

*The nightmares of LM intervention*

# LM dissection / Aorta-LM dissection during LM-PCI

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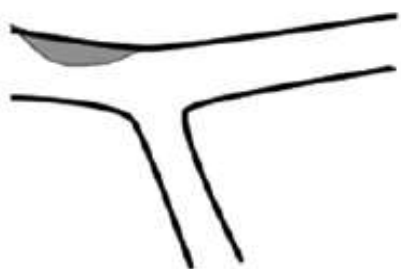
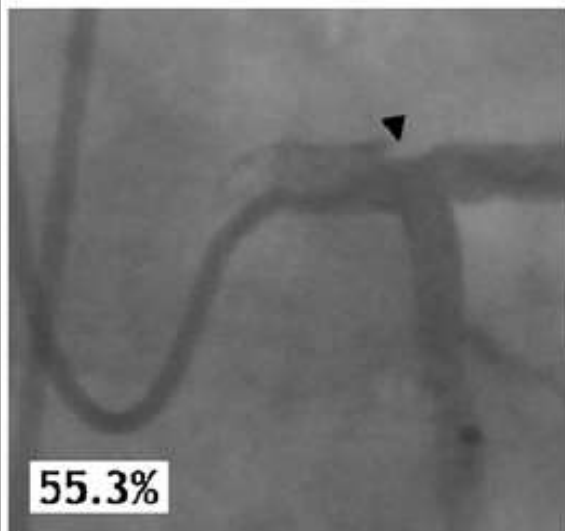
# Iatrogenic left main coronary artery dissection

- A rare but potentially devastating complication of coronary catheterization (0.1-0.2%)
- High take-off of LM; distorted left sinus in dilated aortic root
- Deep engagement or aggressive manipulation of guiding catheter
- Instability of the guiding catheter during manipulating wire, balloon catheter and stent
- Debulking procedure



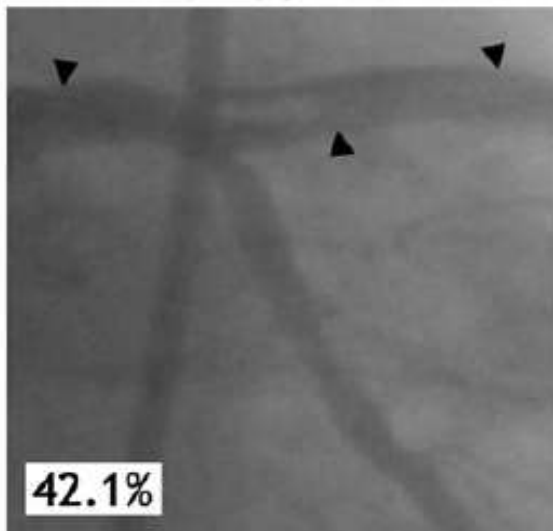
## Simplified classification

**Type I**  
Localized dissection



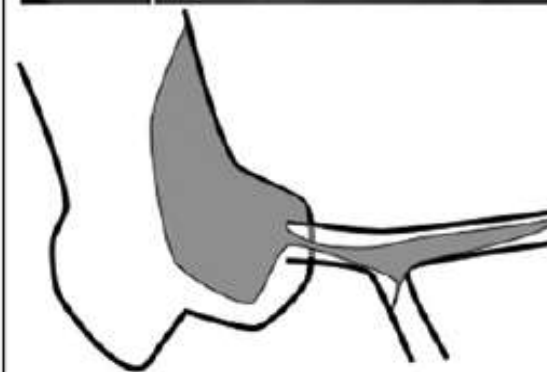
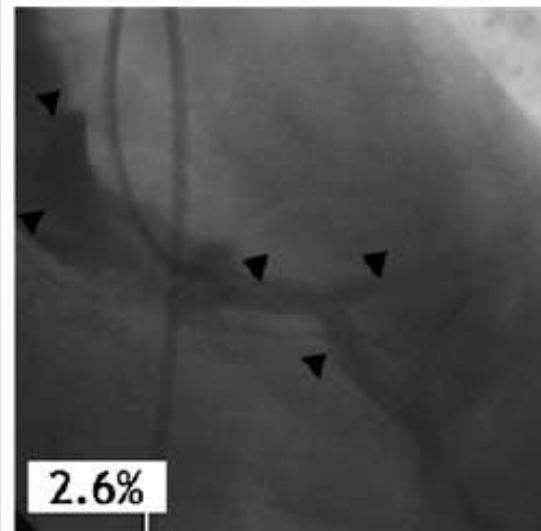
Hemodynamic instabilities	0%
Cardiopulmonary resuscitation	0%
In-hospital death	0%

**Type II**  
Dissection with extension  
into major branches  
("zipper")



Hemodynamic instabilities	38%
Cardiopulmonary resuscitation	25%
In-hospital death	0%

**Type III**  
Dissection with  
extension to aortic root



Hemodynamic instabilities	100%
Cardiopulmonary resuscitation	100%
In-hospital death	100%



# Case 1

- 73 Y/O male  
H/T(+), DM(+)
- S/P PCI years ago
- Admitted for CAG  
and possible  
elective PCI
- Progressive Bp  
drop during  
prolonged  
catheter  
manipulation...

182223-0

GUO.SIN WAN

21NOV0



GHTP



**Shift to guiding catheter and advance GW  
immediately >> balloon dilatation>> BMS stenting  
over LM**

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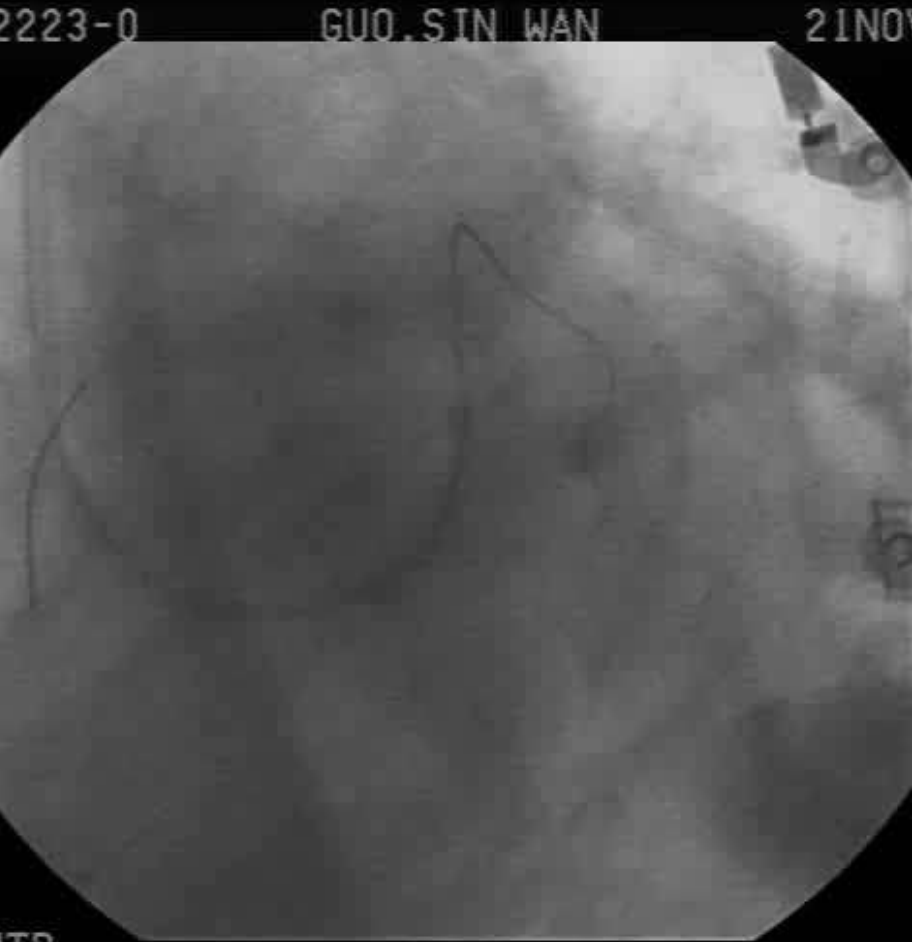
GHTP



GHTP

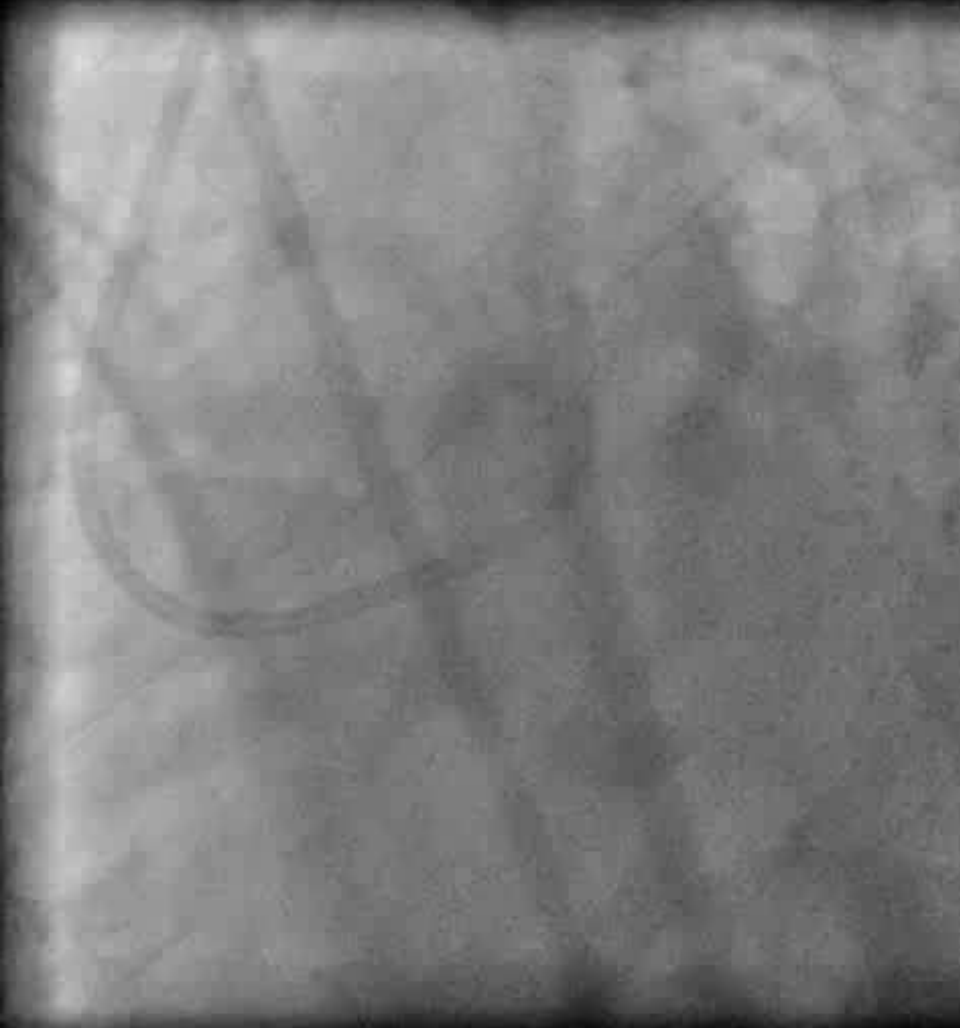
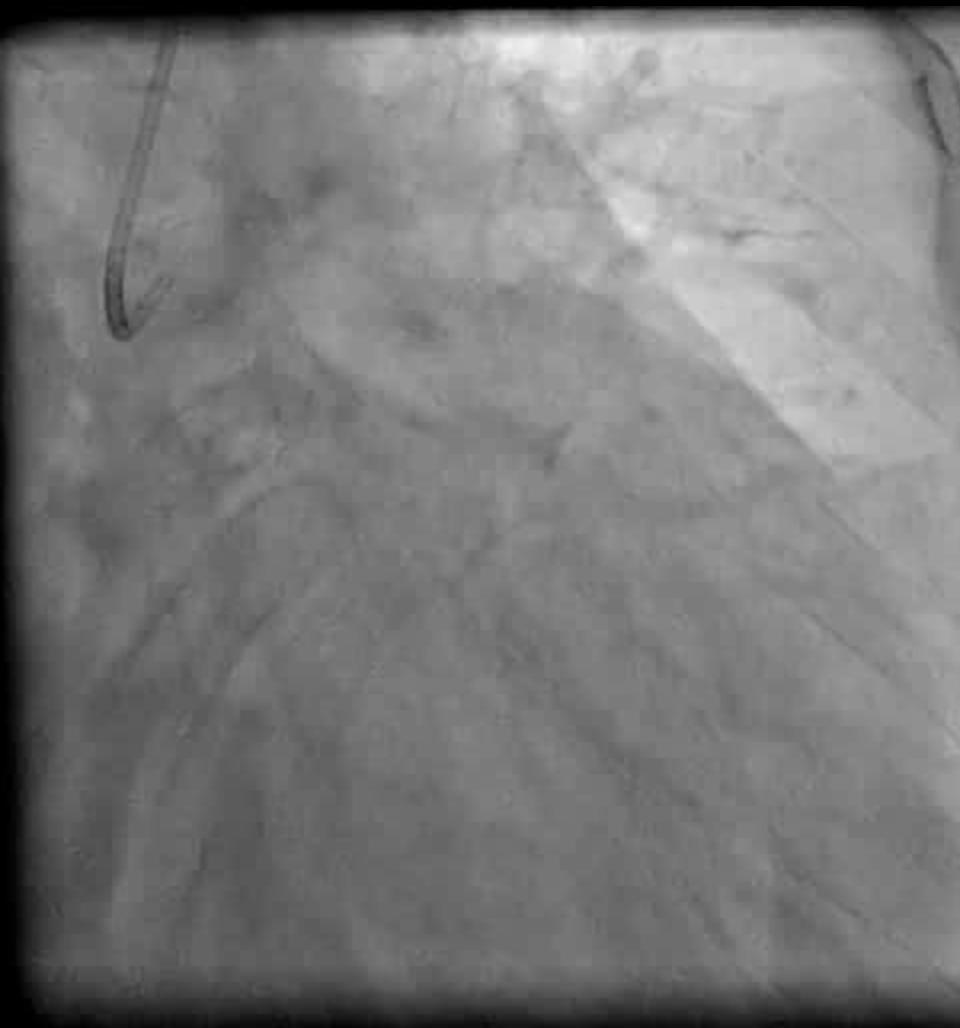


# Vital sign stabilized and the patient underwent emergent CABG

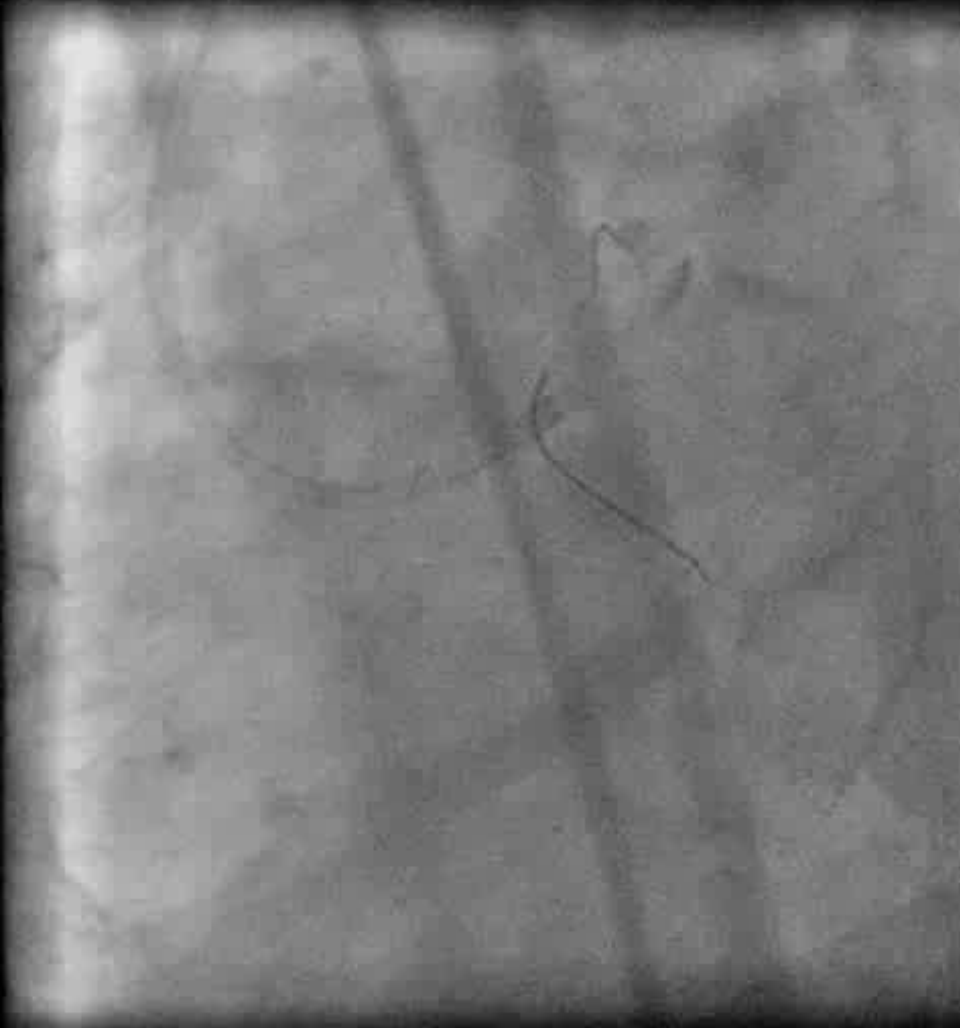


# Case 2

## 60 Y/O Male, hyperlipidemia



**Shock and chest pain occurred suddenly.....**

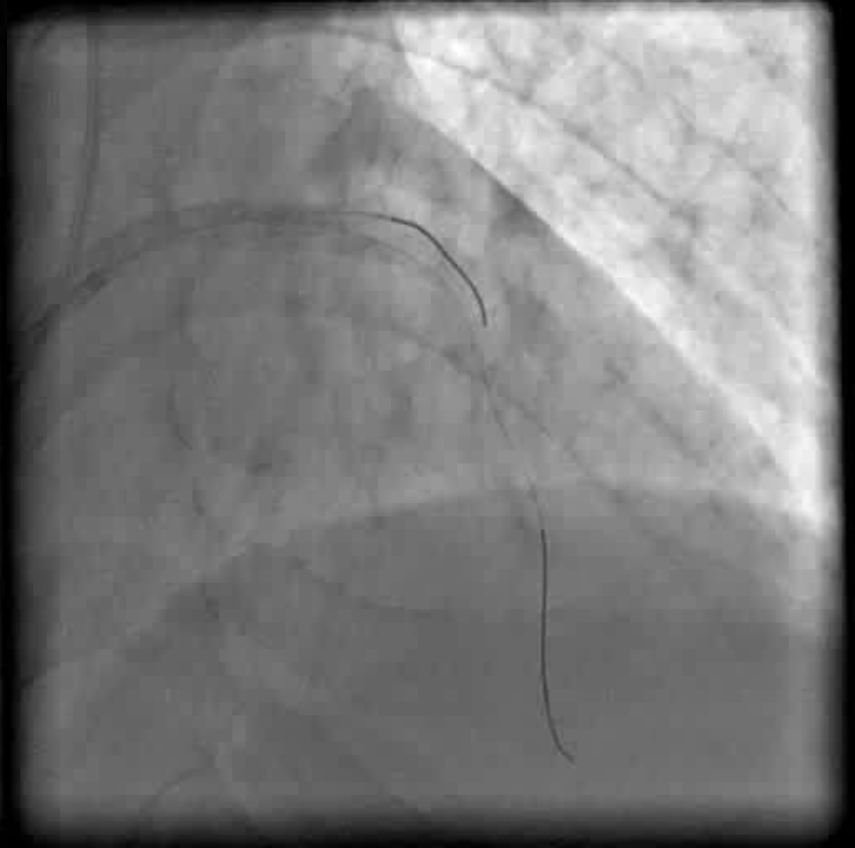
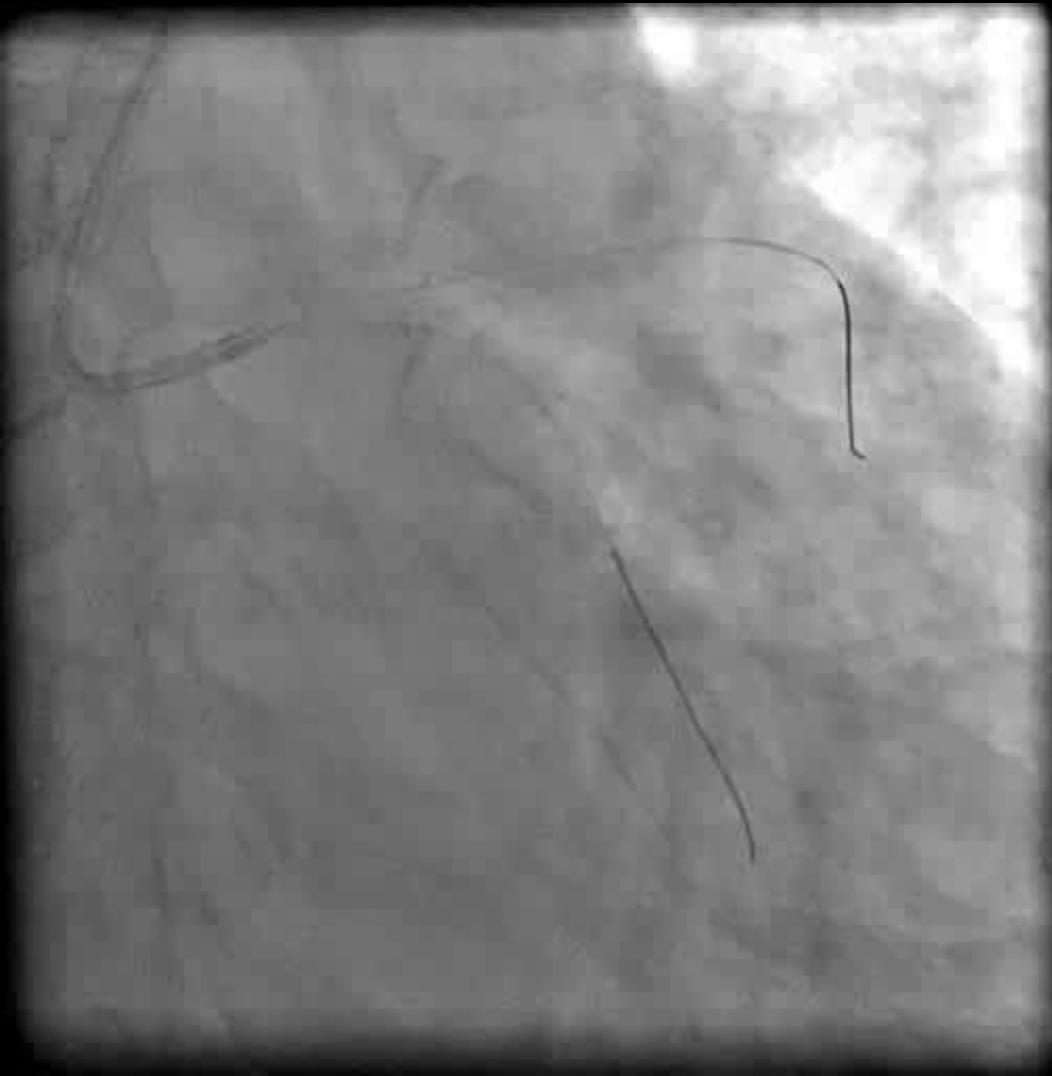




# Rapid and careful wiring of LAD and LCX



# Mini-crush stenting of LM/LAD/LCX

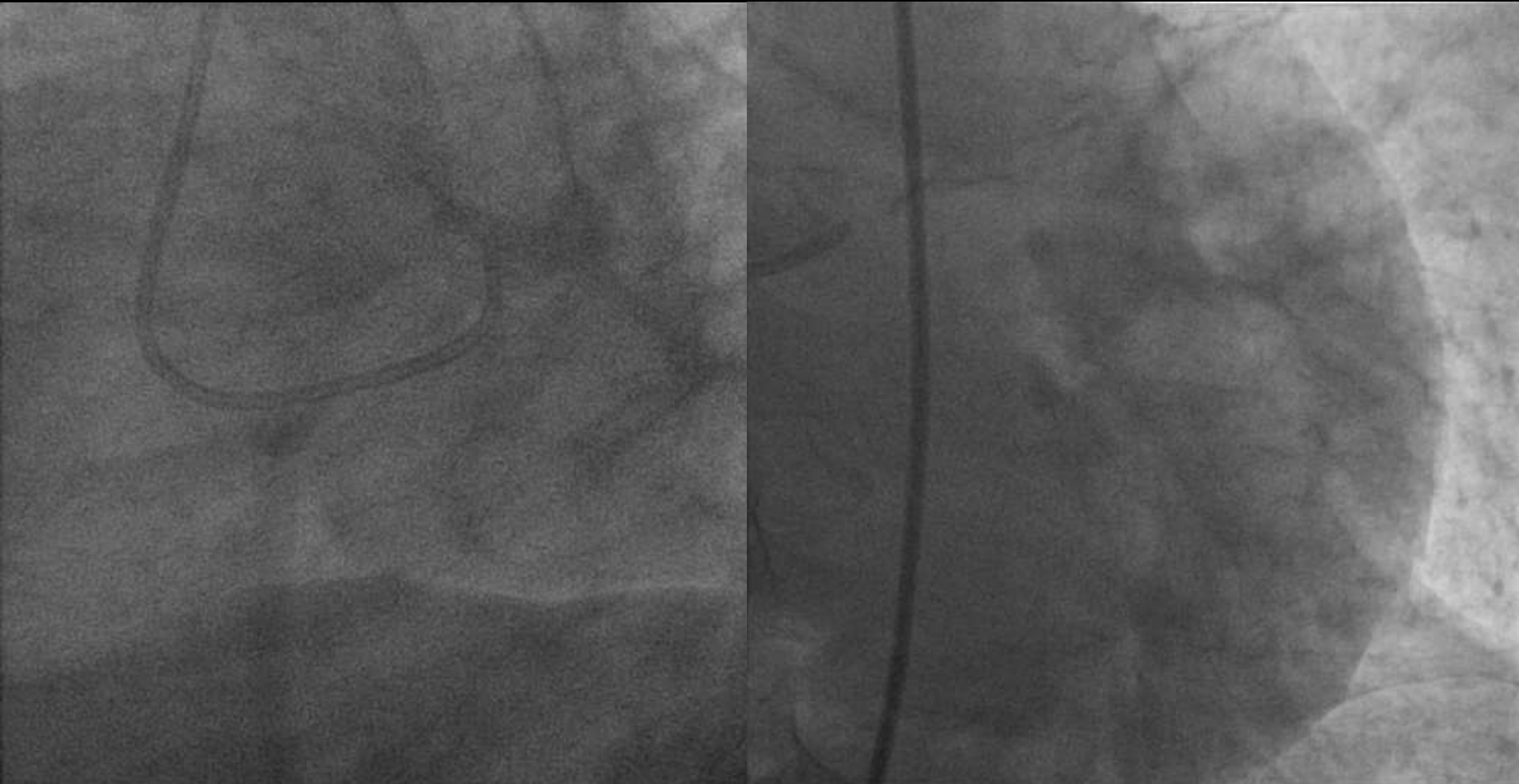


## Case 3

64 Y/O M, DM and smoking

- functional total occlusion of LAD

- LCX-D 90% stenosis



# LM dissection during PCI



- LM dissection extending to aortic root was found after we pre-dilated the LCx lesion



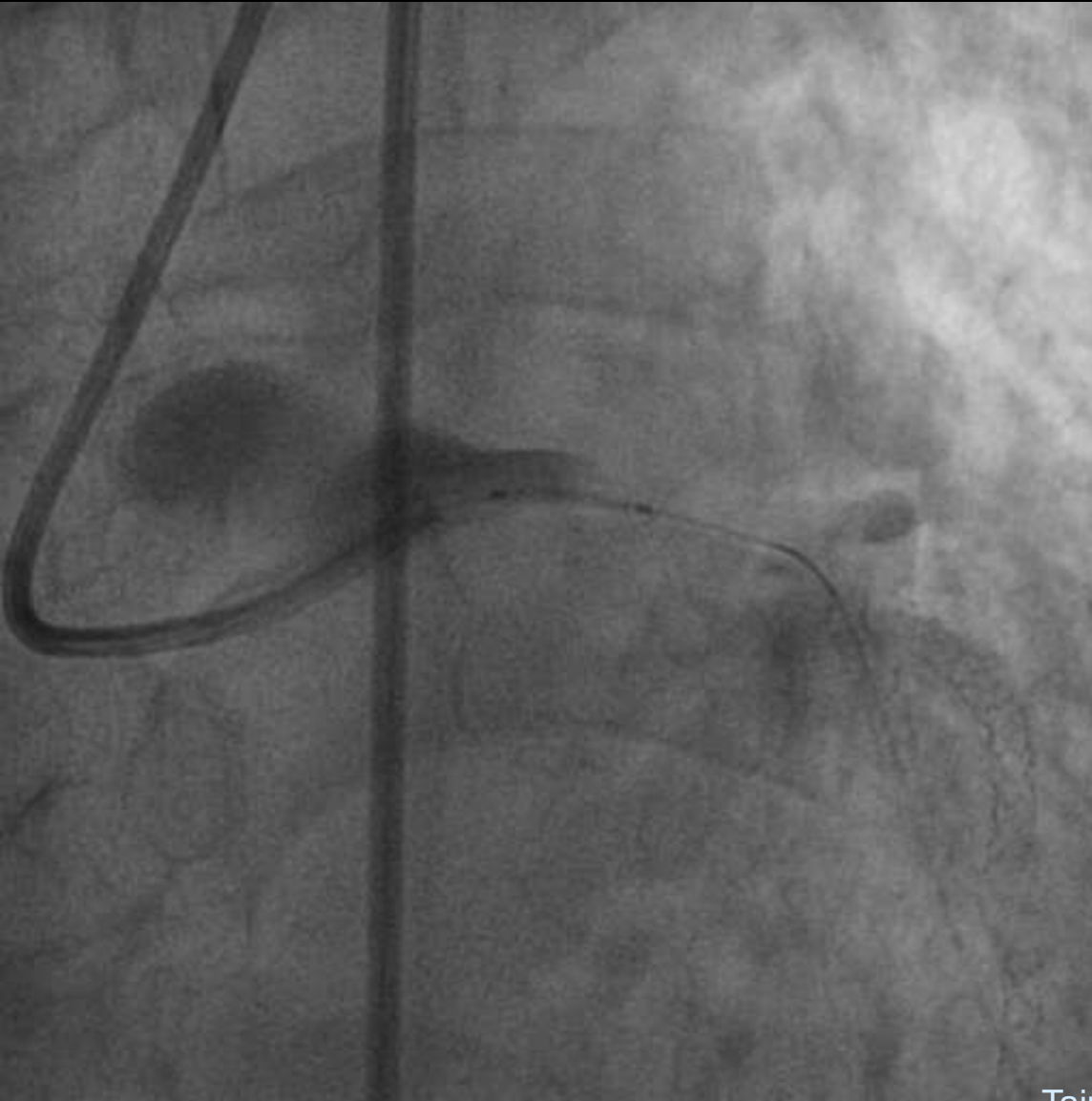
# LM Dissection extending to the aorta



- The patient developed chest tightness and hypotension immediately
- Fluid resuscitation and inotropic agents



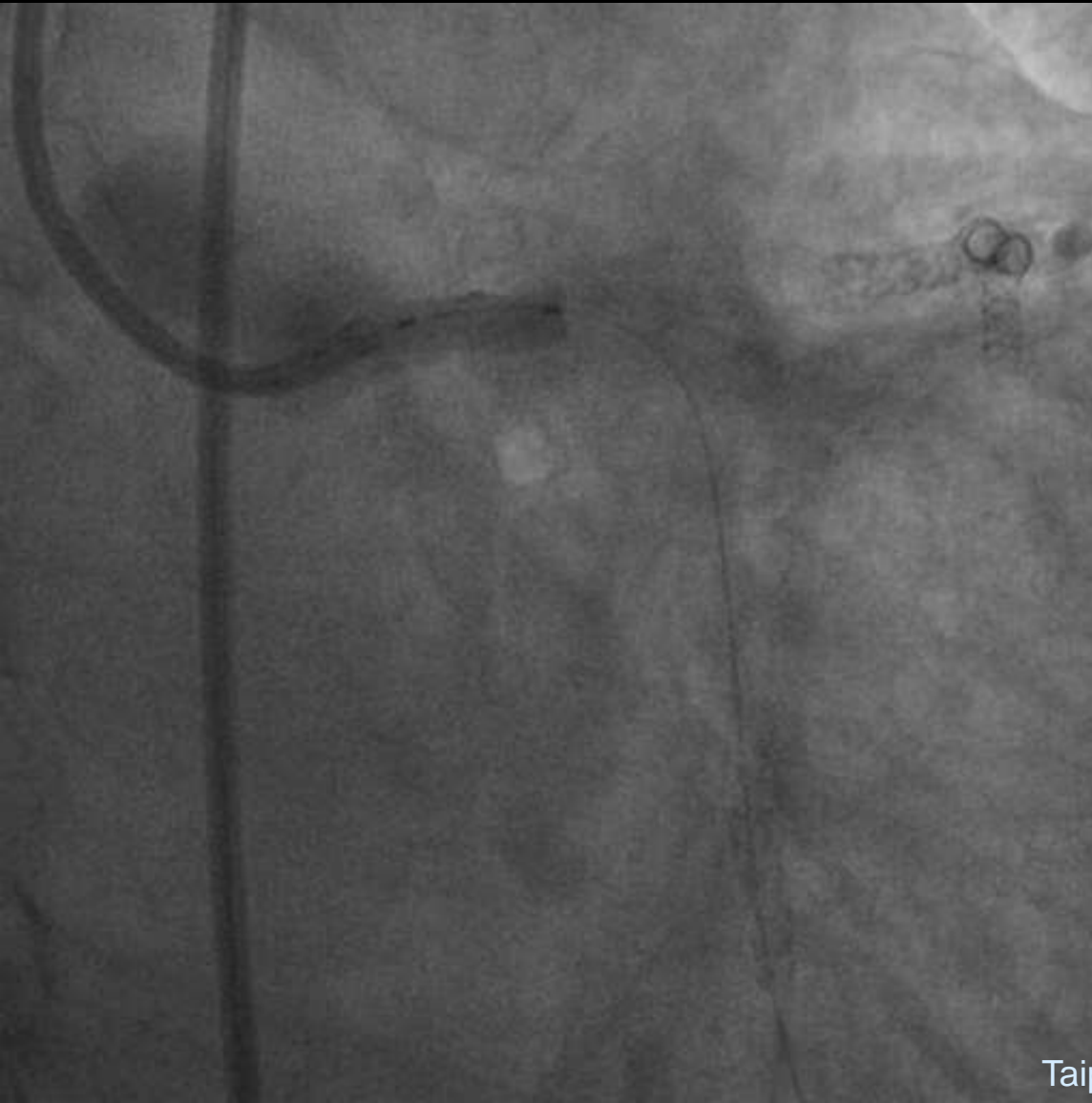
# Bail-out PCI for LM



- Prompt stenting of distal LCx lesion
- LM was dilated by the 3.0\*18 mm stent balloon catheter at 10 atm .
- Positioning the stent at ostium to shaft of LM



# Bail-out PCI for LM



- 4.0\*8 mm BMS for LM stenting
- Post-dilation with 4.5\*15mm NC balloon catheter



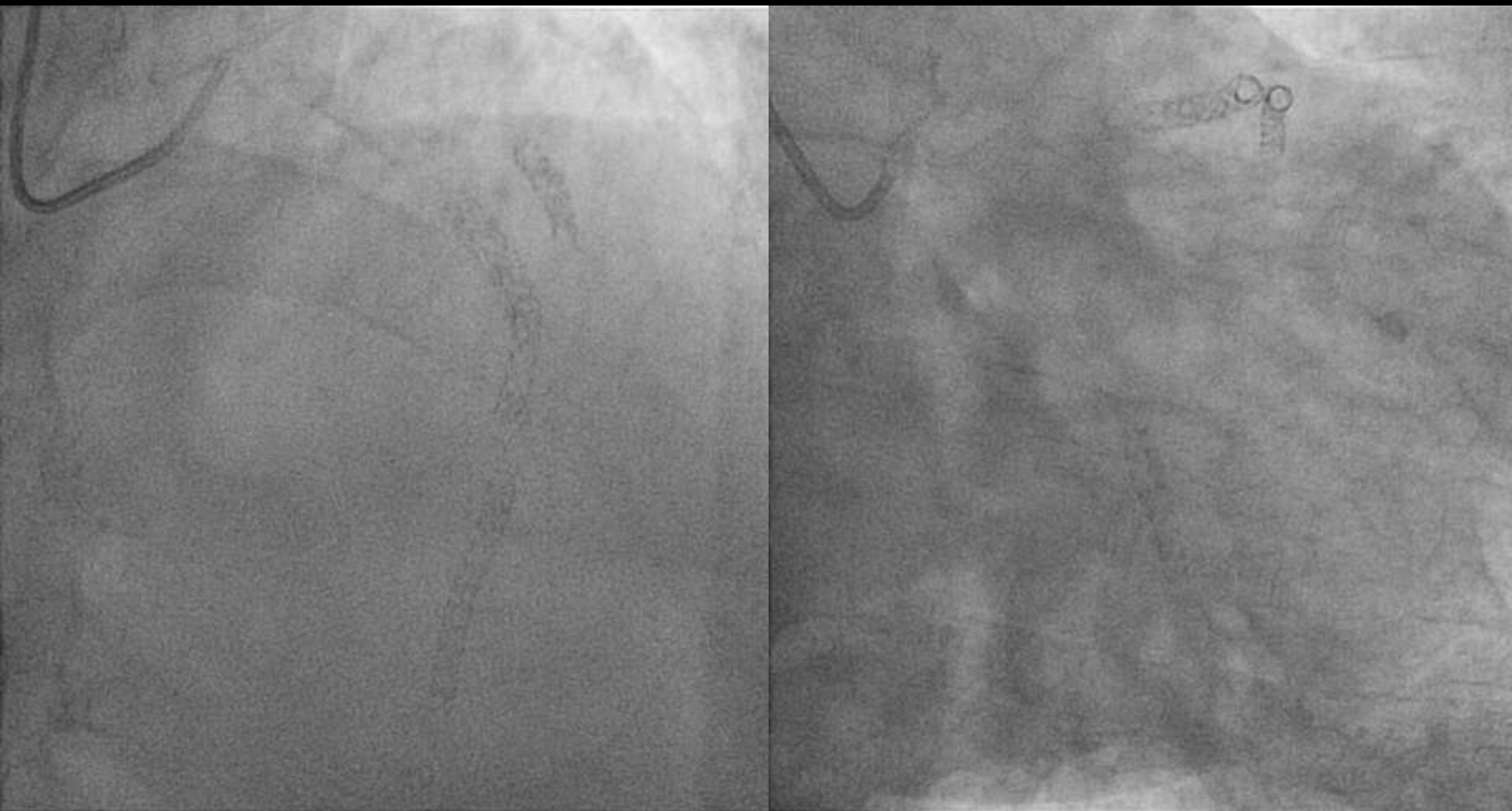
**Final angiogram**

**Chest pain relieved and vital sign stabilized**



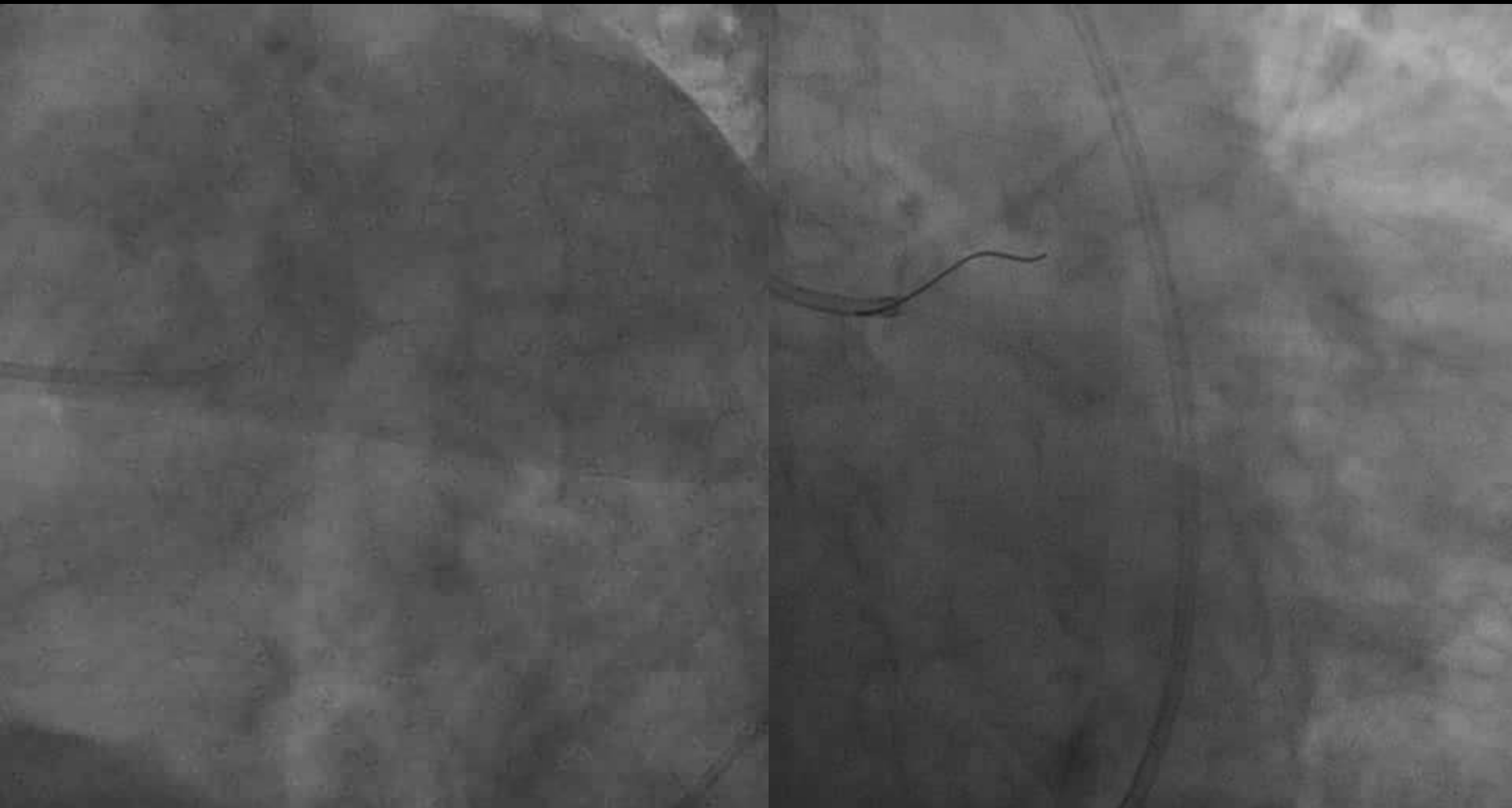


# 9-month follow-up angiogram

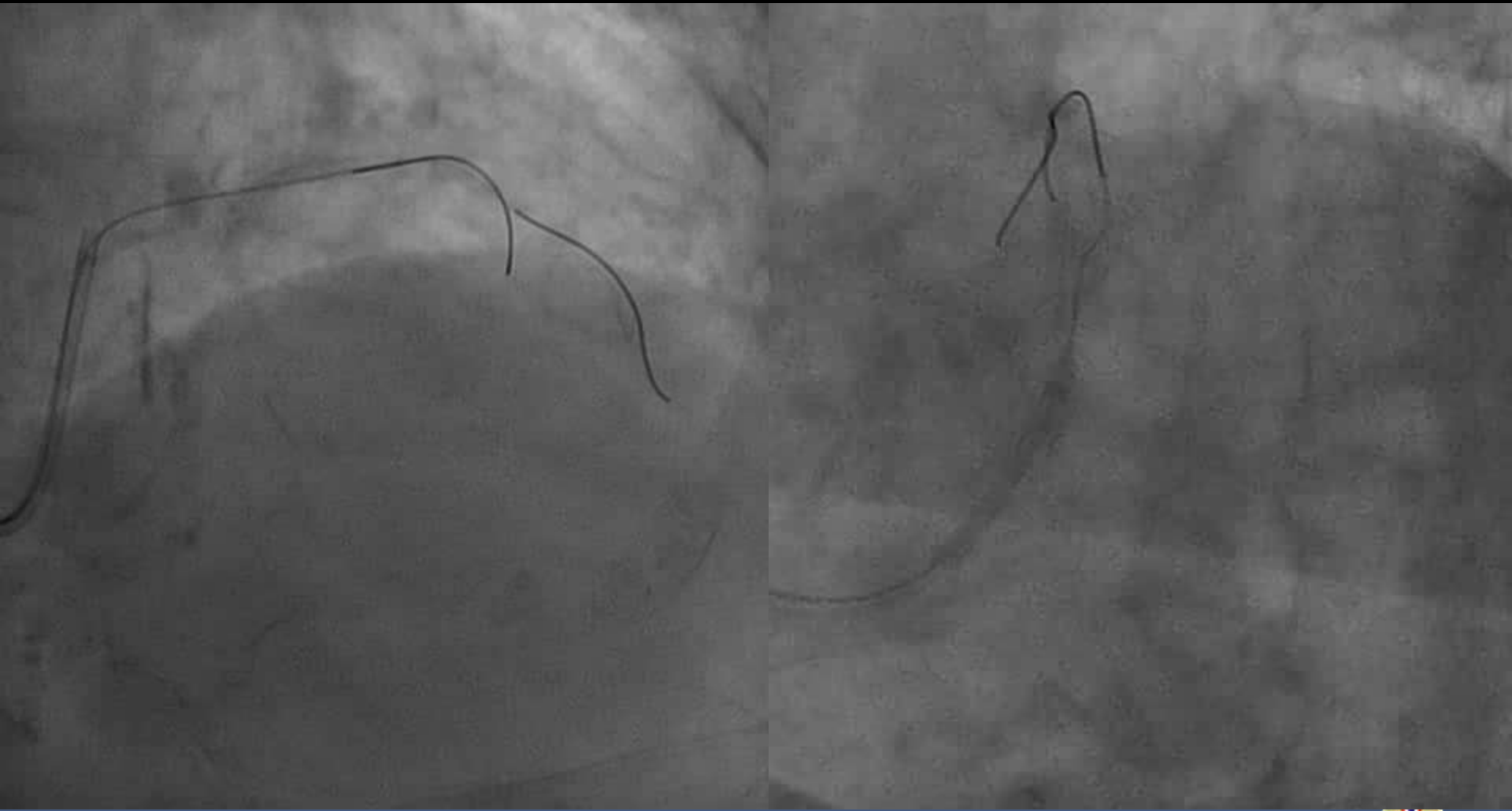


# Case 4 - 80 Y/O Female, DM, HCVD, CKD

## 1<sup>ST</sup> try at other H



**1.0 BC unable to pass the lesion**  
**Deep seating of guiding catheter and.....**

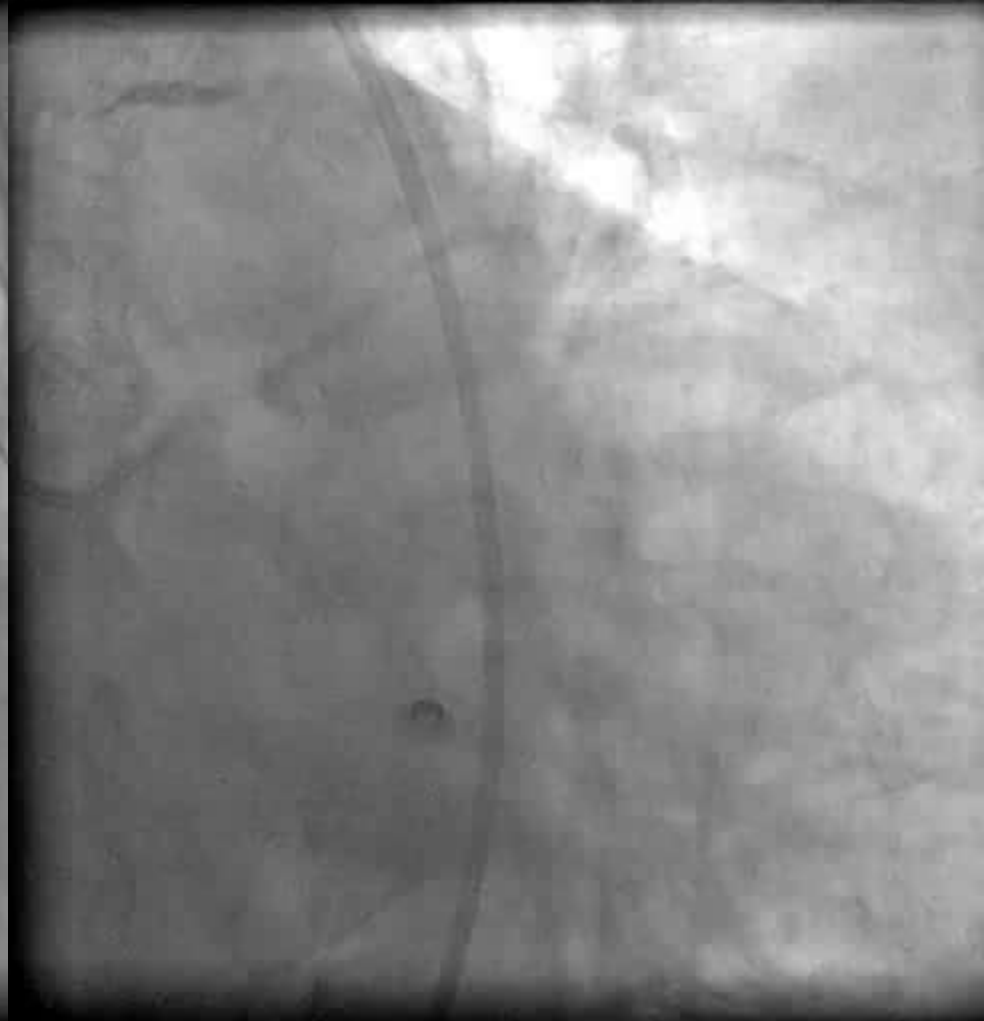


**2<sup>nd</sup> PCI try 1 week later**

**CAG showed no evidence of aortic dissection, but...**



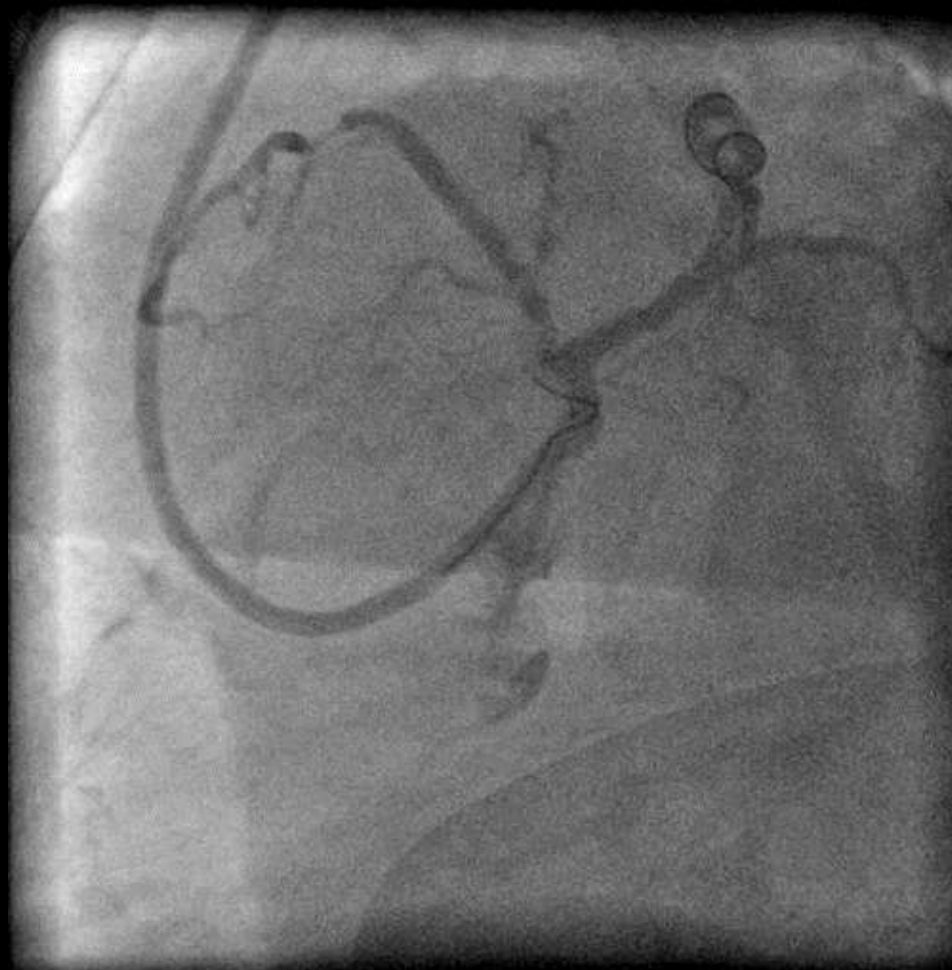
# Residual dissection of LM, from proximal to bifurcation



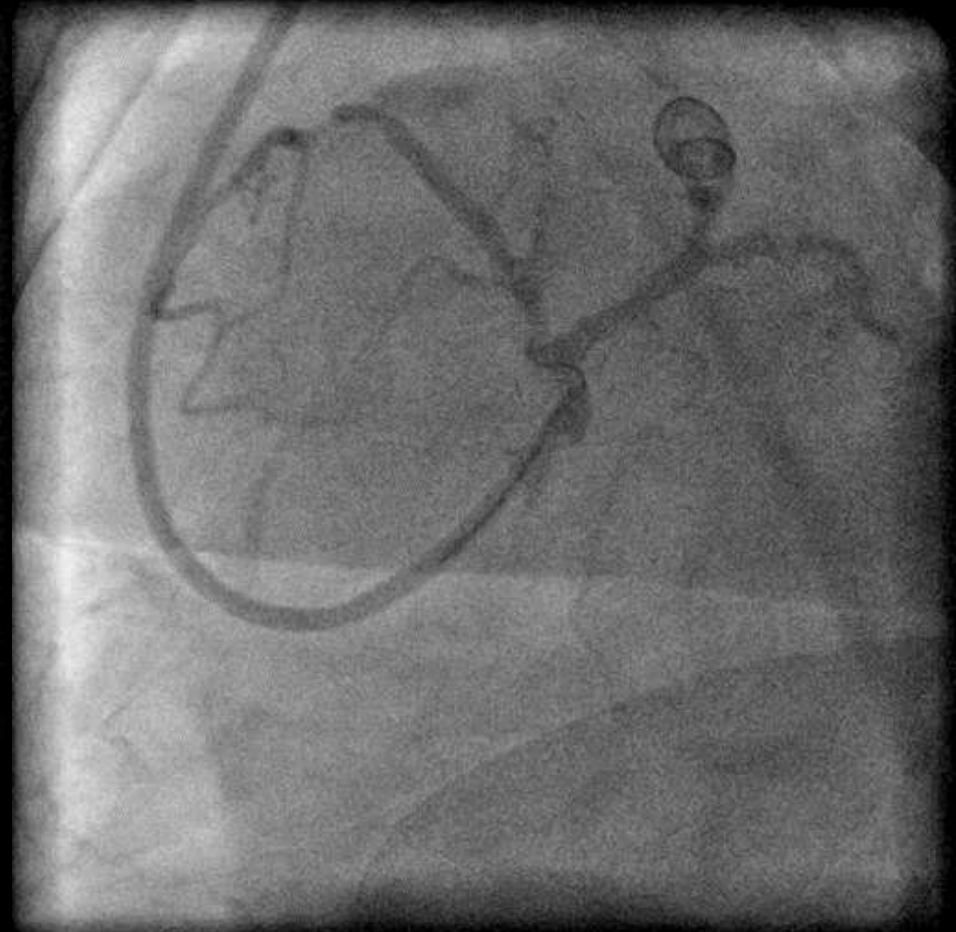
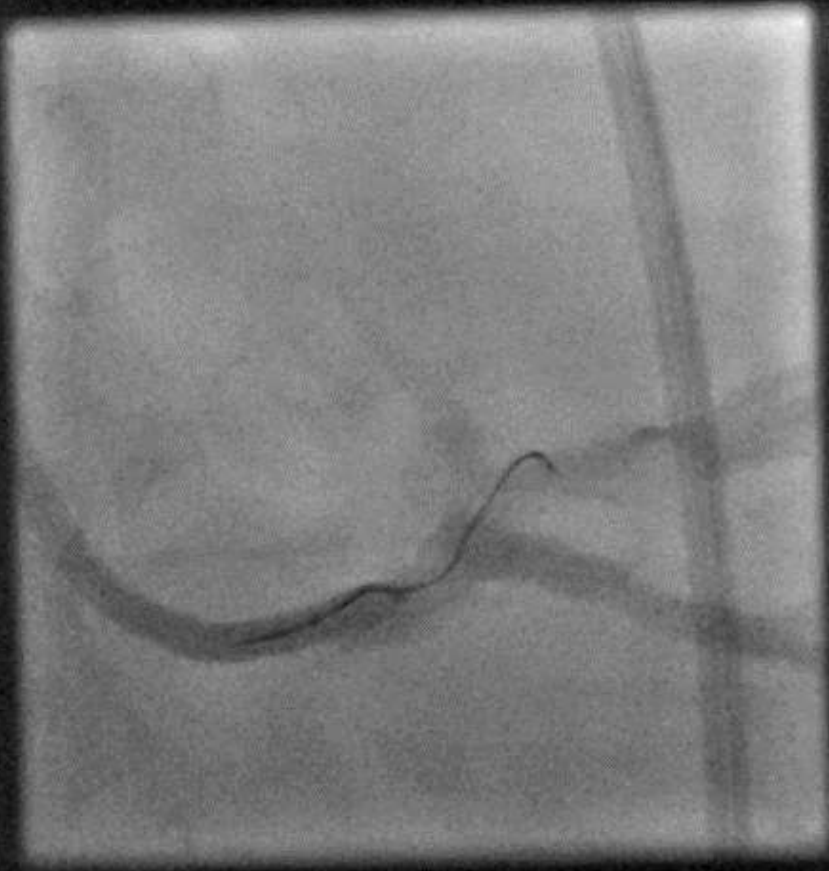
# Dissection of LM bifurcation



# Difficult wiring to LAD.....

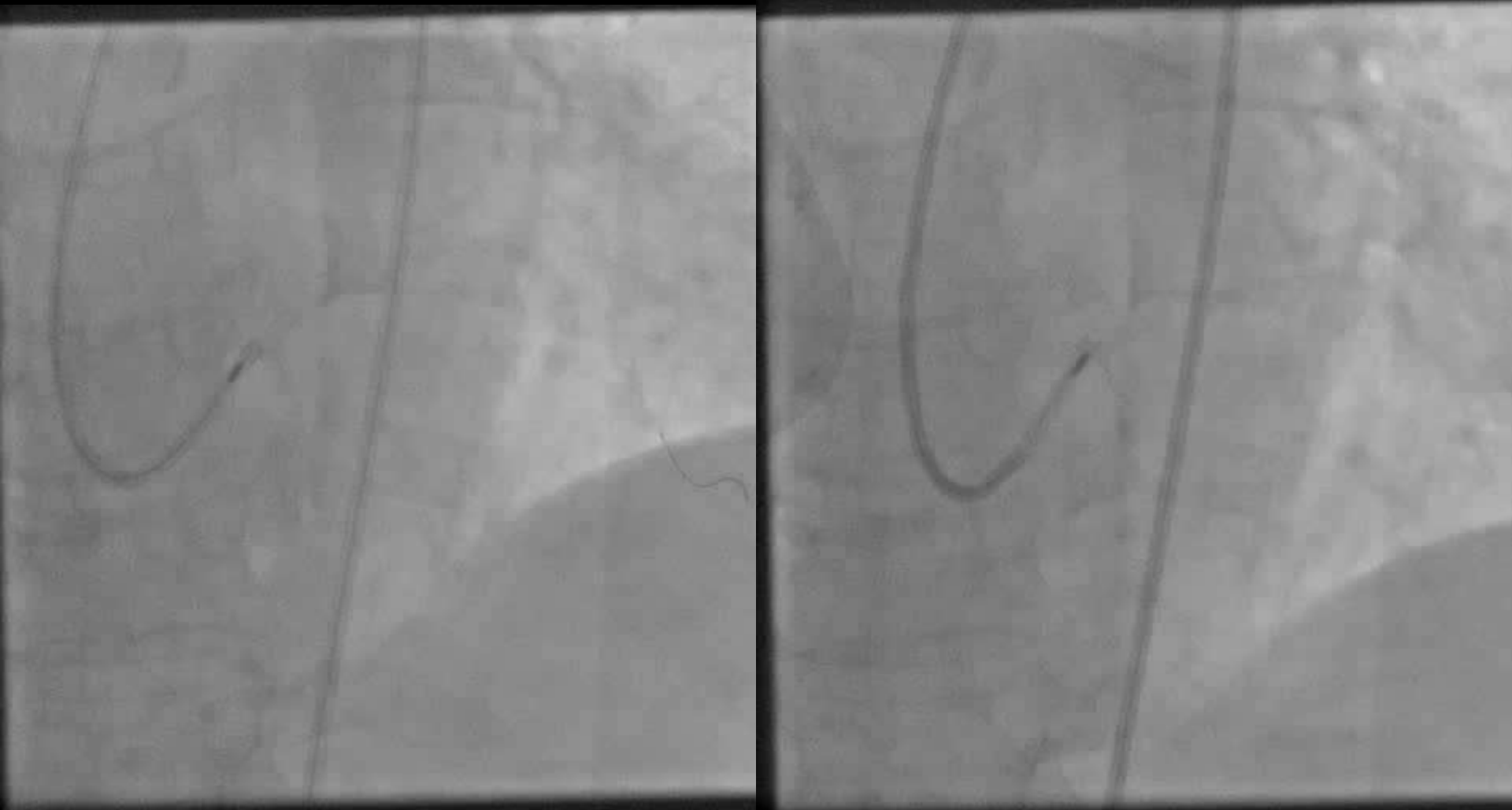


**Finally a floppy wire with a S-shape tip worked ...**

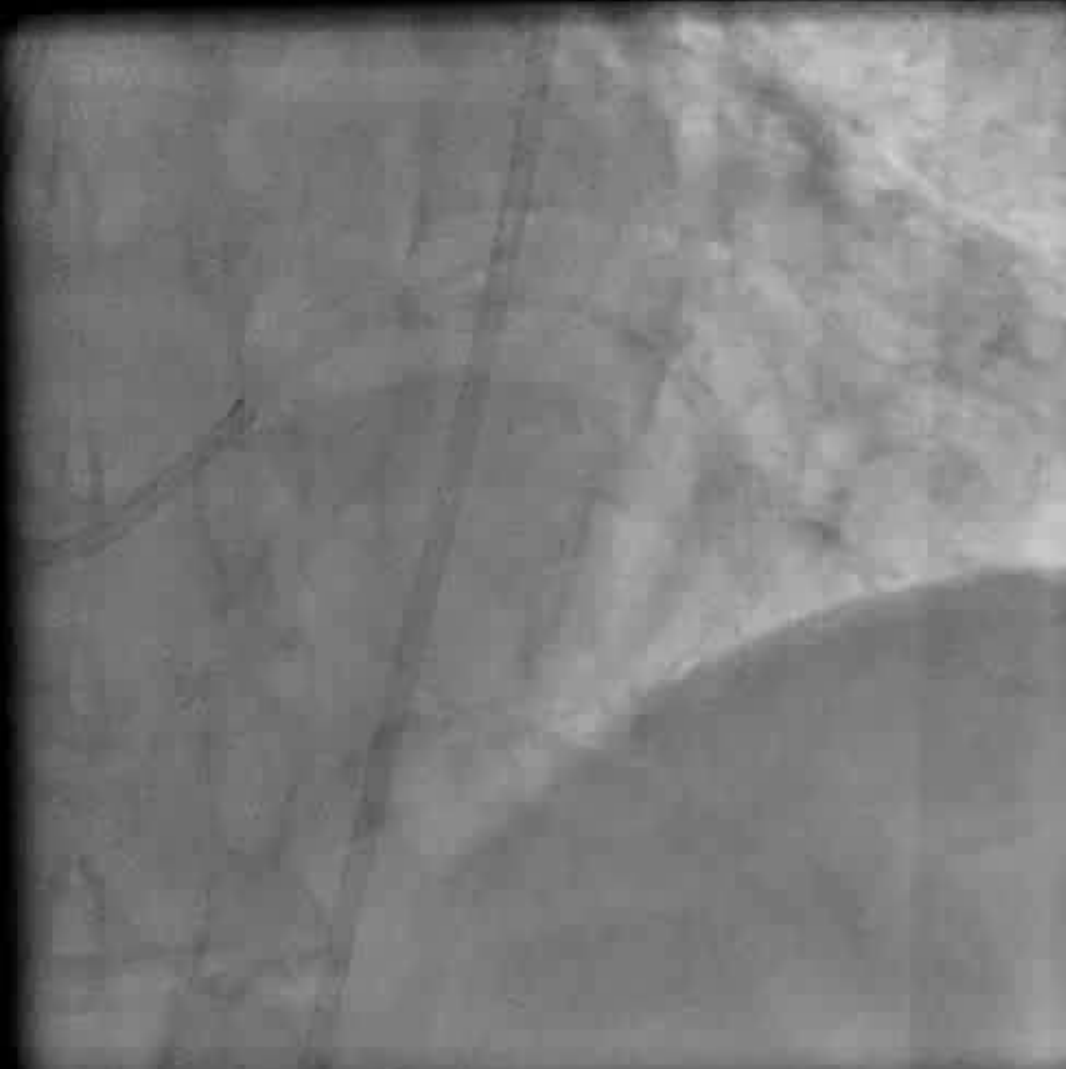




# Rotablation to LM-LAD by 1.25 burr



**Two Resolute-Integrity DES  
(2.5 X 30 & 3.0 X 34) from LM to  
LAD-D  
KBT (+)**



# *Take home message*

- Procedure complication during LM PCI is infrequent, but the incidence is increasing as we do more complex LM PCI
- Selection of appropriate guiding cath, wires, debulking devices...
- Keeping stabilization of the whole system during the procedure with gentle manipulation
- Use of imaging device (IVUS)
- Need knowledge & experience

