Emergency PCI for Acute Myocardial Infarction with Right Coronary Occlusion and Left Main Thrombus

Dong Huang

Department of Cardiology, Zhongshan Hospital
Fudan University, Shanghai, China

- Male, 45-year-old
- Acute onset of chest pain for 10 hours with 2 syncopal episodes
- PE BP 84/55mmHg, HR 35bpm, cold, clammy and pale skin, profuse sweating
- EKG (7:55AM): HR 35bpm, atrial fibrillation, III° AV block, III, avF ST-segment elevation
- Risk factor: Smoking

- Recurring Adams-Stokes syndrome induced by transient ventricular fibrillation for three times treated by defibrillation and epinephrine.
- EKG (8:20AM): HR 75bpm, SR, II° AV block, II, III, avF, V3R-V5R ST-segment elevation
- Diagnosis STEMI (inferior wall and right ventricular), cardiogenic shock
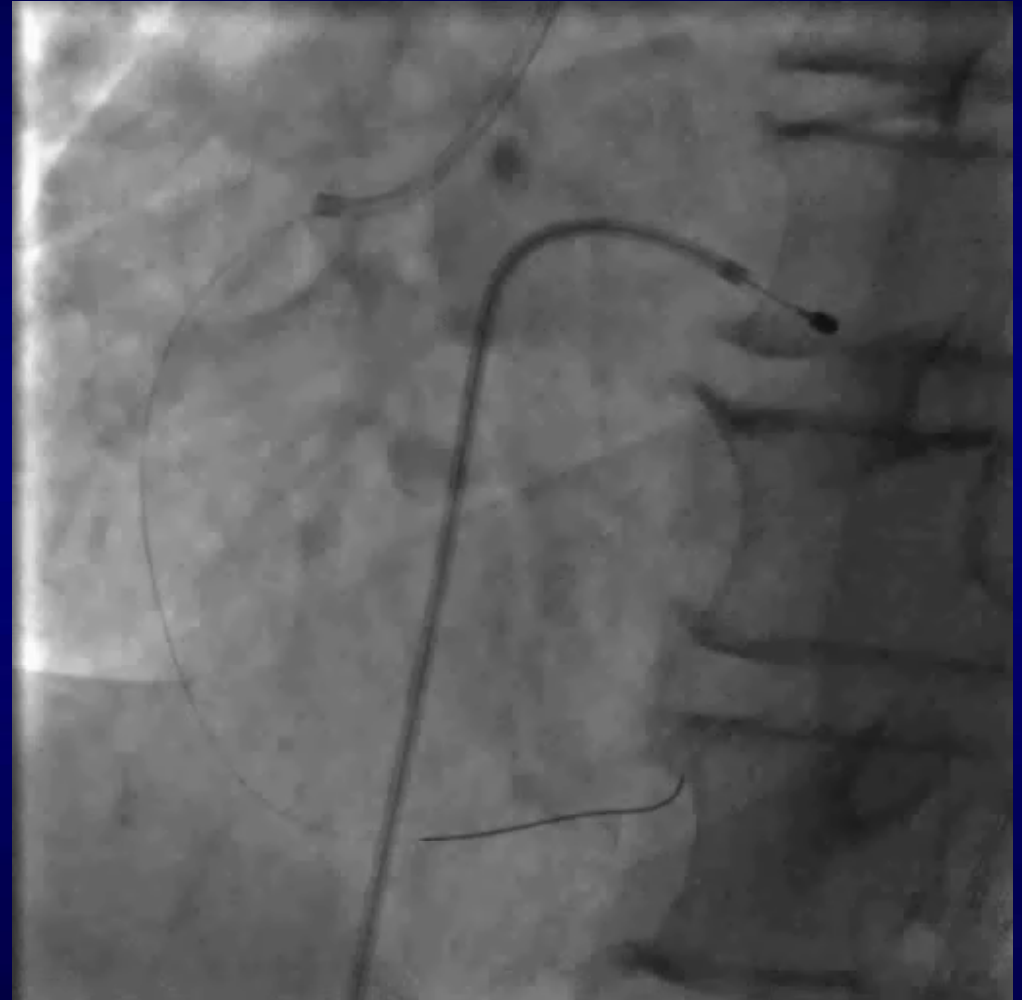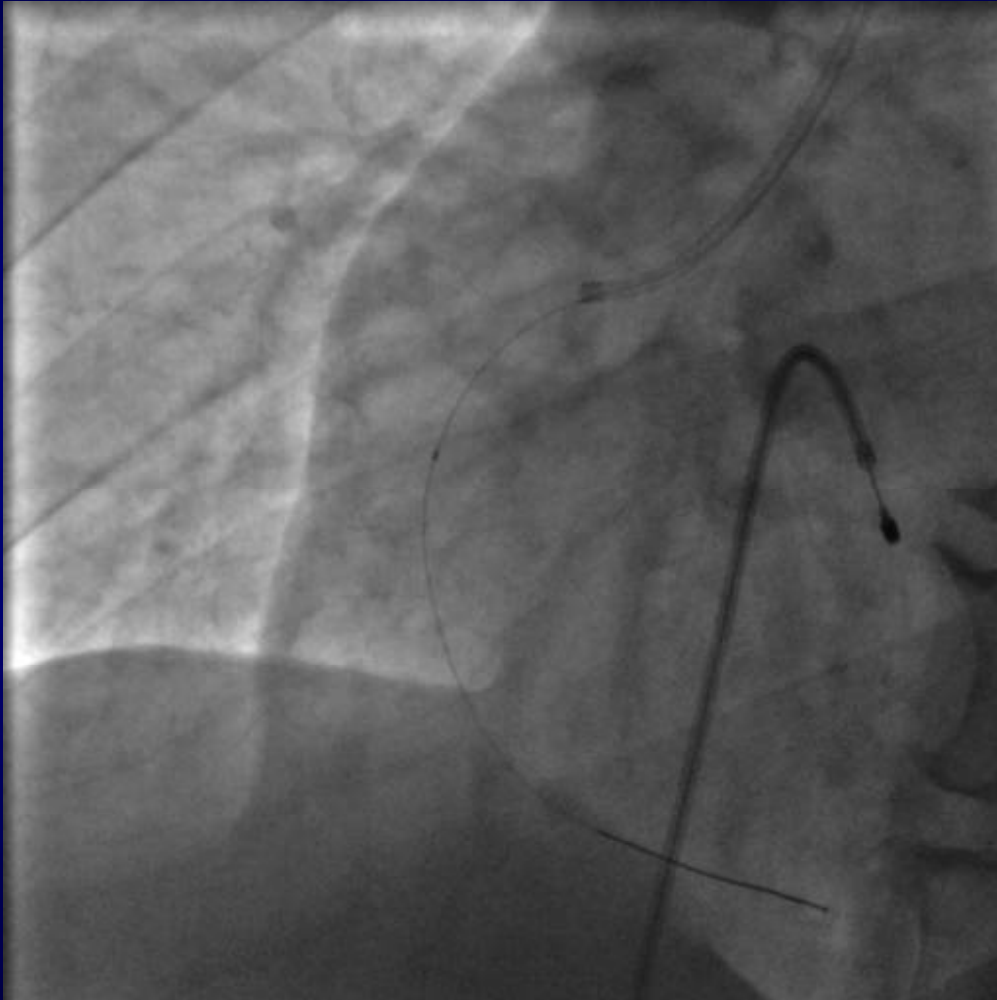
Emergency coronary angiography

Transfemoral approach, temporary pacemaker

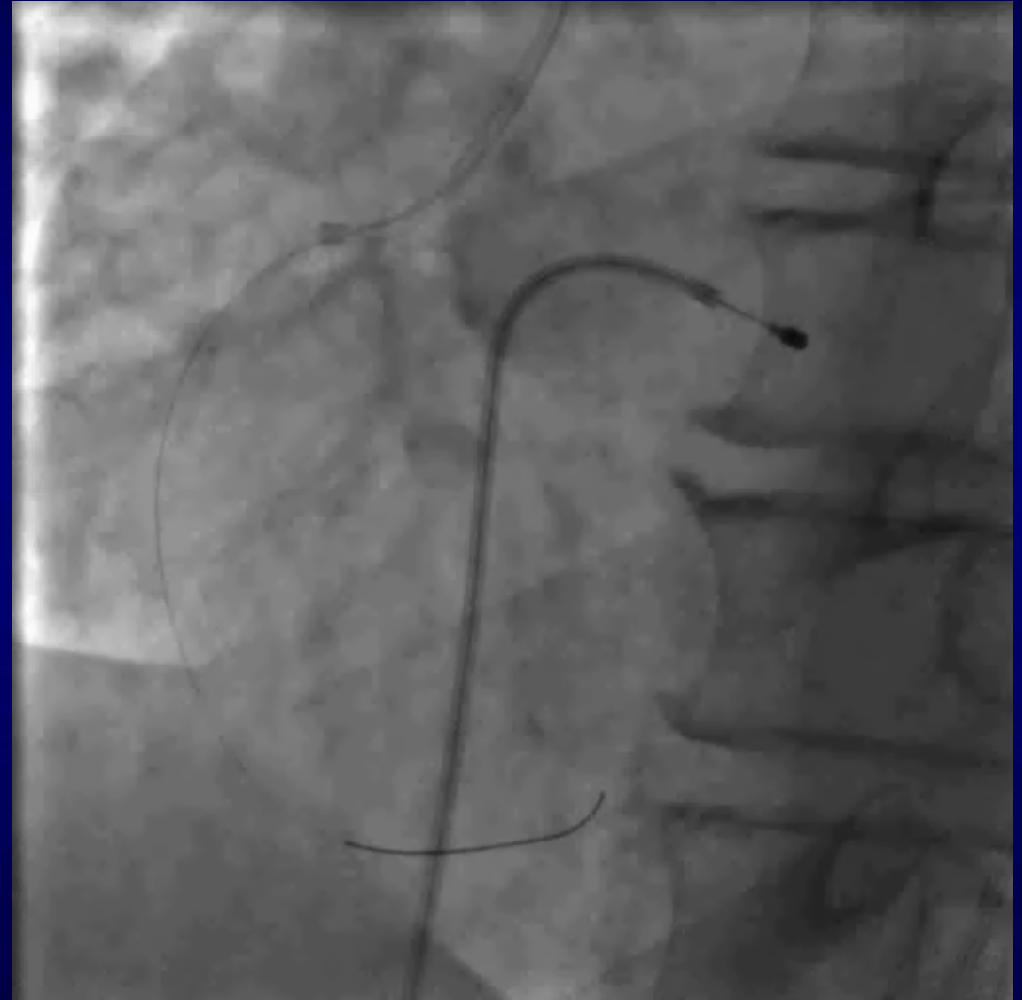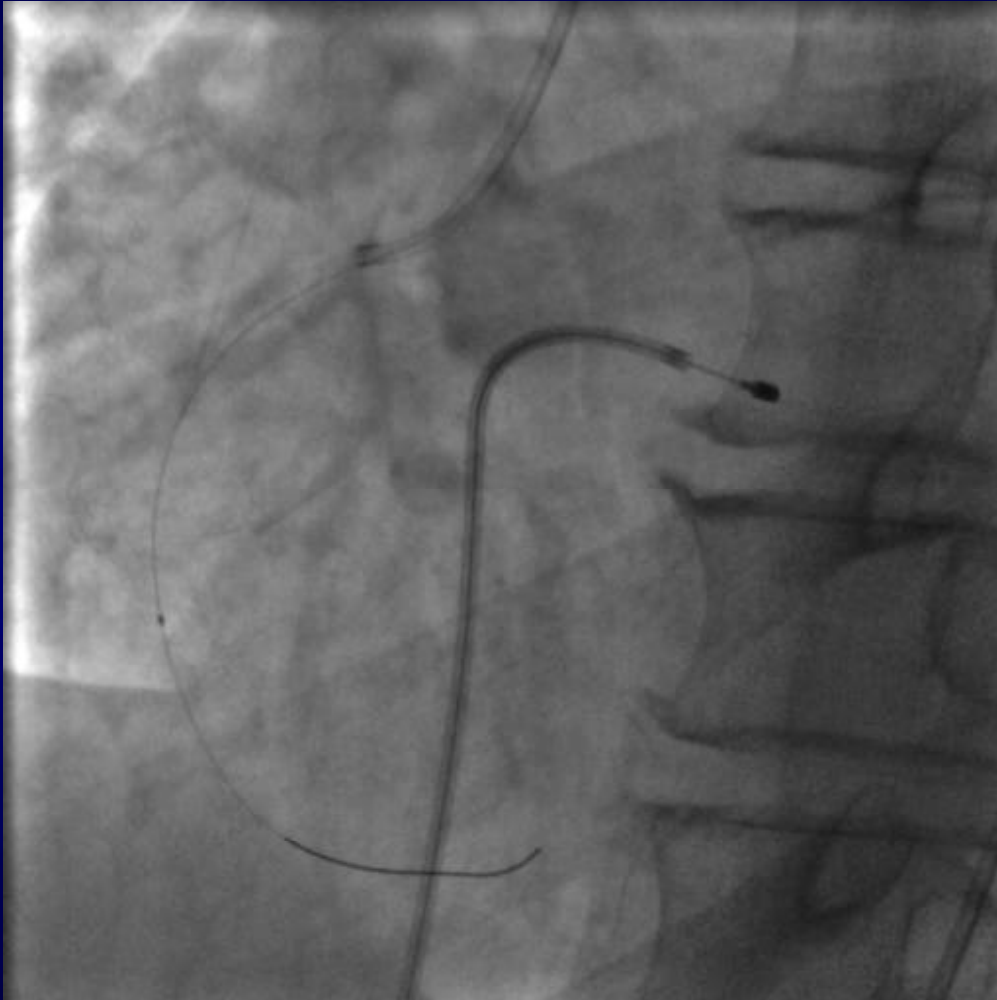# Emergency coronary angiography
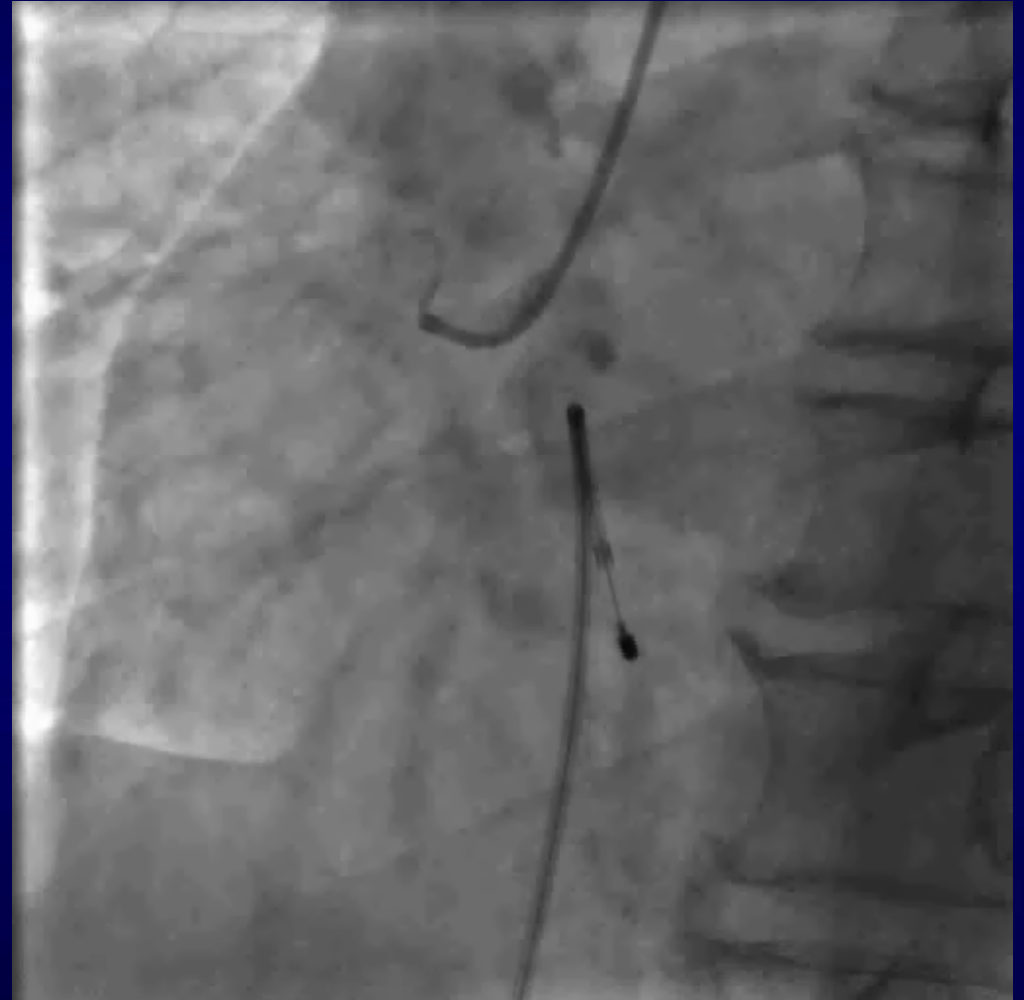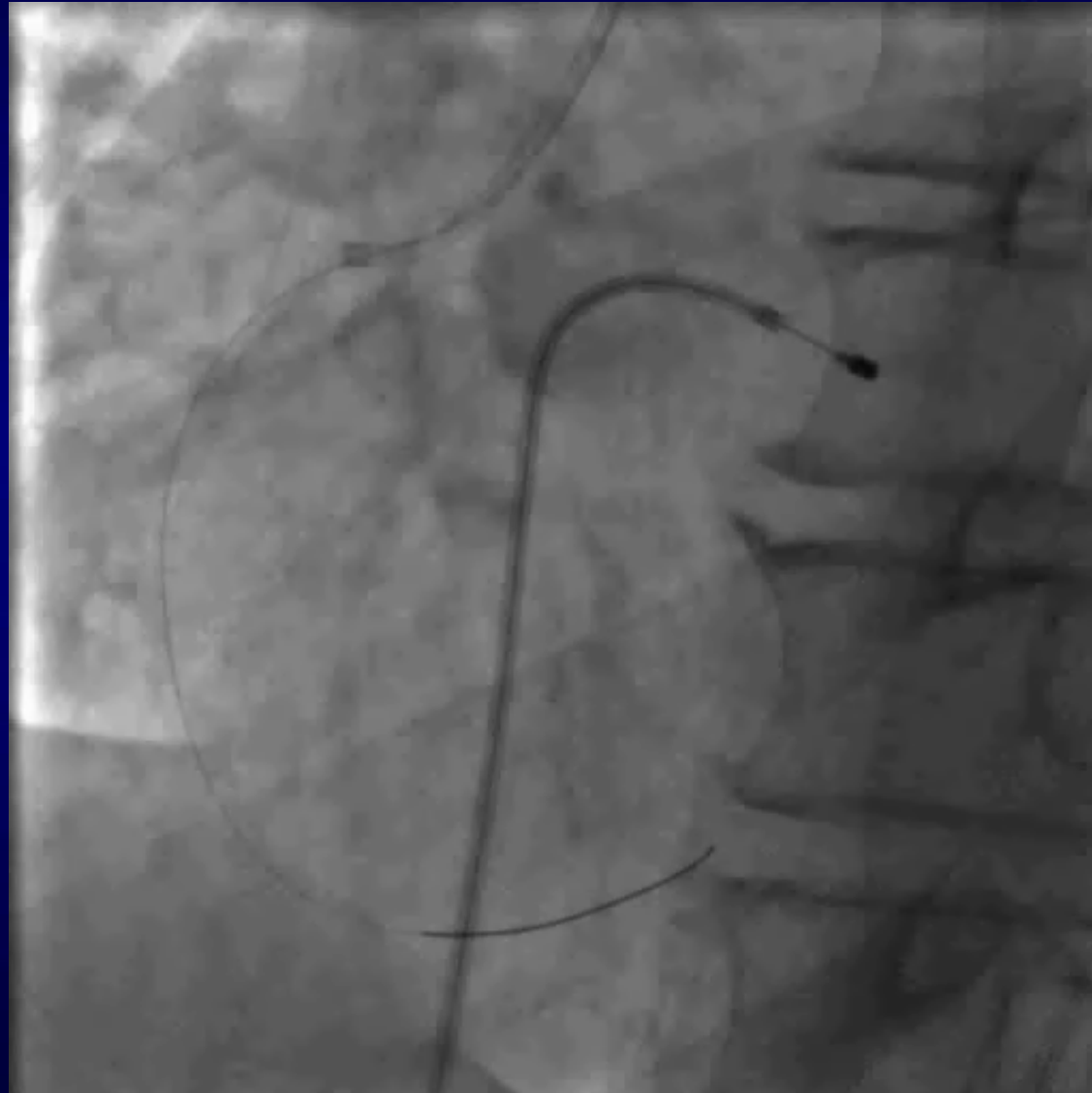
Thrombus aspiration

Manual thrombus aspiration and intracoronary tirofiban infusion
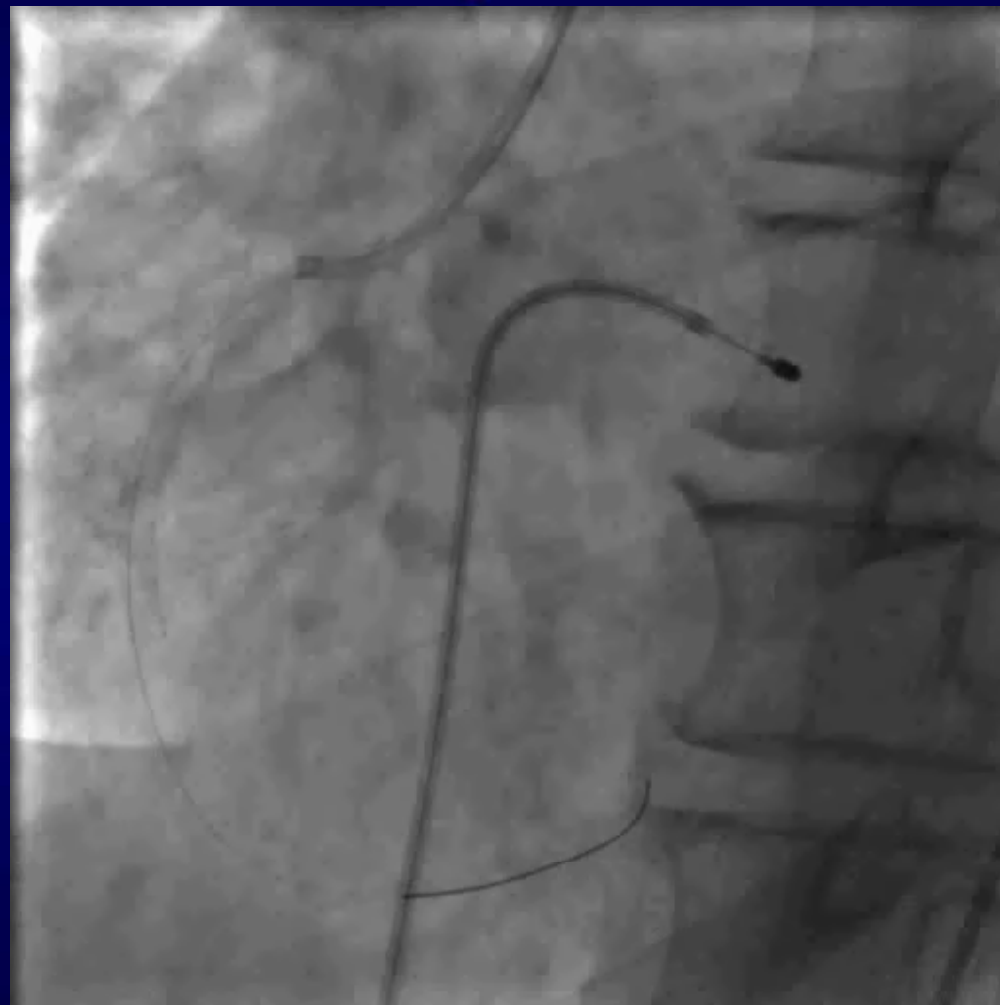
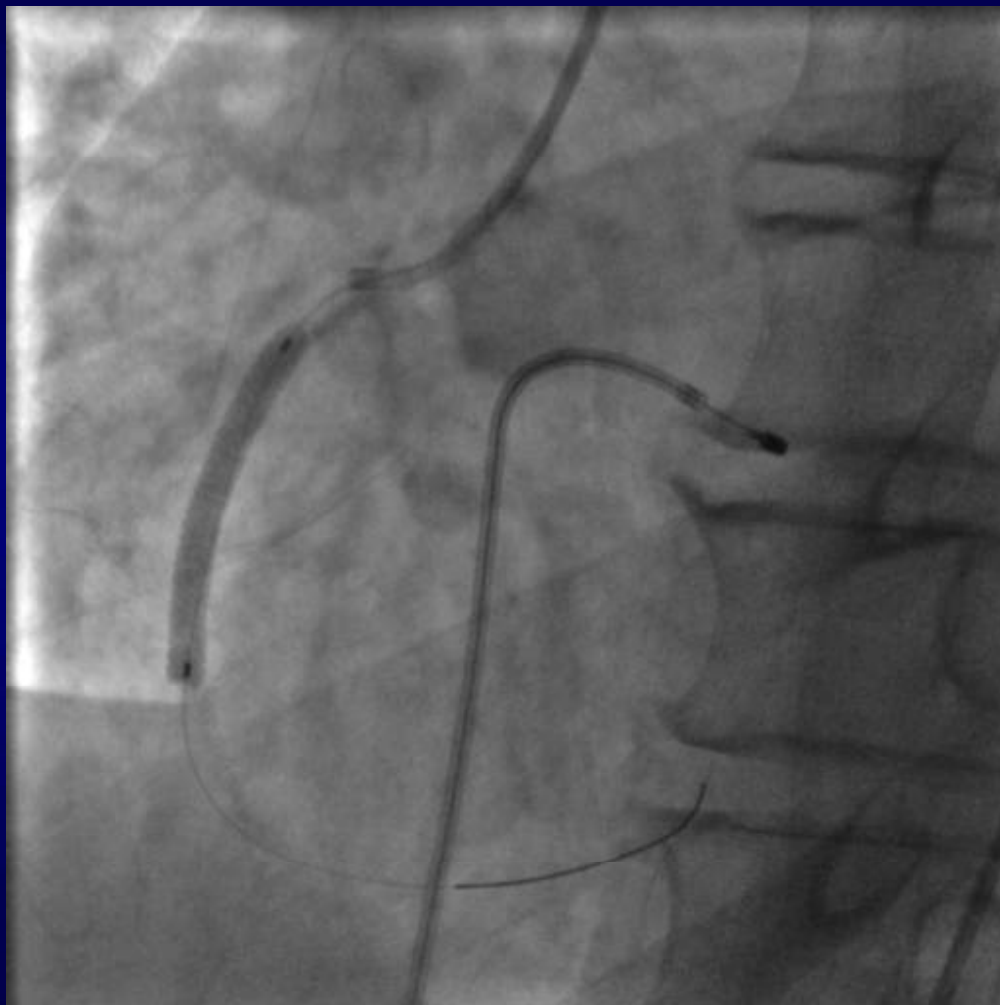# Thrombus aspiration (2)

Manual aspiration, again and again
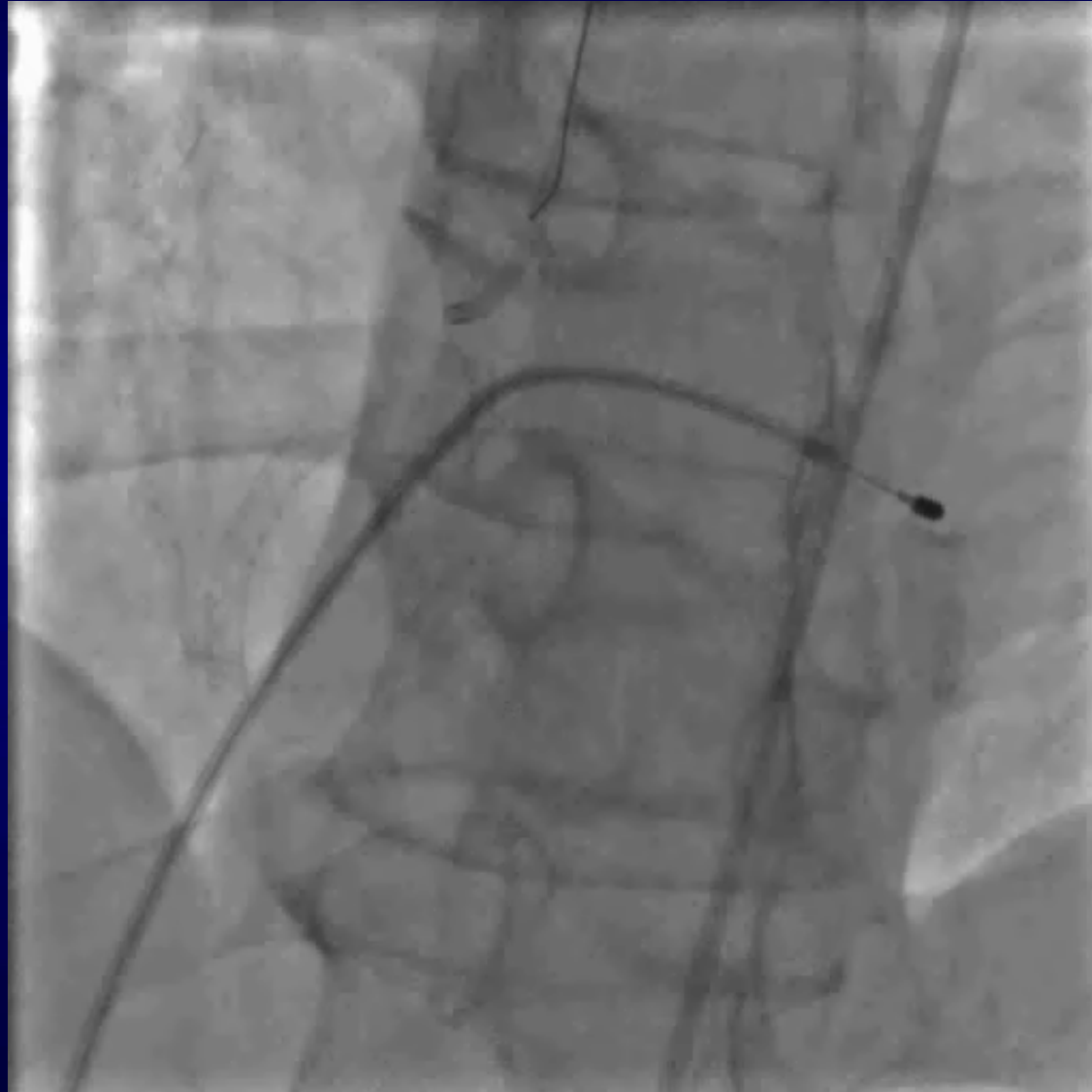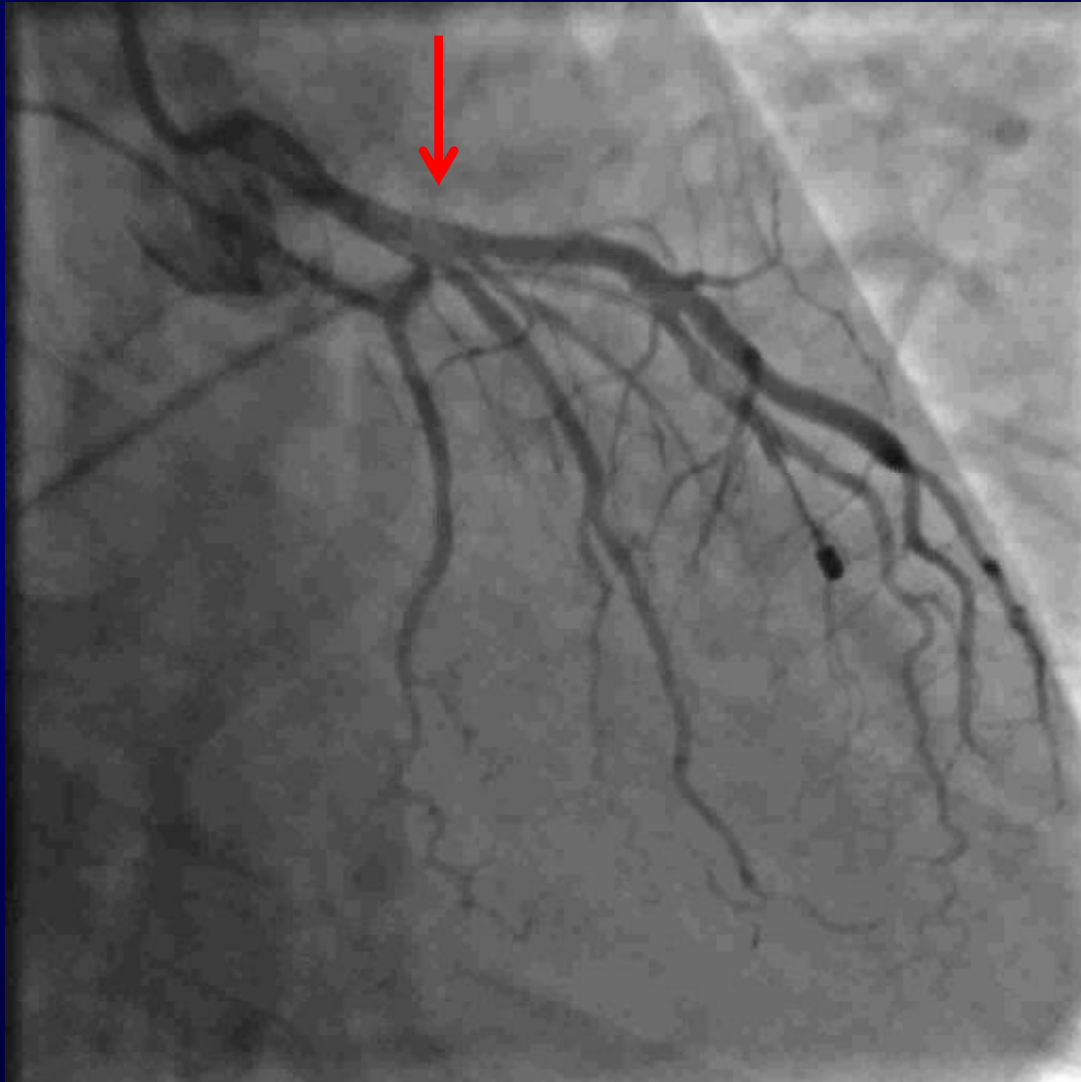
Post-aspiration

RCA stenting

Xience Prime 3.5*38mm

Final result

Next?
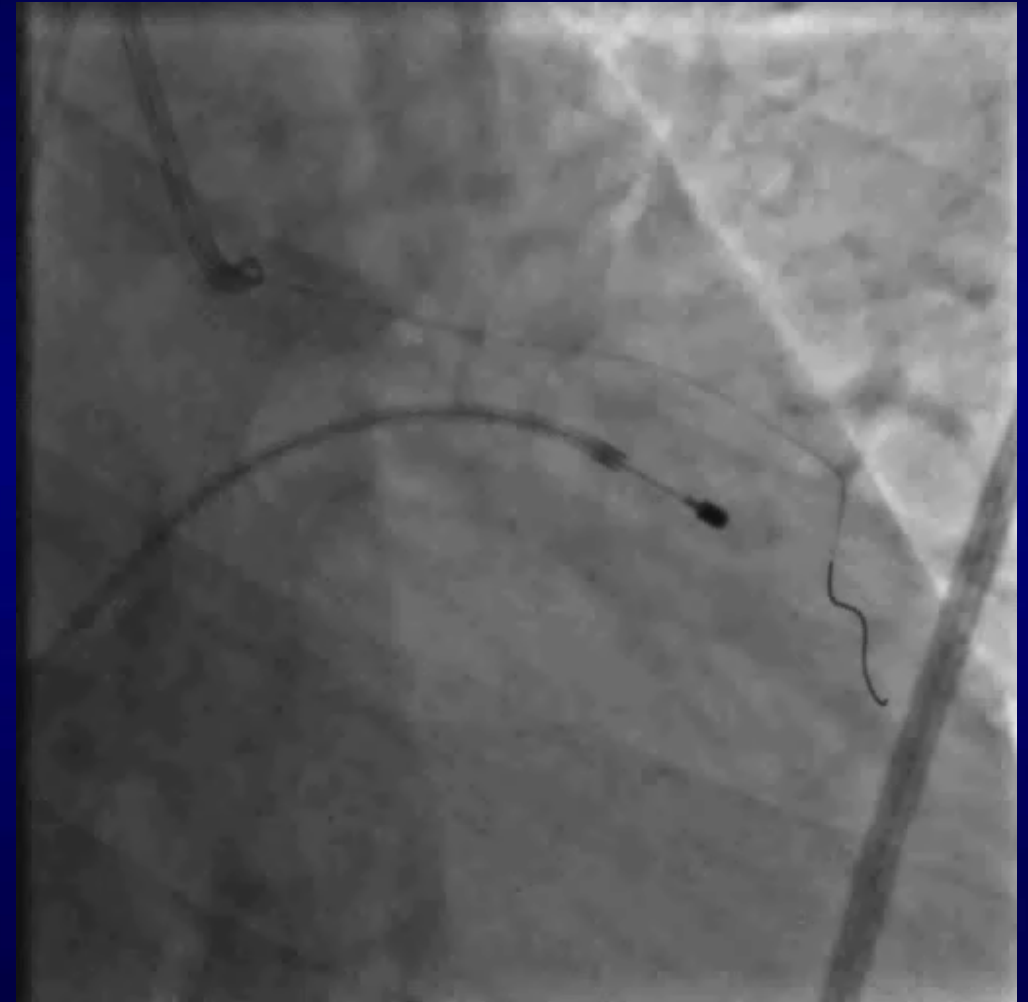

- Leave it alone?

- Aspiration?

- Stenting

Thrombus aspiration in Left Main

IABP support and intracoronary tirofiban infusion

Thrombus aspiration (2)

Manual aspiration, again and again

Final result
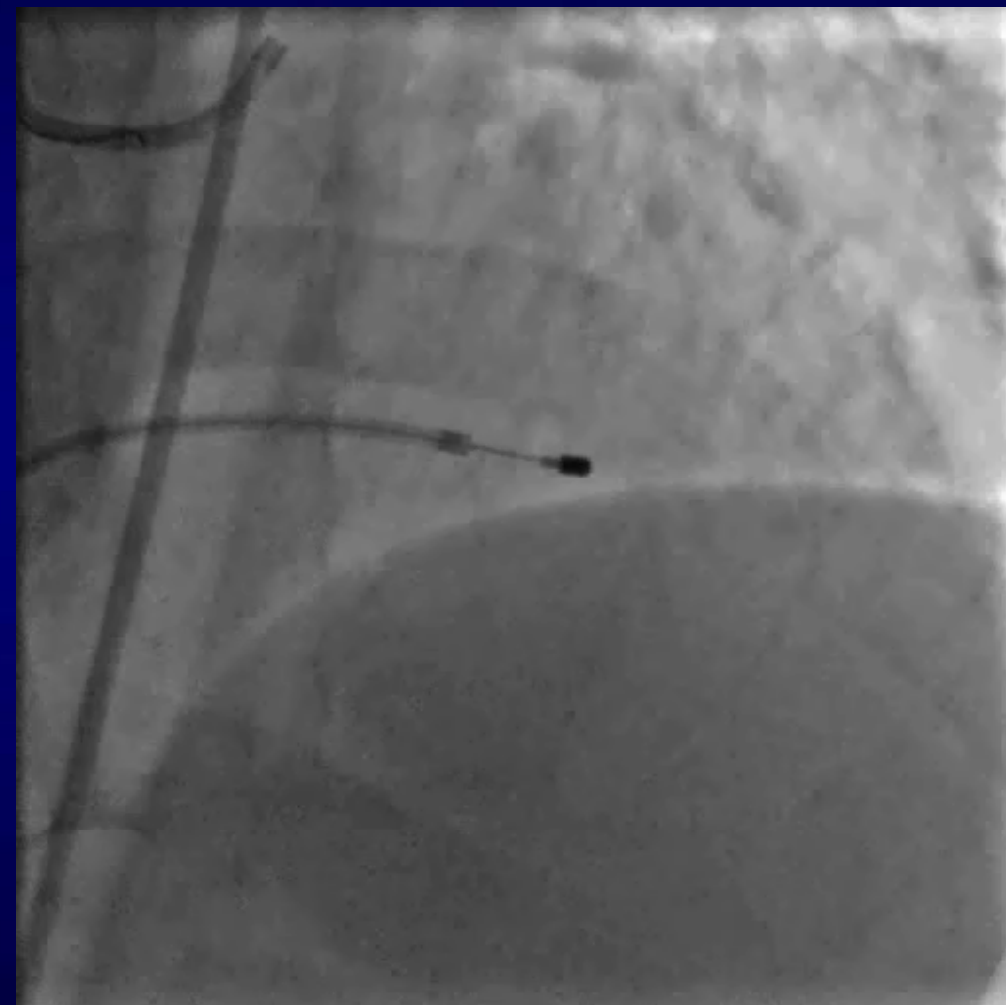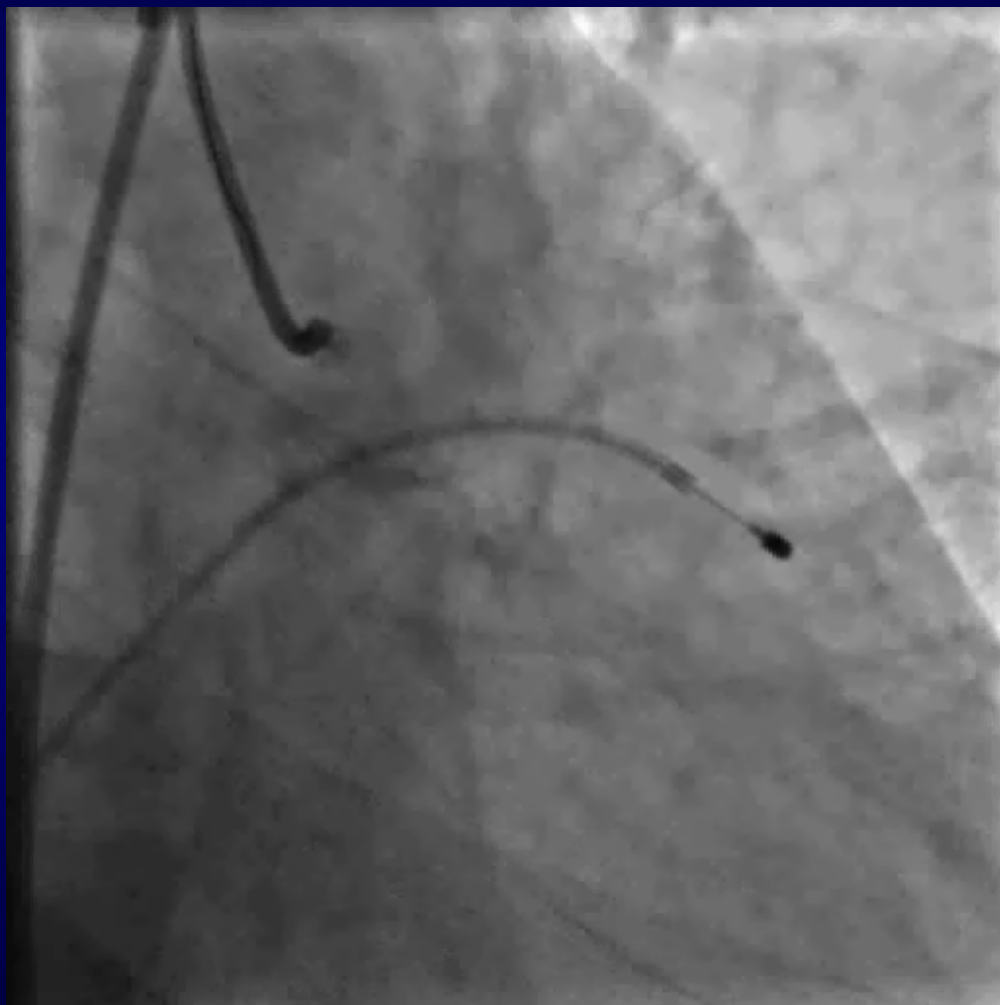
Antithrombotic Therapy

- *Before PCI:* Aspirin 300mg, Clopidogrel 300mg.

- *During PCI:* Unfractionated heparin 10000U, Tirofiban 10ml IC infusion in RCA and LM.

- *After PCI:*

  ➢ Tirofiban 8ml/h * 48h

  ➢ Clexane 40mg q12h * 3d

  ➢ Aspirin 100mg qd, Clopidogrel 75mg qd at least 12 months

Clinical prognosis

- BP post procedure: 94/56mmHg

- Defibrillation 3 times during procedure, 7 times during the two hours post procedure because of VF

- Temporary pacemaker removed two days, IABP removed four days post procedure

- Echocardiogram showed hypokinesia of inferior and posterior wall motion without thrombus signs in the heart chambers, LVEF 46%
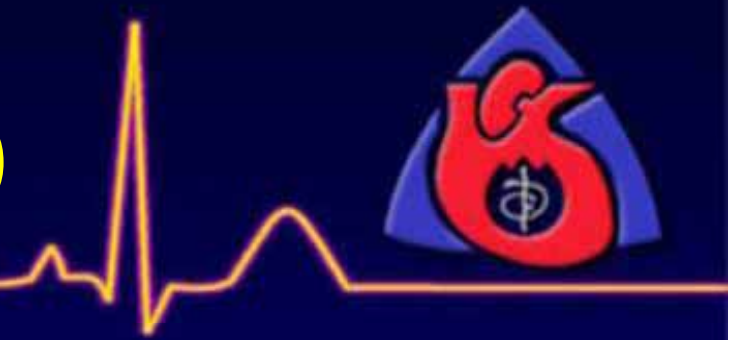
Questions

- IVUS or OCT should be used to clarify the cause of left main coronary artery thrombus:

  - ✓ Plaque rupture?

  - ✓ Embolism caused by atrial fibrillation?

- Is it right or necessary to perform the thrombus aspiration in left main after the successful restoration of RCA flow in the haemodynamically unstable condition?

Take-home messages (1)

Adjunctive intra-aortic balloon pump (IABP) is mandatory during primary PCI of acute left main occlusion, especially in haemodynamical unstable patients, although the data from the meta-analyses and the IABP-SHOCK II trial do not support the routine use of IABP in patients with acute myocardial infarction complicated by cardiogenic shock, especially in isolated right ventricular infarction.

Take-home messages (2)

- Antithrombotic regimen includes aspirin, clopidogrel, heparin and glycoprotein IIb/IIIa inhibitor. The duration and dose of these agents should be strengthened and individualized.