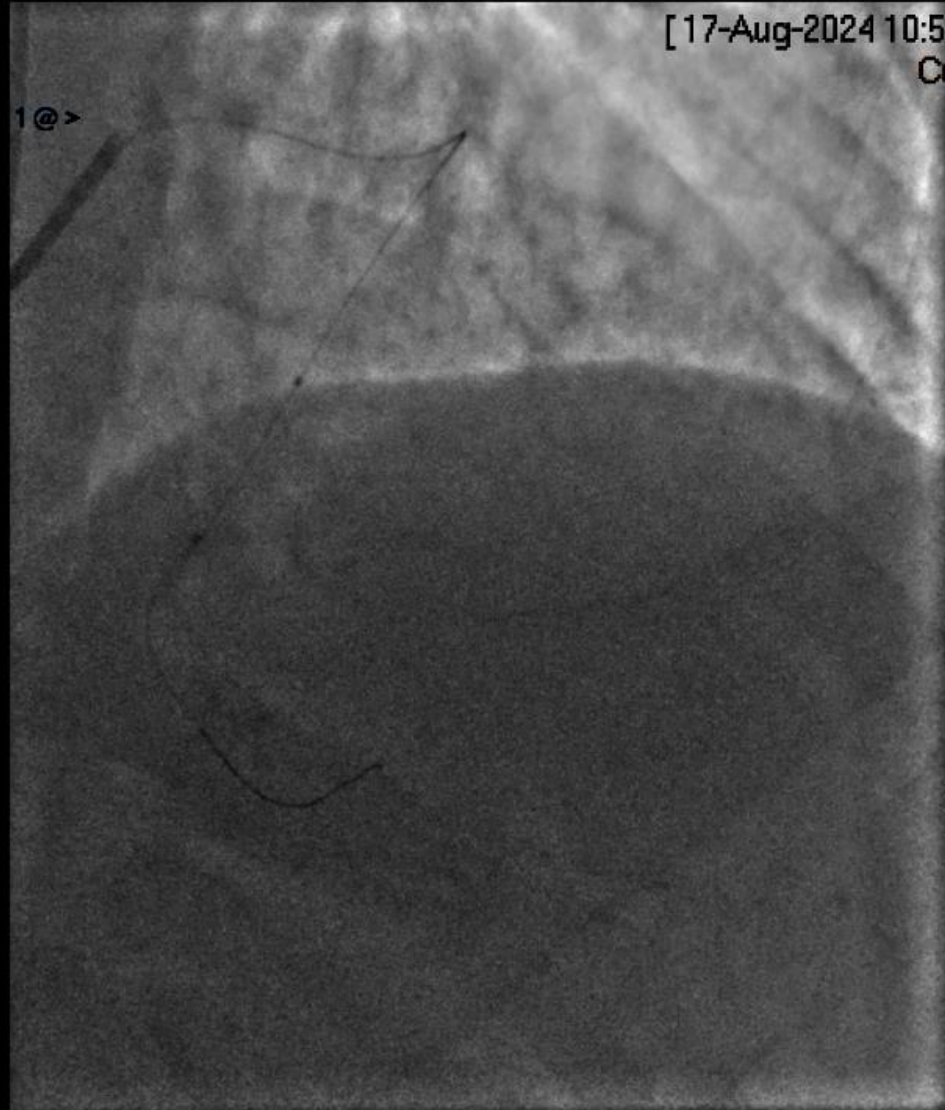


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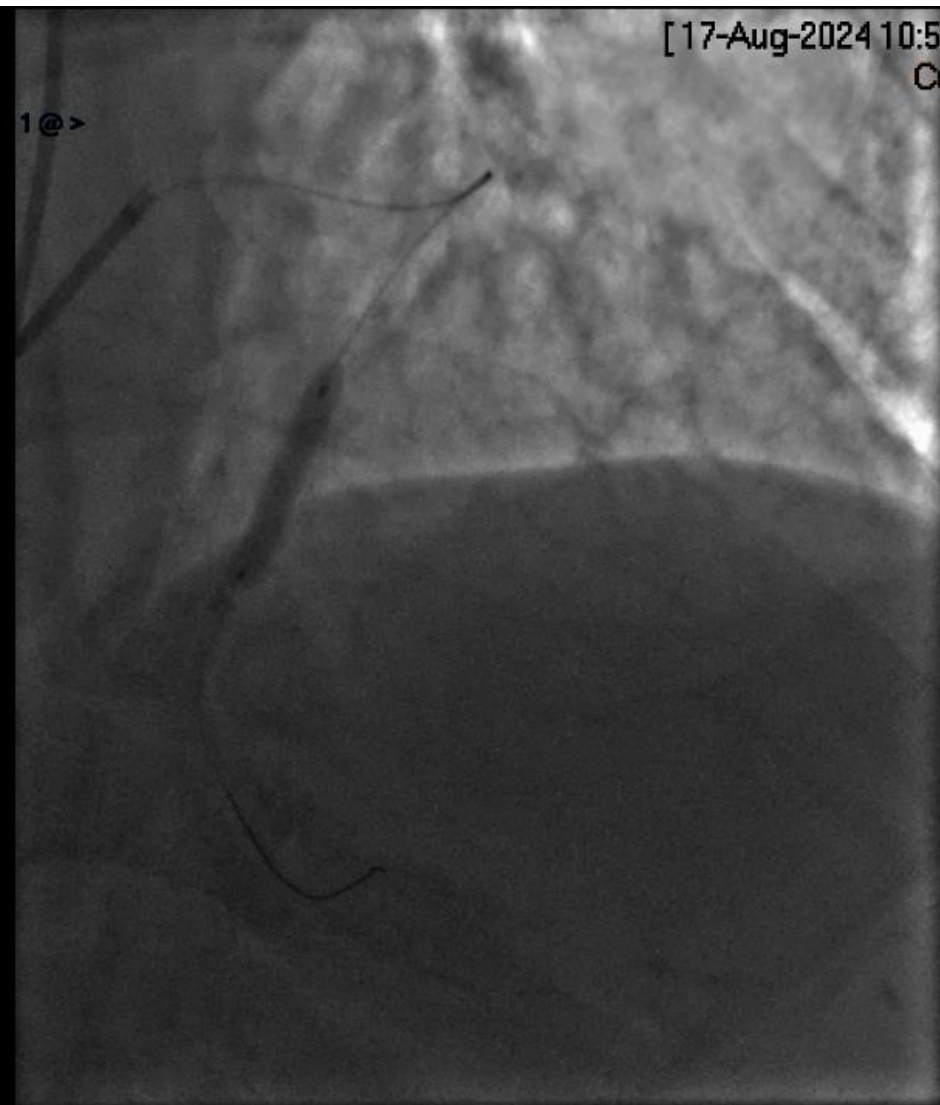
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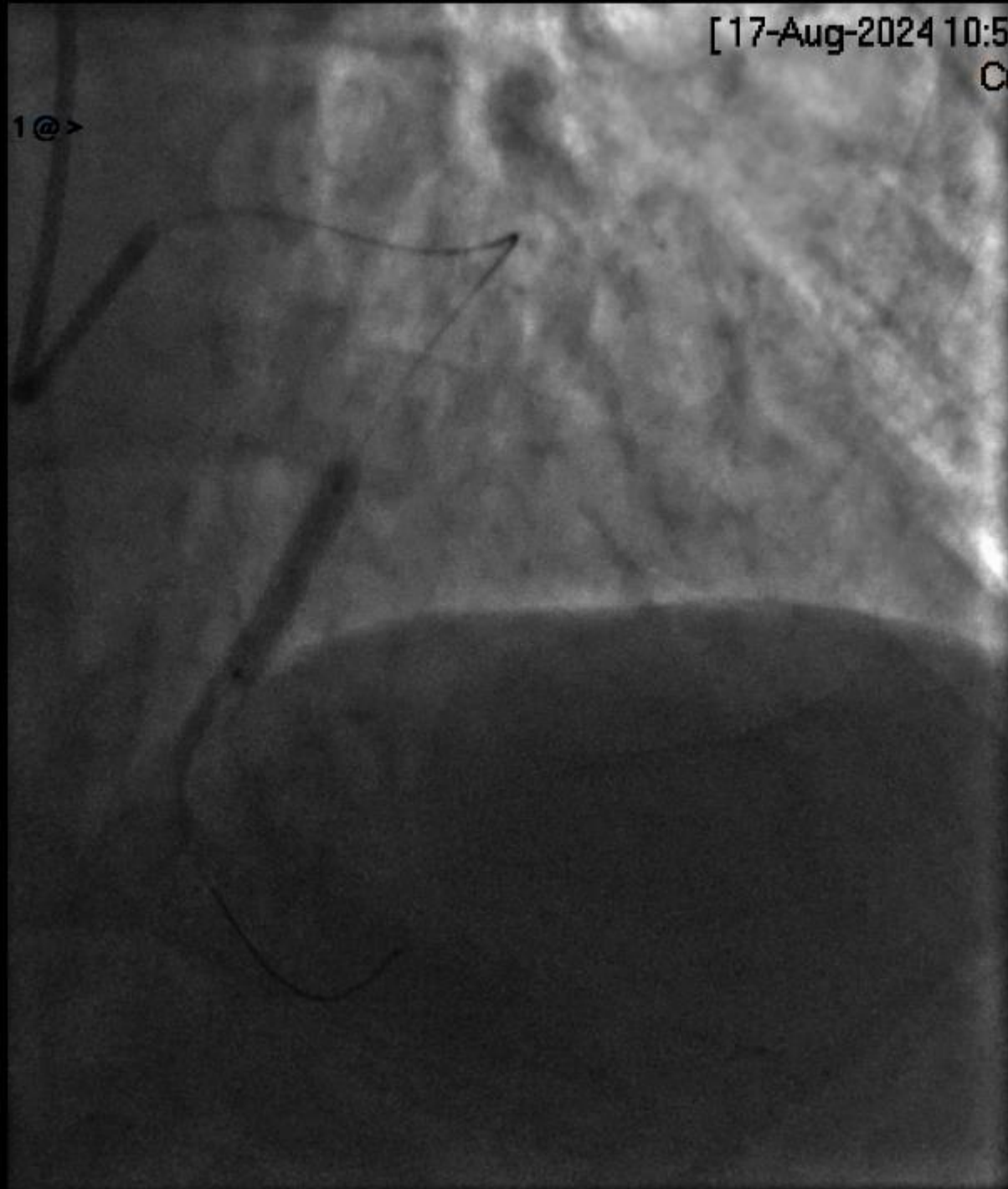
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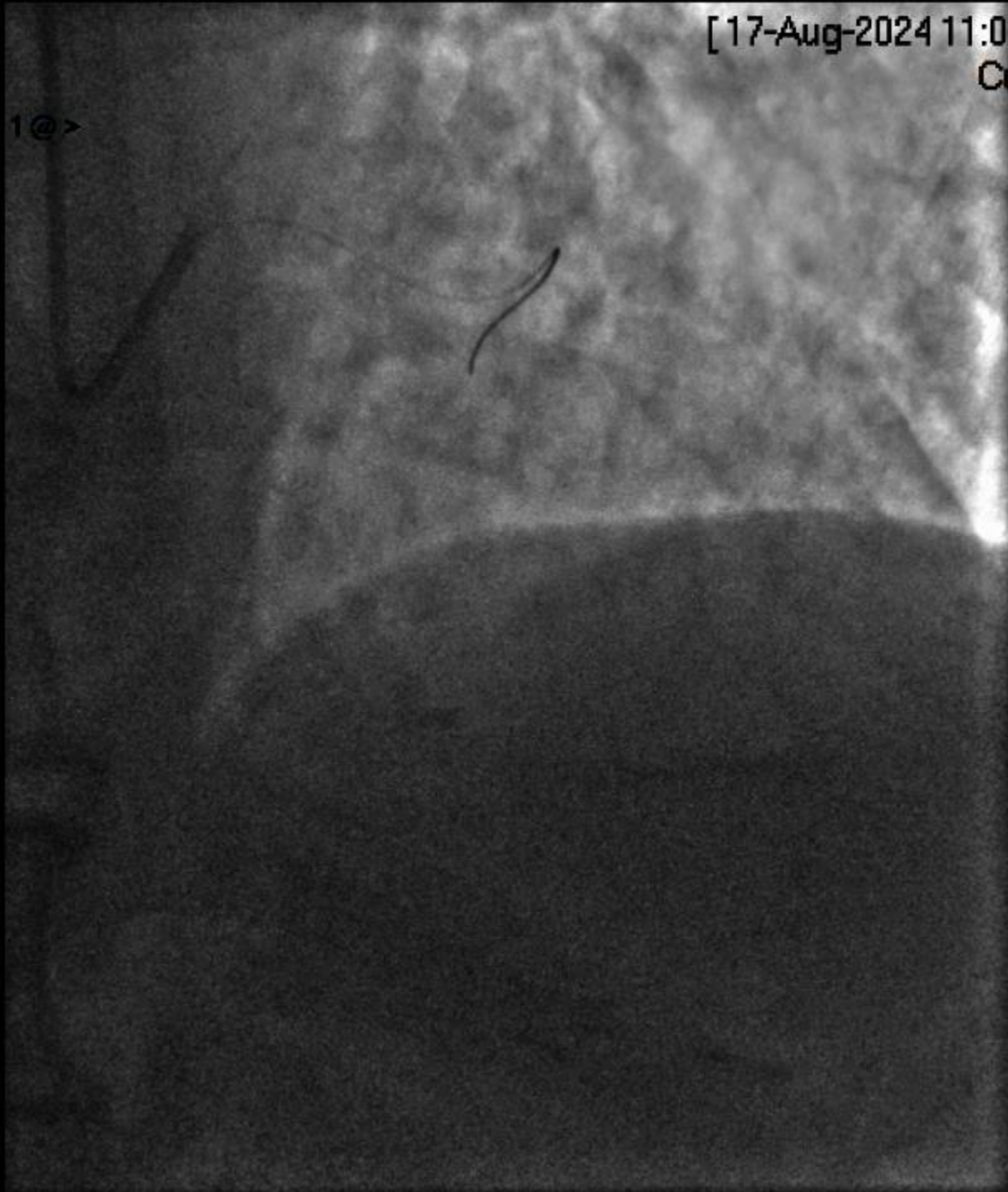
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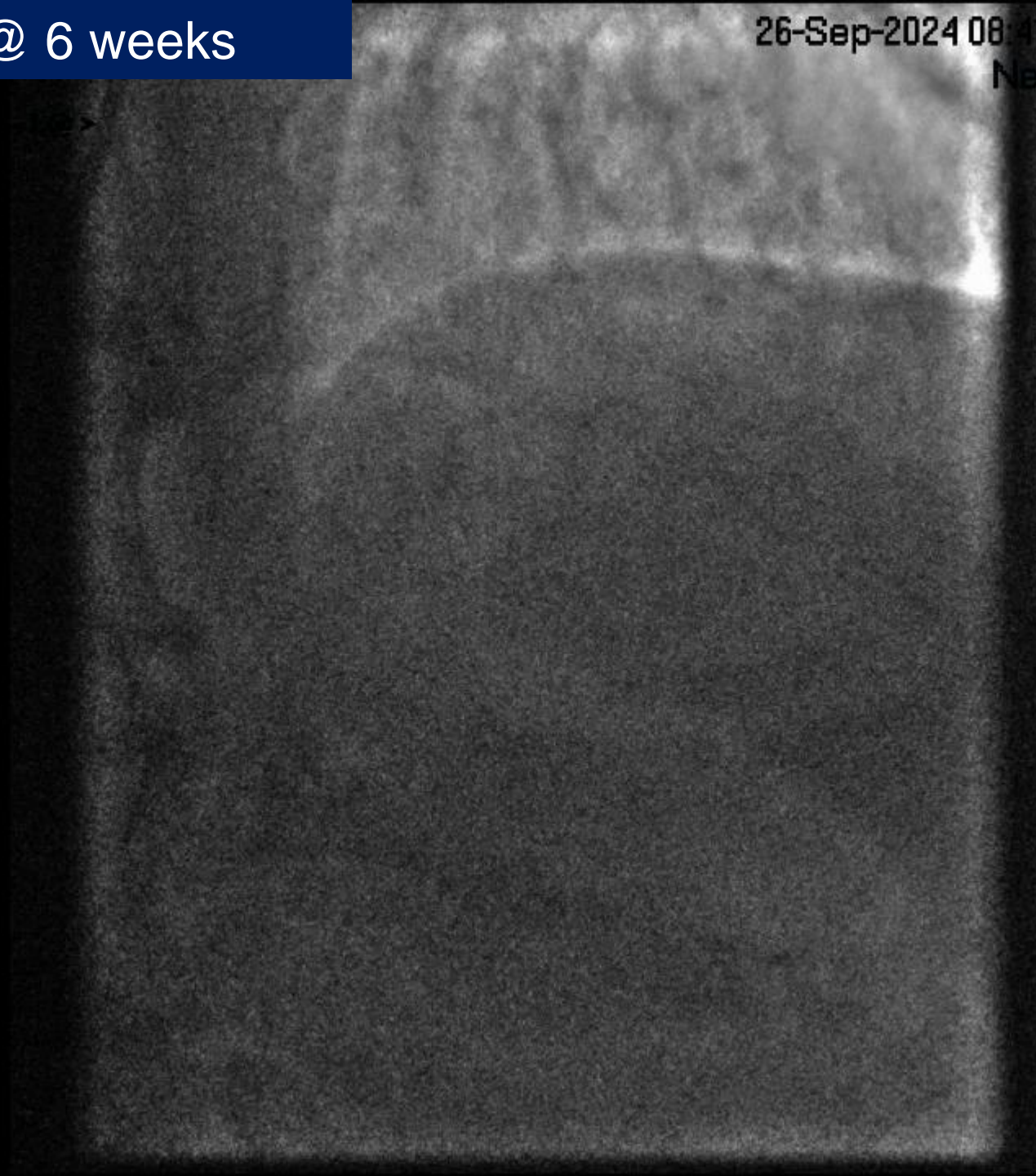
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Follow-up @ 6 weeks

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New



# Conclusion

- DES should remain the first choice for STEMI
- However, DCBs offer several advantages over DES
- But we need strong data to support this hypothesis
- DCBs can be considered in certain lesion and patient subsets

# Thank you