



# Double Trouble : Optical Coherence Tomography in Inferior Myocardial Infarction

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# History

**58** year old Male, active **smoker** , presented with left sided chest pain

Co-morbidities :

- 1) **Hypertension**
- 2) **Diabetes**
- 3) **History of Percutaneous Coronary Intervention** done to LAD/RCA in 2017

Vitals :

Blood pressure : 133/80 mm Hg

Heart rate : 56 beats per minute

Spo2 : 97% on room air

No murmur

**Minimal lungs crepitations**

ECG x 1 :

**ST elevation in leads II,III, AVF** with reciprocal changes in  
1, AVL ; no right or posterior involvement

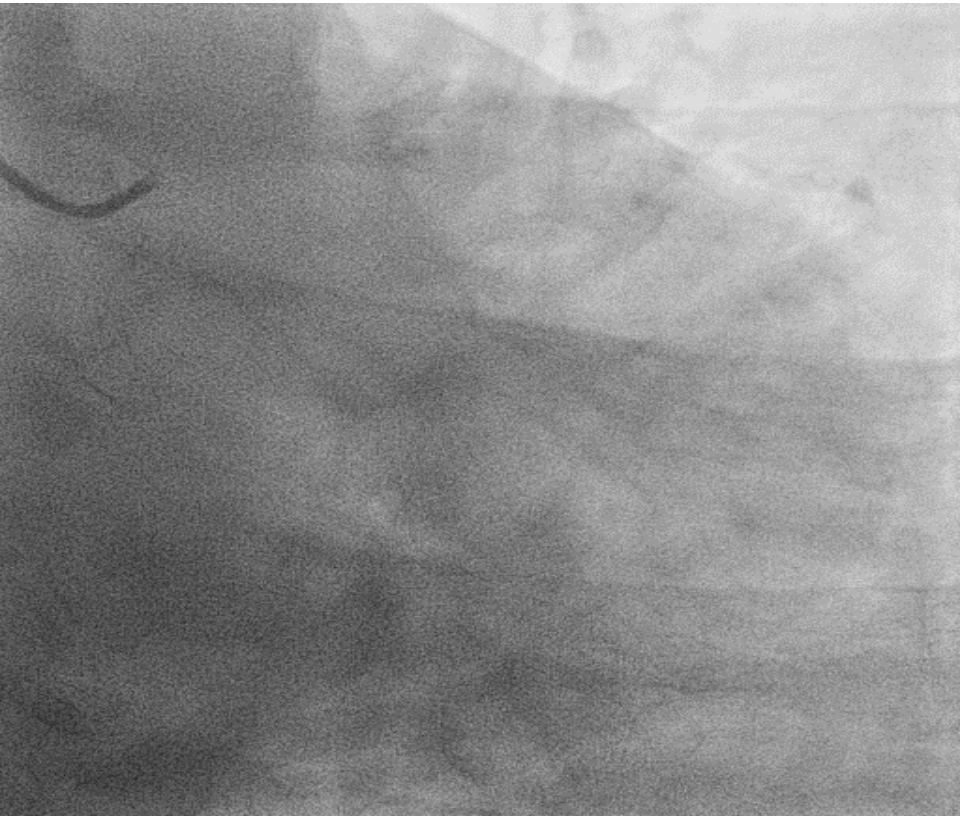
Diagnosis :

**Acute Inferior Myocardial Infarction , Killip 2**

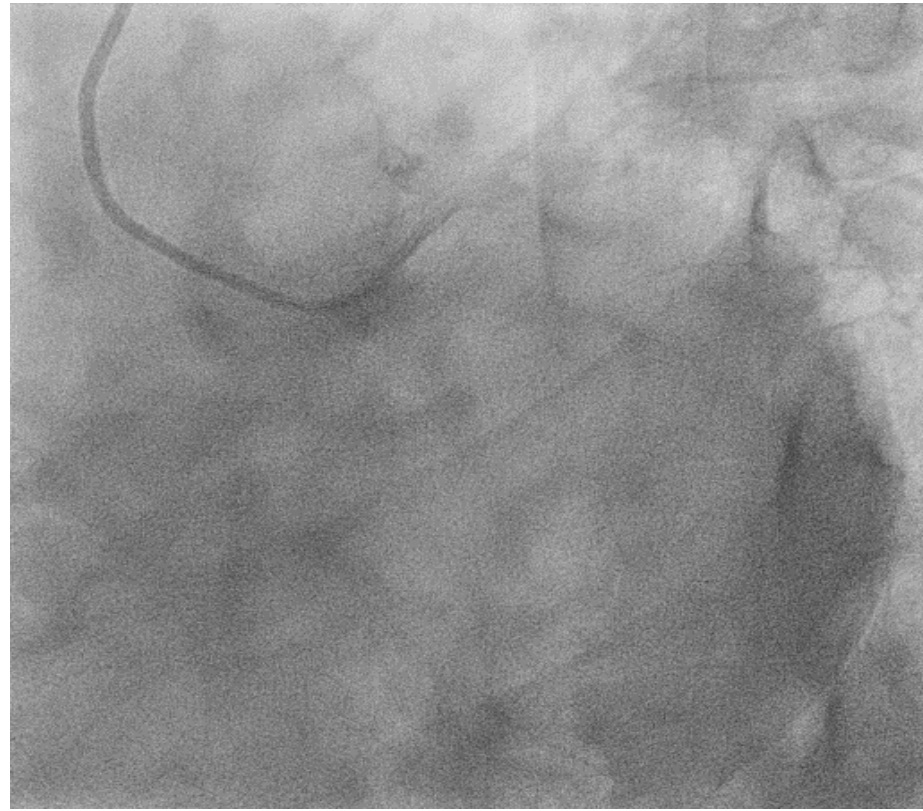
Plan :

**Urgent Primary Percutaneous Intervention**

# Coronary Angiography



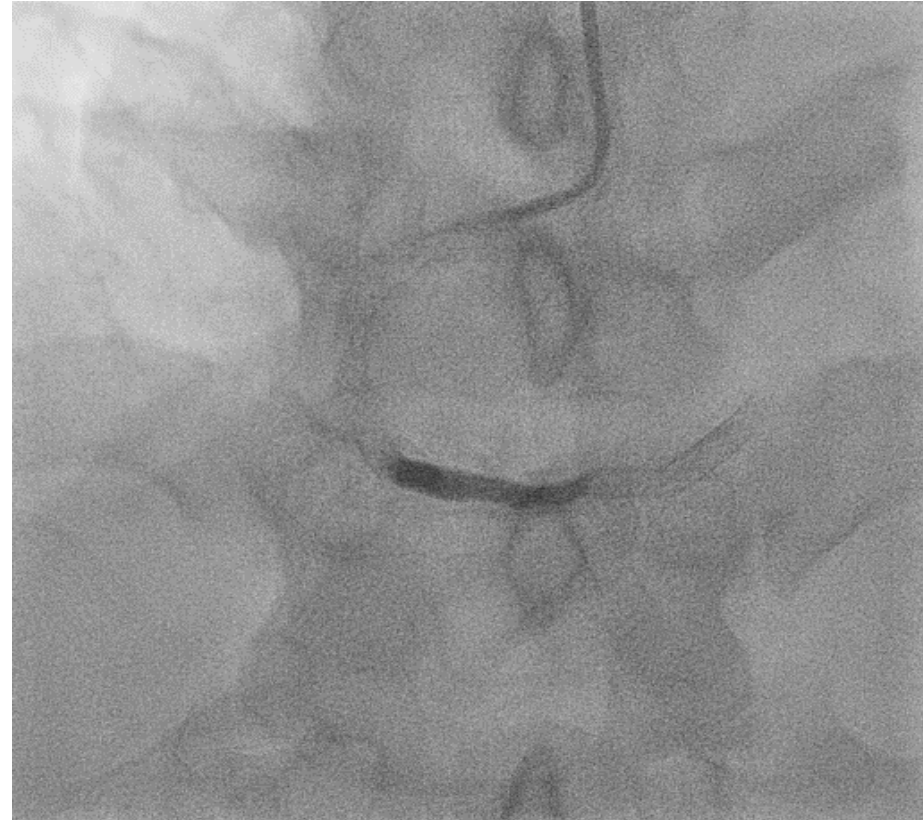
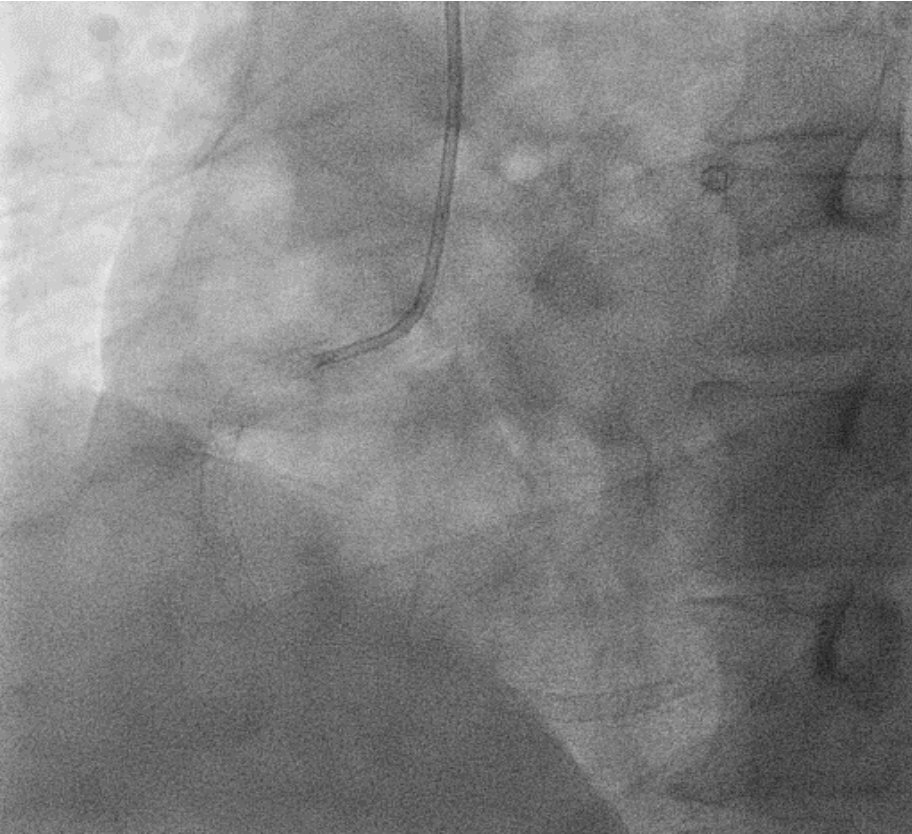
**Left Main Stem** : normal



**Left Anterior Descending** : mild in-stent restenosis of pre-existing LAD stent

**Left Circumflex Artery** : mild to moderate disease midsegment upto distal

# Coronary Angiography

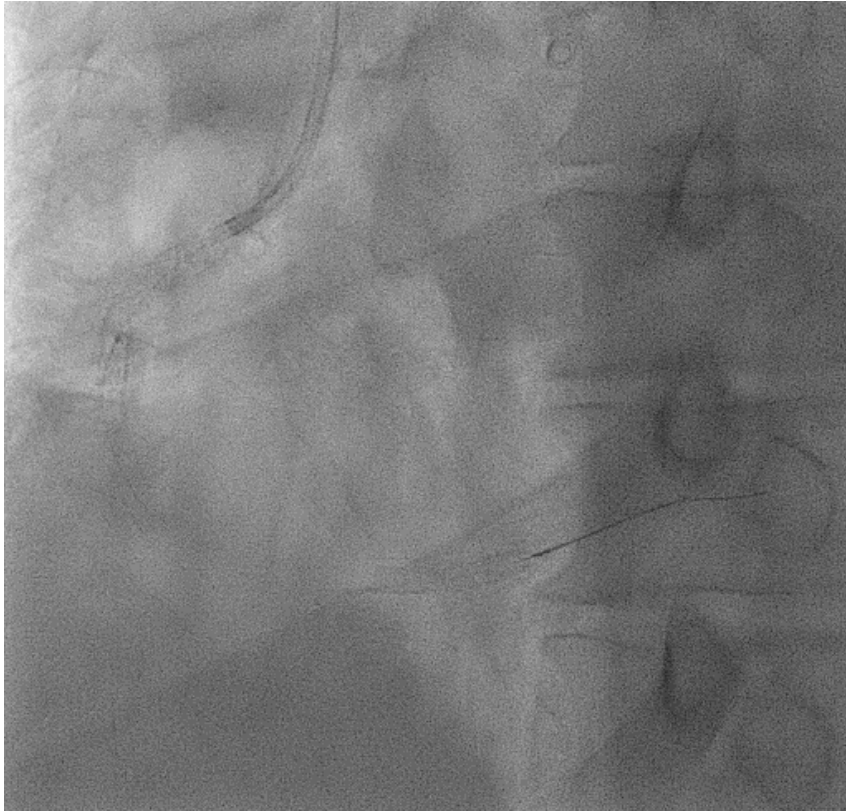


## Right Coronary Artery :

pre-existing proximal stent patent , acute total occlusion from proximal edge of distal stent , no flow distally ( culprit vessel )



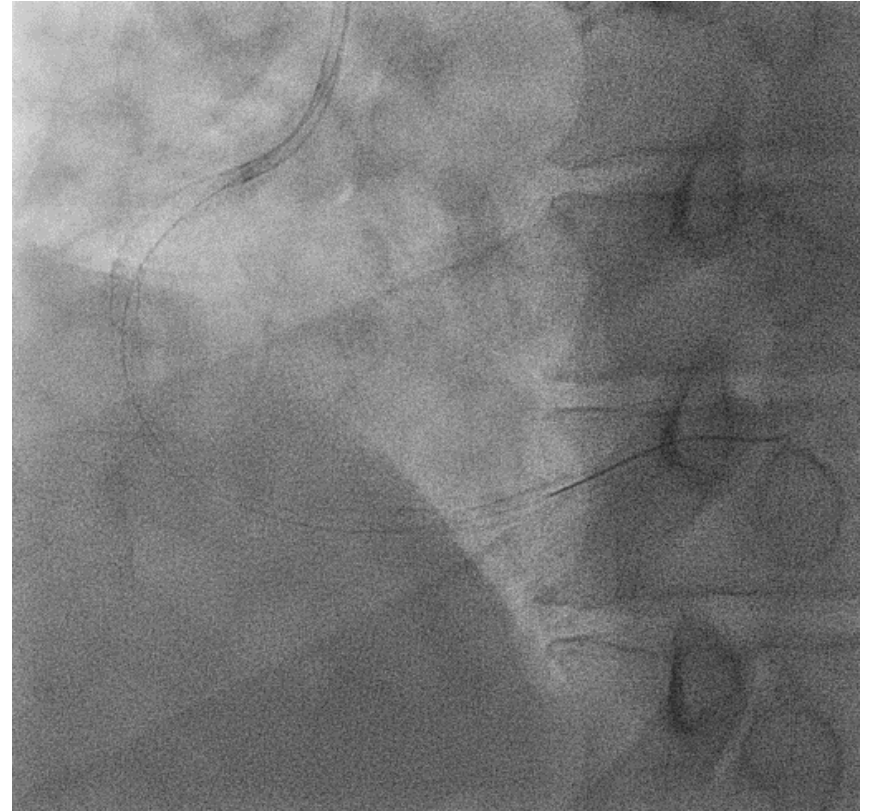
# Percutaneous Coronary Intervention To RCA



JR 3.5 Guiding Catheter ; RUNTHROUGH floppy wire used

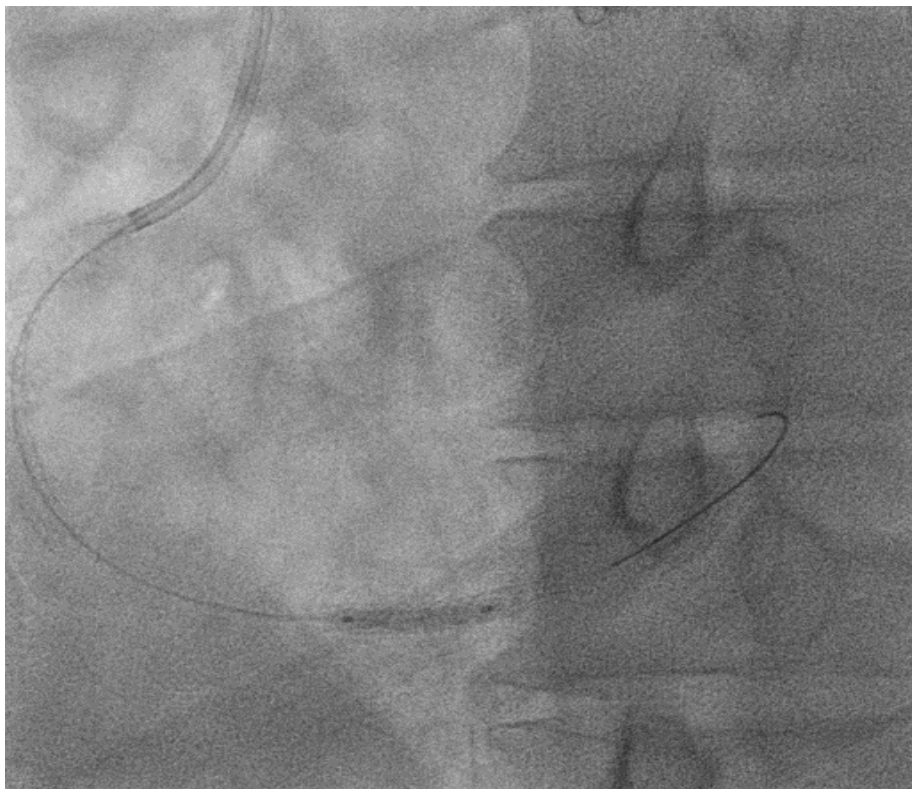
Thrombus aspiration done x 2 using THROMBUSTER II export catheter

Red thrombus aspirated

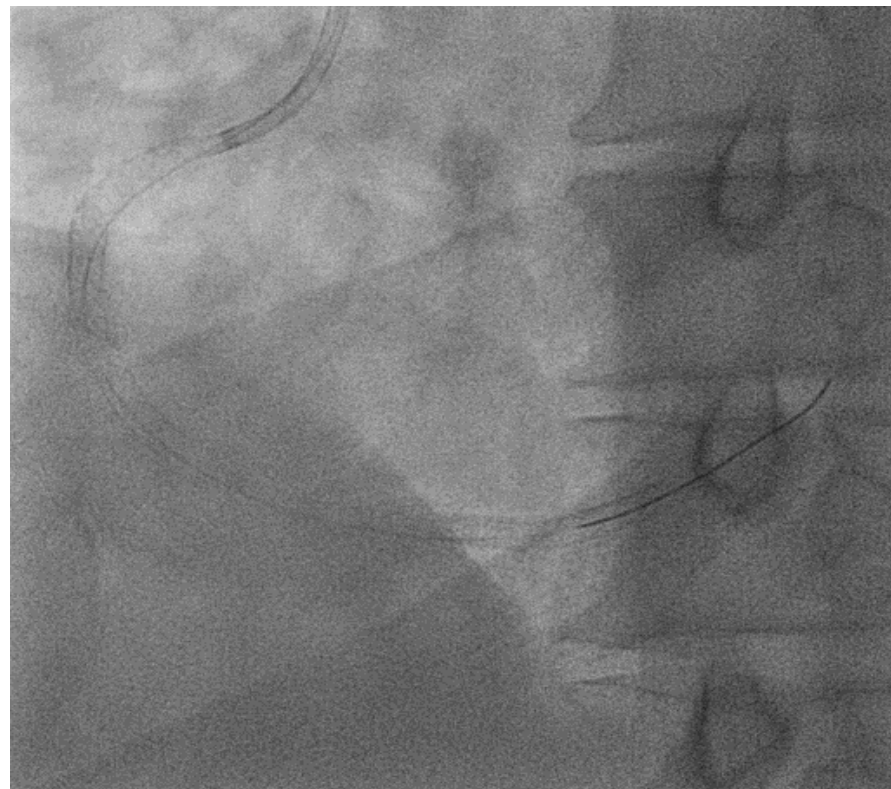


Noted haziness still present at proximal segment of distal stent

Thrombus aspiration done again . In total ,3 runs of THROMBUSTER II done



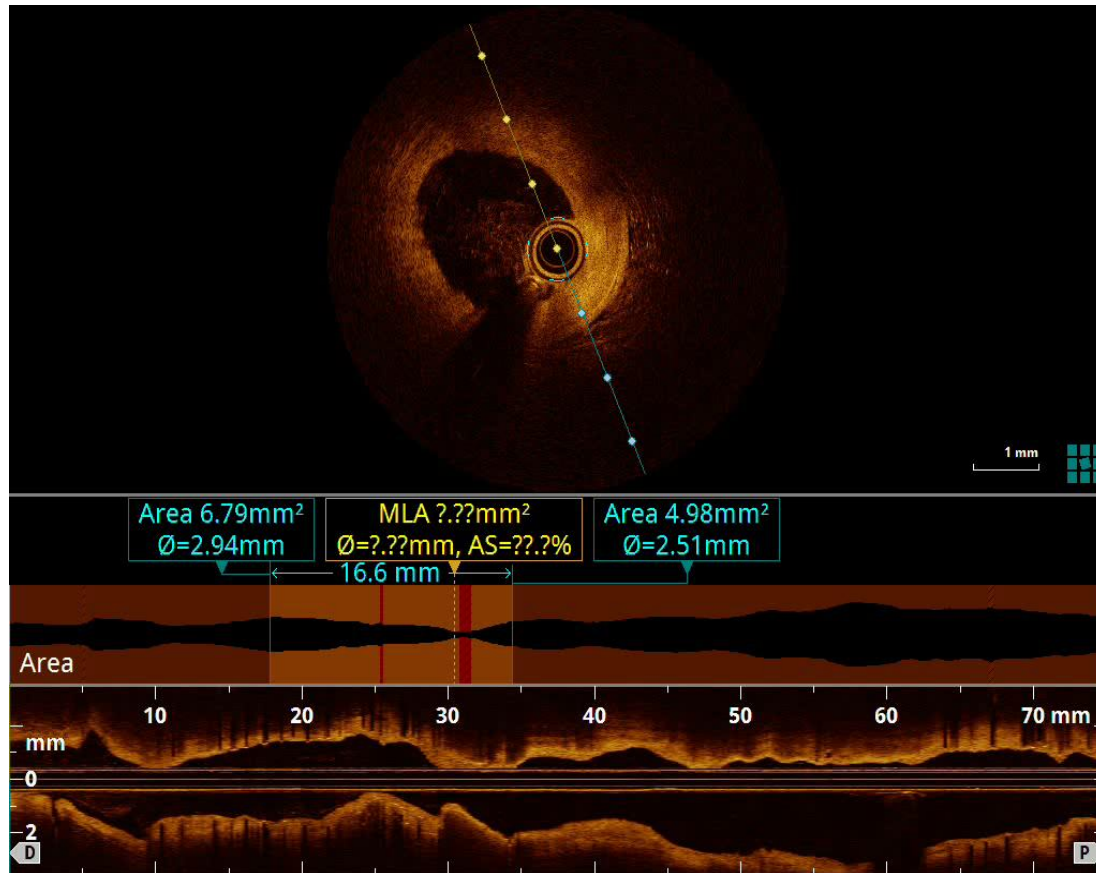
Predilate with SAPPHIRE II NC 2.5 x 15mm  
at 12 ATM



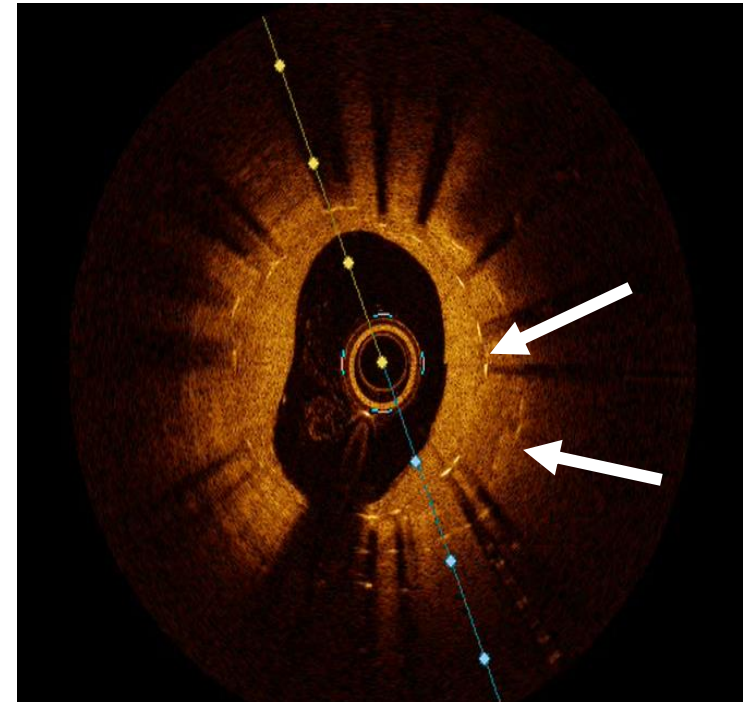
Persistent haziness over proximal edge

Suspicious plaque ?

Dissection ?



- OCT runs showed a soft lipid plaque ruptured at the proximal segment of old stent with MLA of 1mm<sup>2</sup>



A significant old stent in stent at the proximal edge of the occluded stent seen with poor endothelialization and no residual thrombus



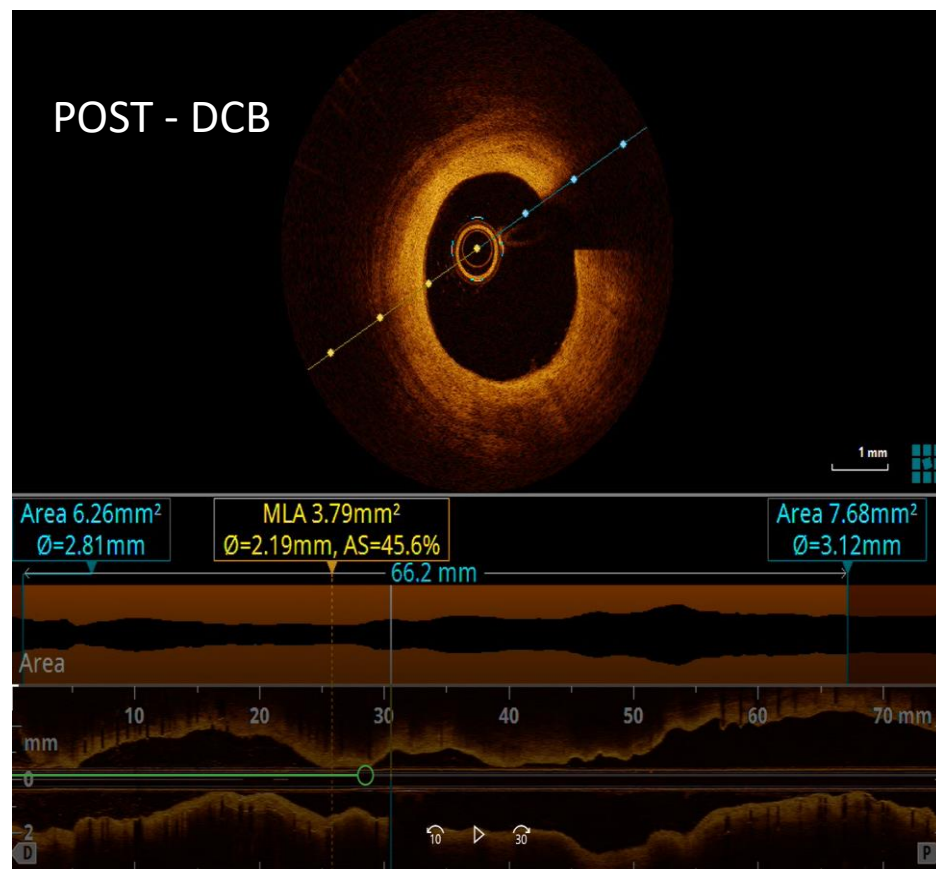
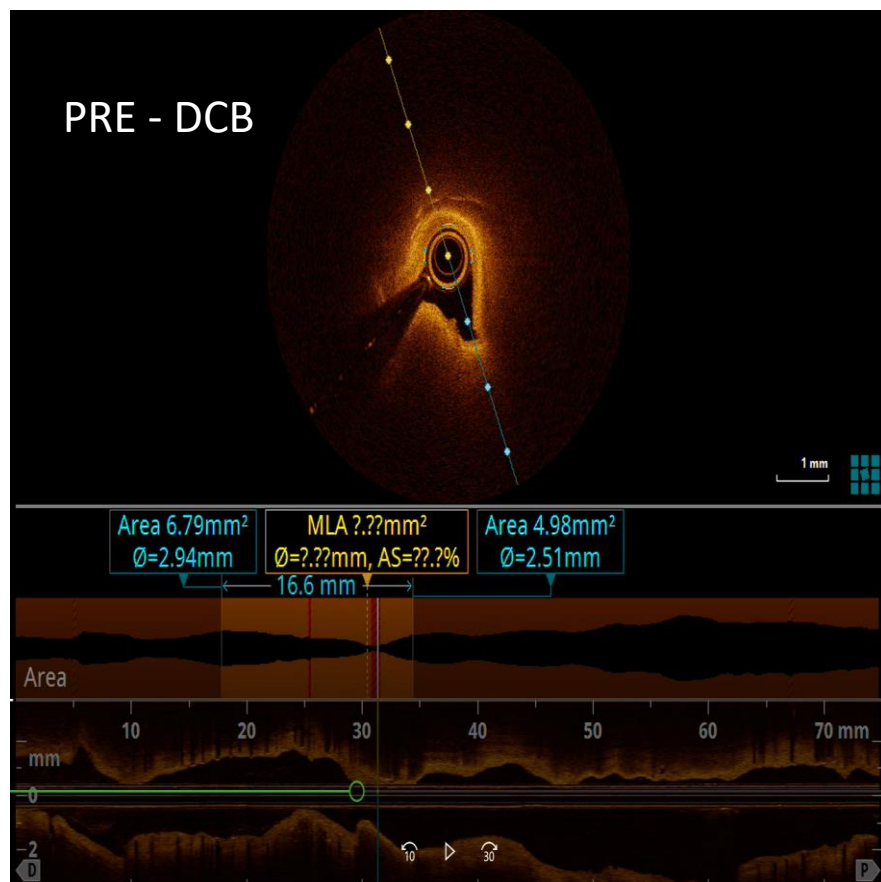


Lumen size measured using OCT was 3.0mm

Predilate again with SCOREFLEX 3.0 x 15MM  
at 12 ATM

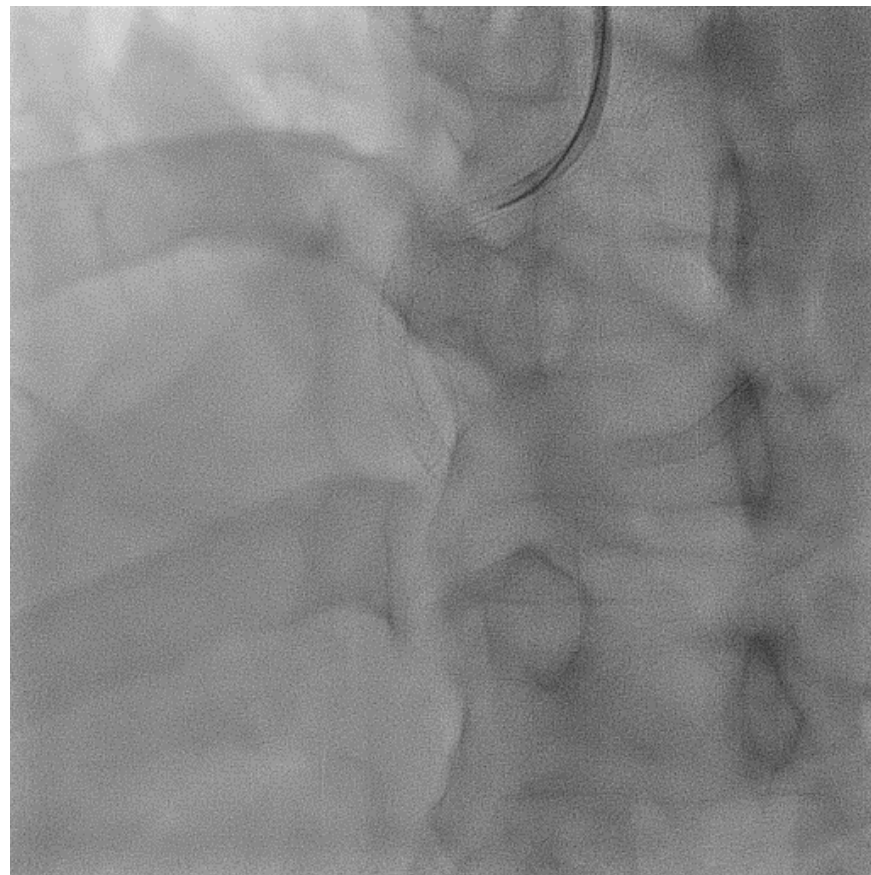
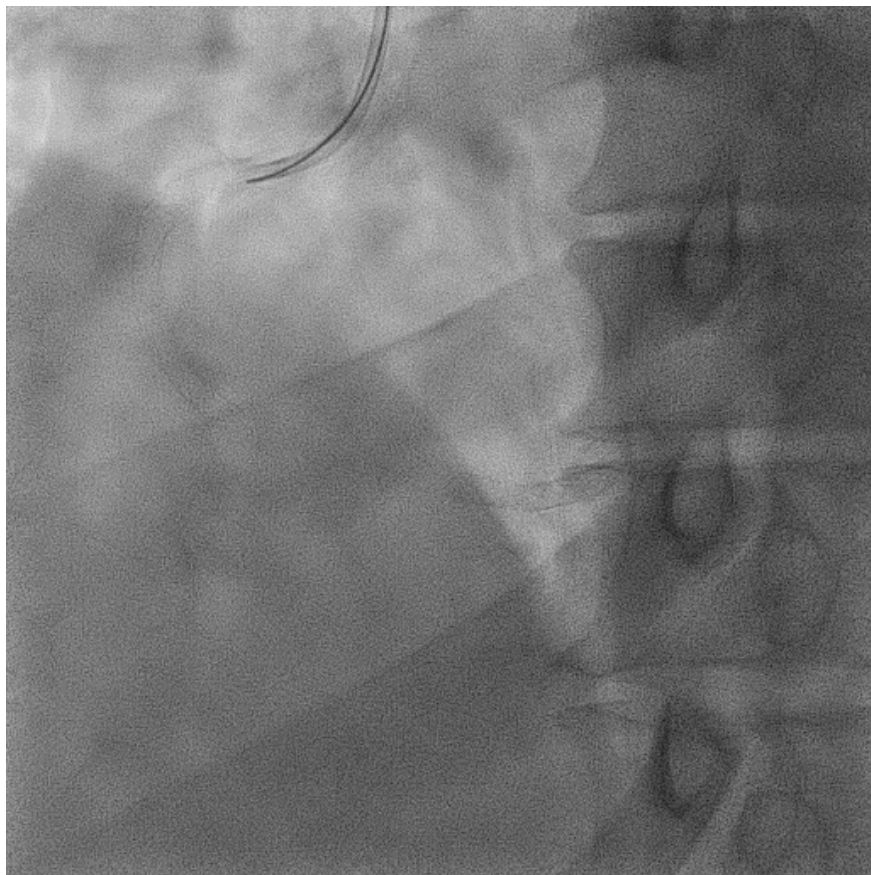


Deployed Drug Coated Balloon MAGIC  
TOUCH 3.0 x 20mm at 6 ATM for 60  
seconds



- Repeated Optical Coherence Tomography images confirmed good apposition of stent.

# FINAL RESULTS





# Summary

Intravascular imaging - guided PCI facilitate assessment of **baseline lesion characteristics** and evaluate acute **results of stent placement**, post procedure

Usage of OCT in our case assisted to identify significant plaque rupture and 2 layers of stent proximally, thus **changed the treatment approach**

Optical coherence imaging has a very significant role in **selected AMI** cases, especially in patients with **pre-existing stents**



**THANK YOU**