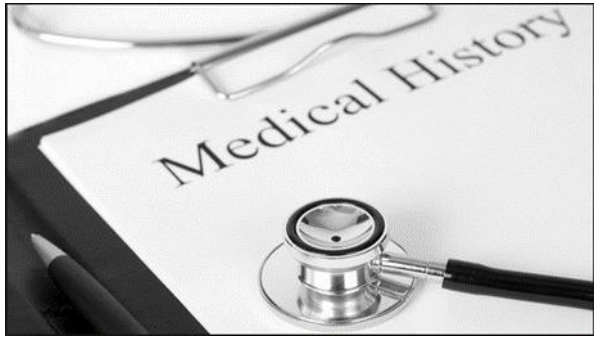
# A fracture not always refers to a hip

# Introduction

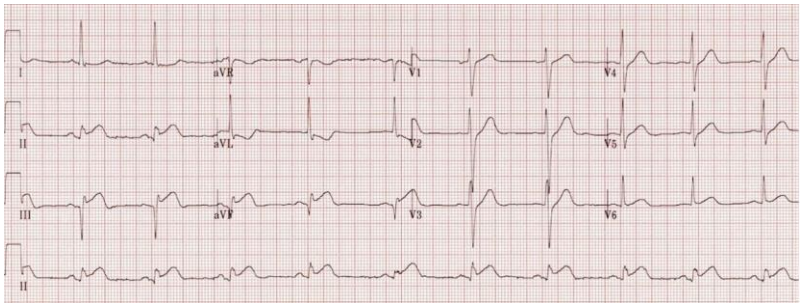
**60** year old **male** patient

- myocardial infarction 7 years ago (PCI in RCA)
- arterial hypertension
- dyslipidemia
- current smoker



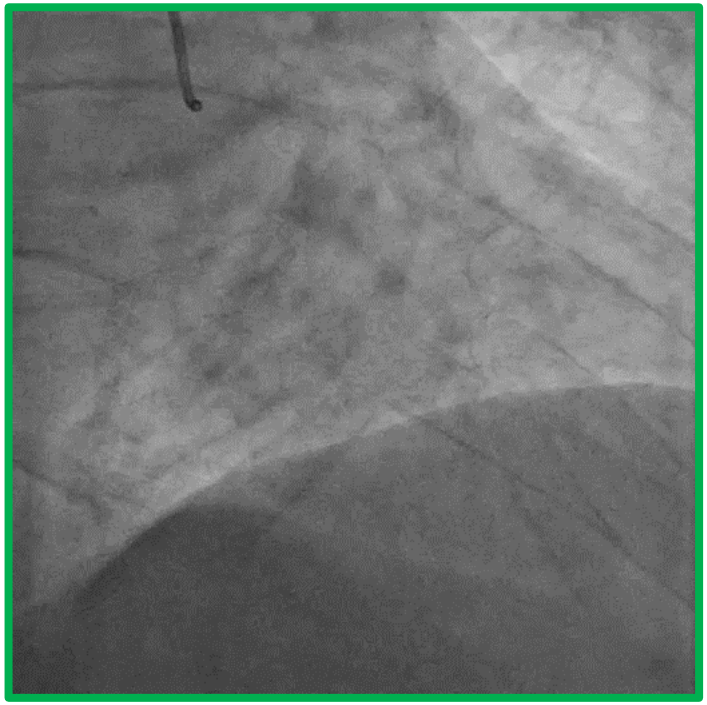

Severe chest pain for the last 2 hours.

ECG: **inferior STEMI**

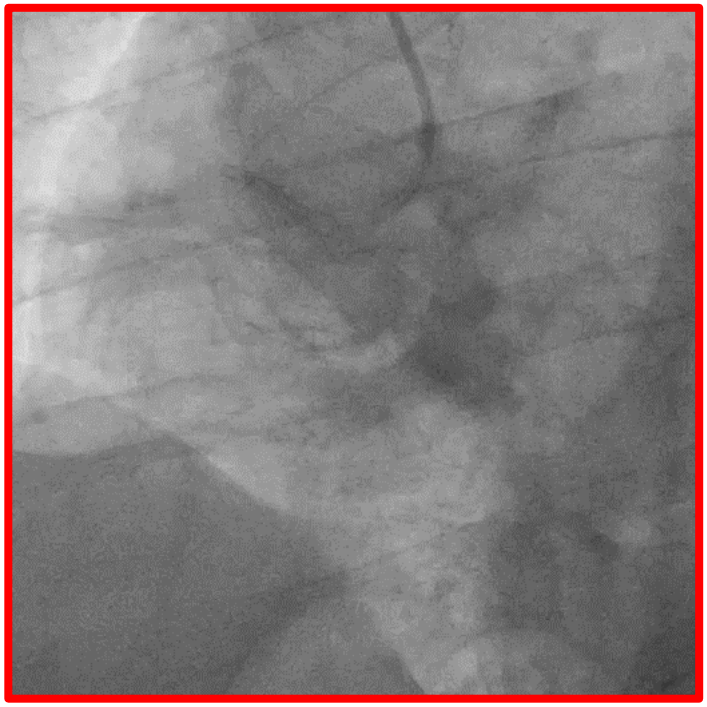


# Coronary Angiogram

Left Coronary Artery



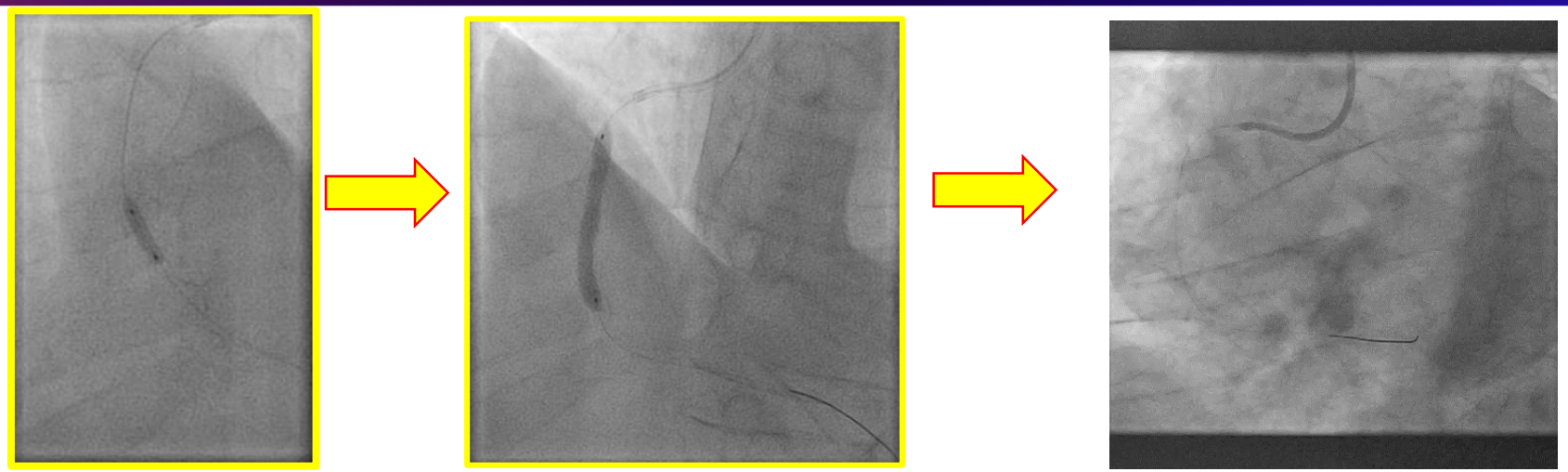
Right Coronary Artery



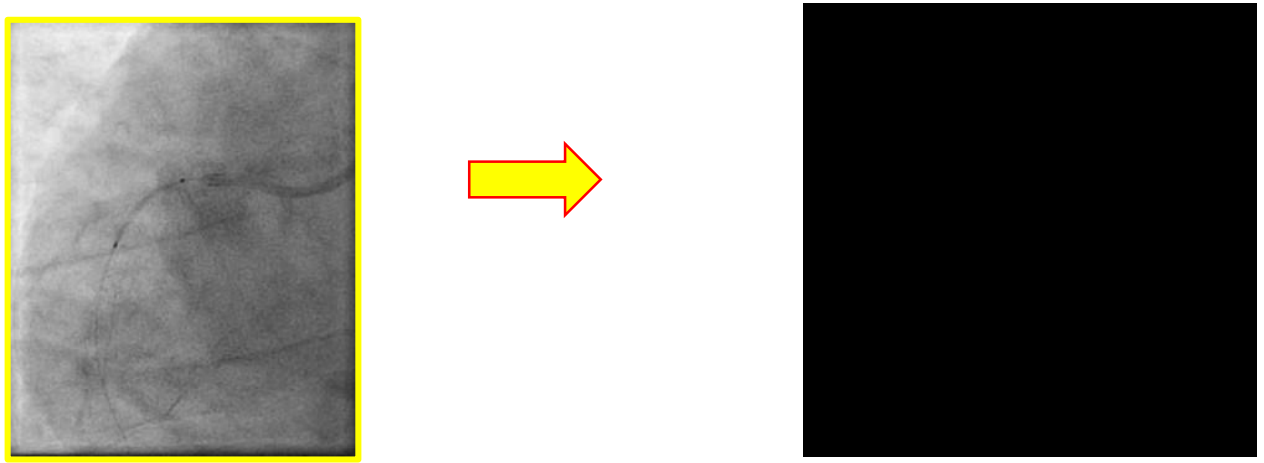
Proximal RCA 70-80% stenosis

In-stent sub-occlusion mid RCA (**culprit lesion**)

# Right Coronary Artery primary PCI

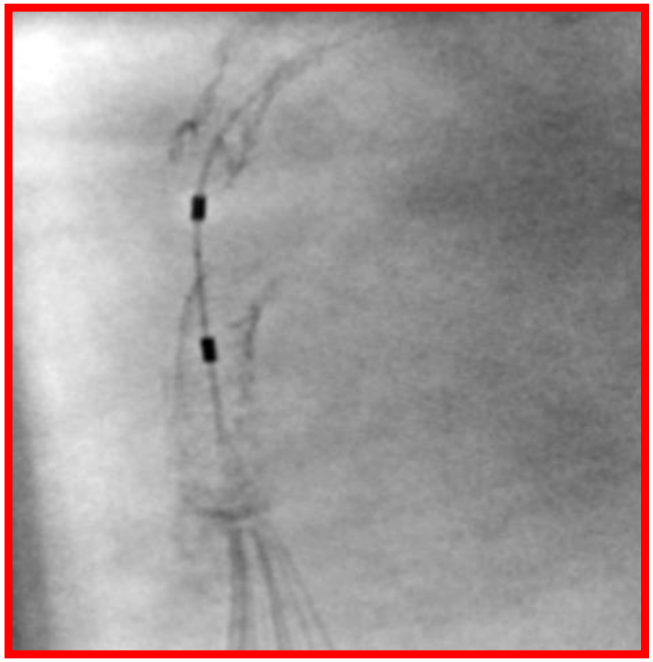


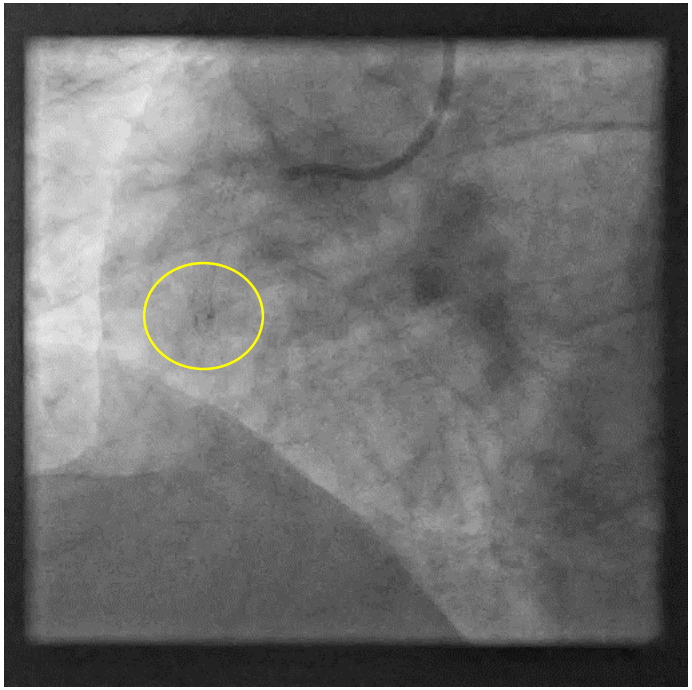
Primary PCI with a 3.5x35 mm everolimus DES deployed at the culprit lesion



Primary PCI with a 3.5x15 mm everolimus DES deployed at the proximal lession

# Stent Fracture





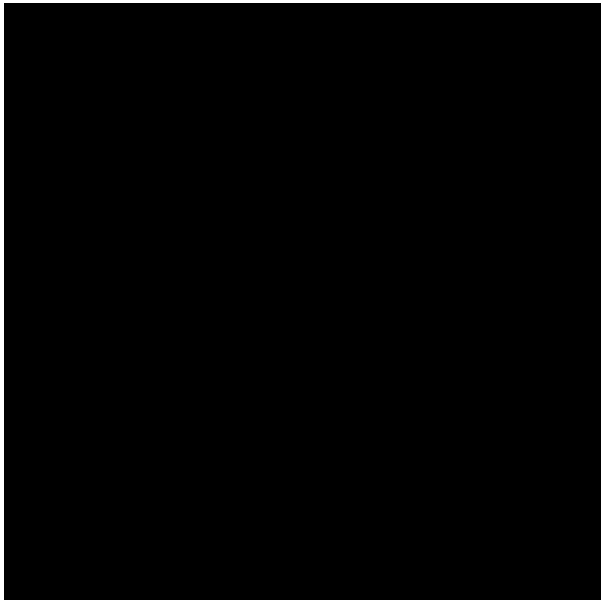
After stent placement, the guidewire accidentally pulled back

In the effort of relaunching the guidewire, it was trapped into the mid RCA stent.

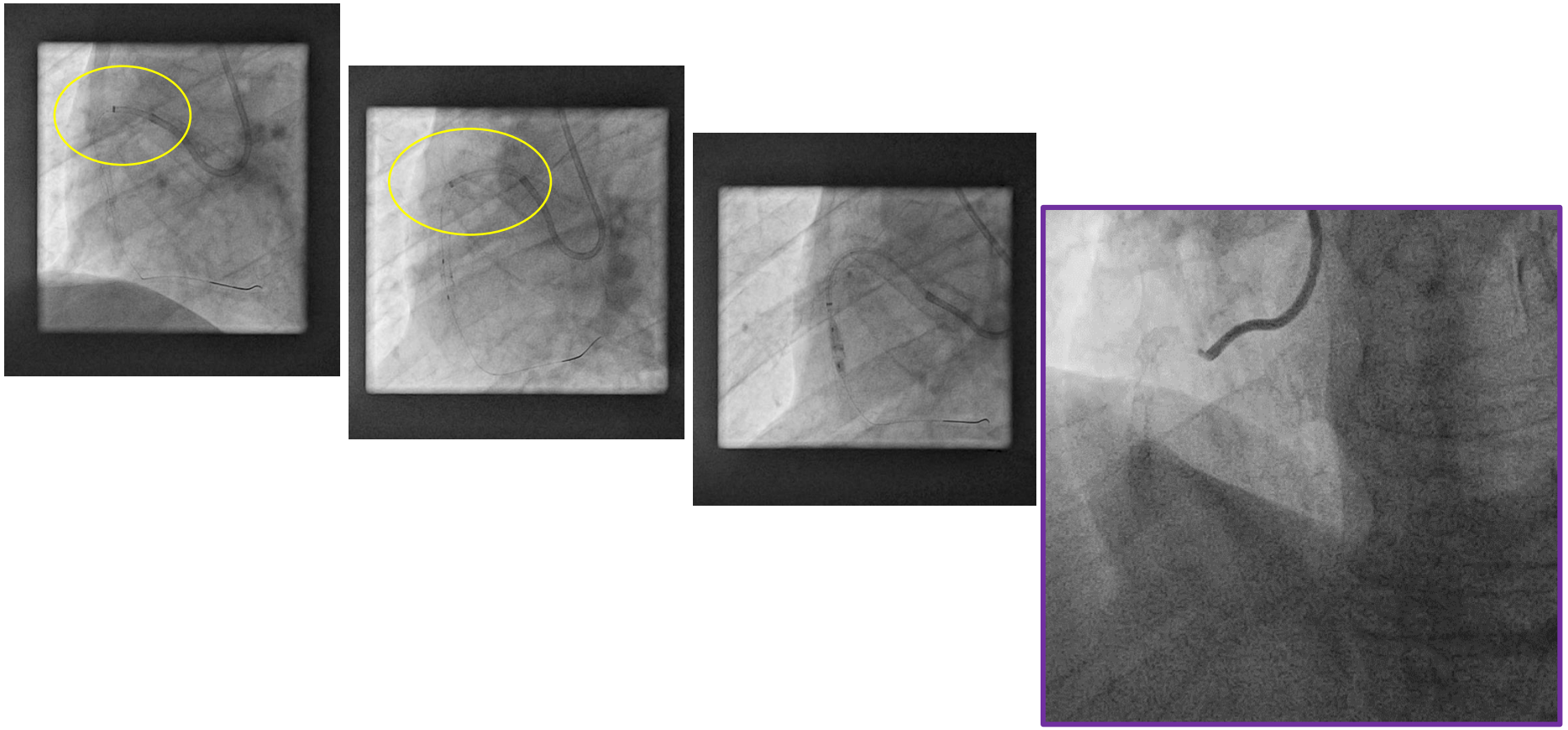
On an attempt to free it, the **stent fractured** with displacement of the fragmented segments (type IV fracture) resulting in significant angiographic blockage.

# Management

- Attempts of a new guidewire passage through the fractured stent were unsuccessful
- Patient transferred to the CCU and treated with
  - aspirin
  - prasugrel
  - IIb/IIIa glycoprotein inhibitor (tirofiban) for 72 hours.
- **Re-evaluation** after 72 hours.

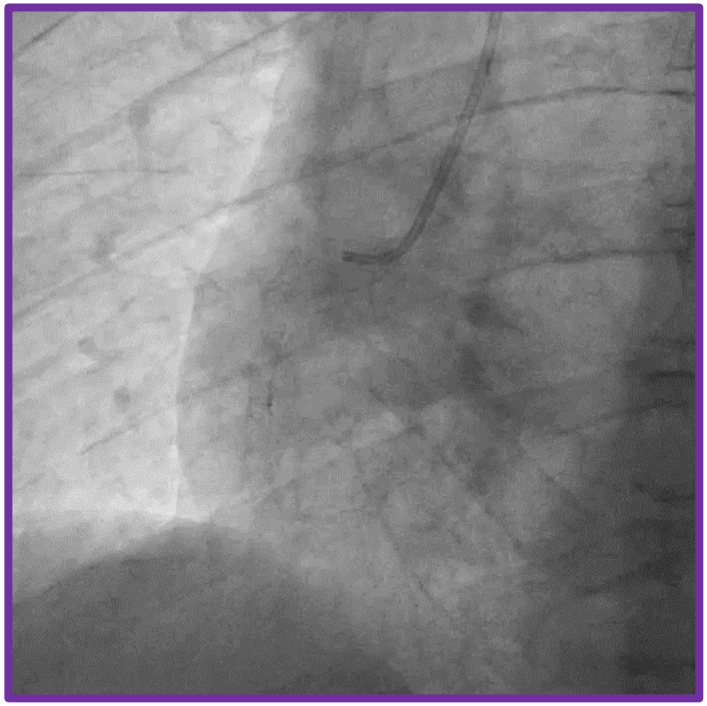


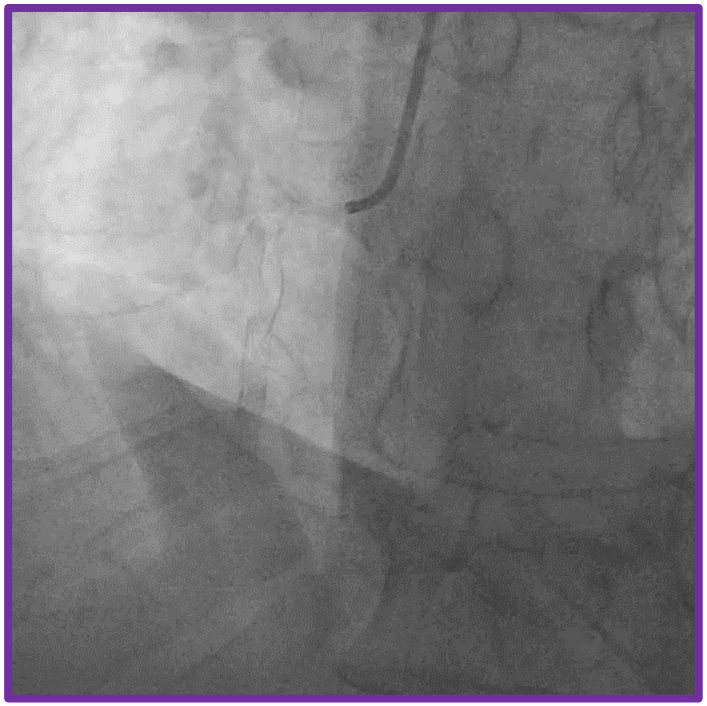
# Management



Use of “mother-and-child” technique and successful balloon angioplasty at the site of the displaced fractured stent segments and new stent deployment with excellent angiographic result.

# 2 months follow-up coronary angiogram





Good angiographic result maintained two months later.

# Key Learning Points

## Stent fracture

- rare complication following DES implantation (2.9% with everolimus stent)
- associated with risk of in-stent restenosis and stent thrombosis.
- independent risk factors of fracture (tortuosity, hinge motion, angulation, RCA, stent length)

## Management

- Short-term thrombosis of the fractured stent can be prevented by adding IIb/IIIa GI
- "Mother and Child" technique can provide extra support for a balloon and/or a stent delivery through a fracture displaced stent