

Compromised Left main after stenting at left circumflex artery

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Initial presentation

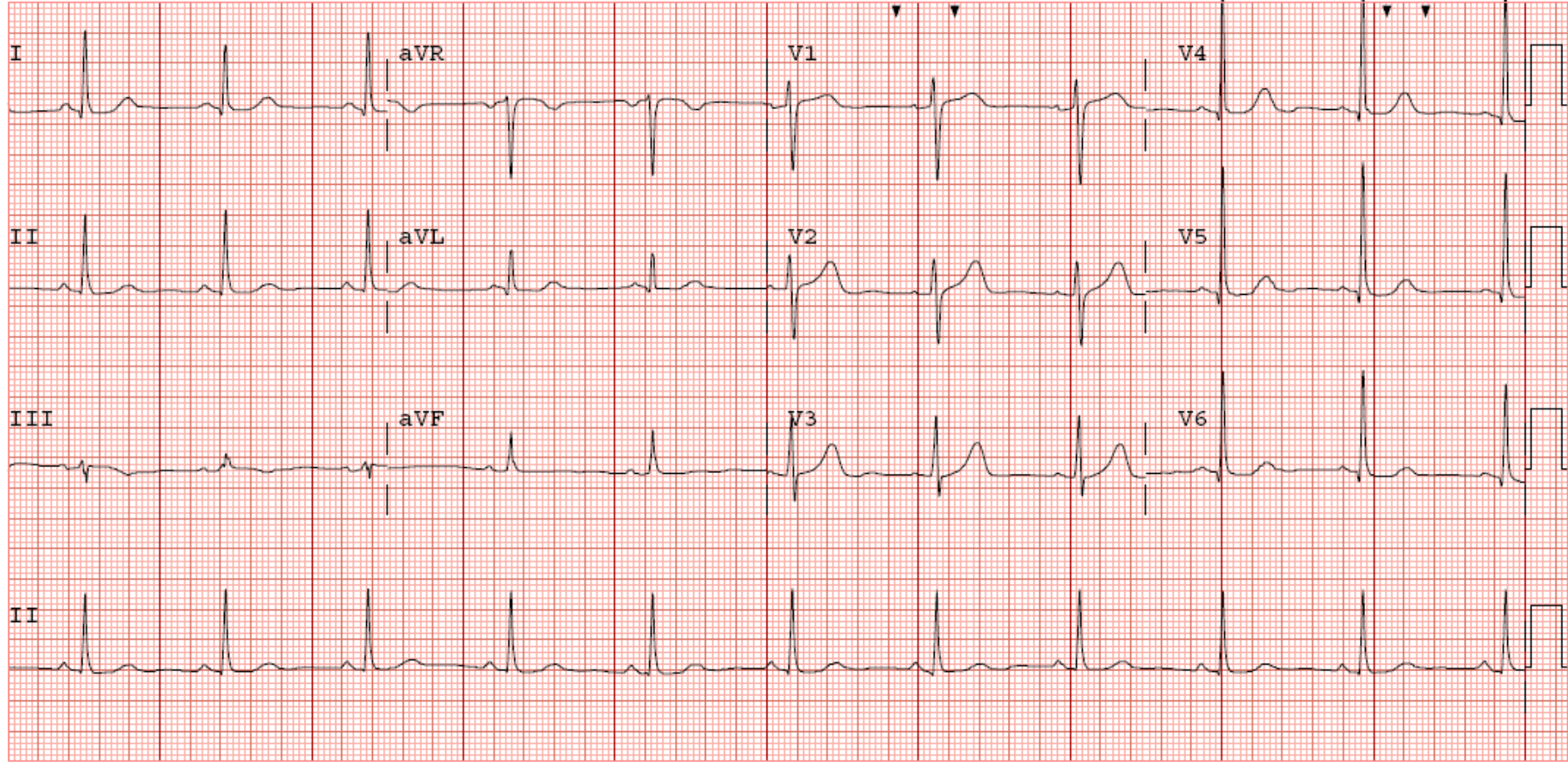
- 67-year-old woman
- exertional chest pain for 3 years with aggravated for 4 weeks
- HTN/DM (-/-)
- Non smoker

- 2D-echocardiography
 - : normal LV systolic function, no RWMA of LV
- Treadmill test : positive, 5 Mets

Initial ECG

KNUH - KNUH (500-50000-40)

Not confirmed



Device: 031 Speed: 25 mm/sec Limb: 10 mm/mV Chest: 10 mm/mV F 60- 0.5-40 Hz W PH080A P?

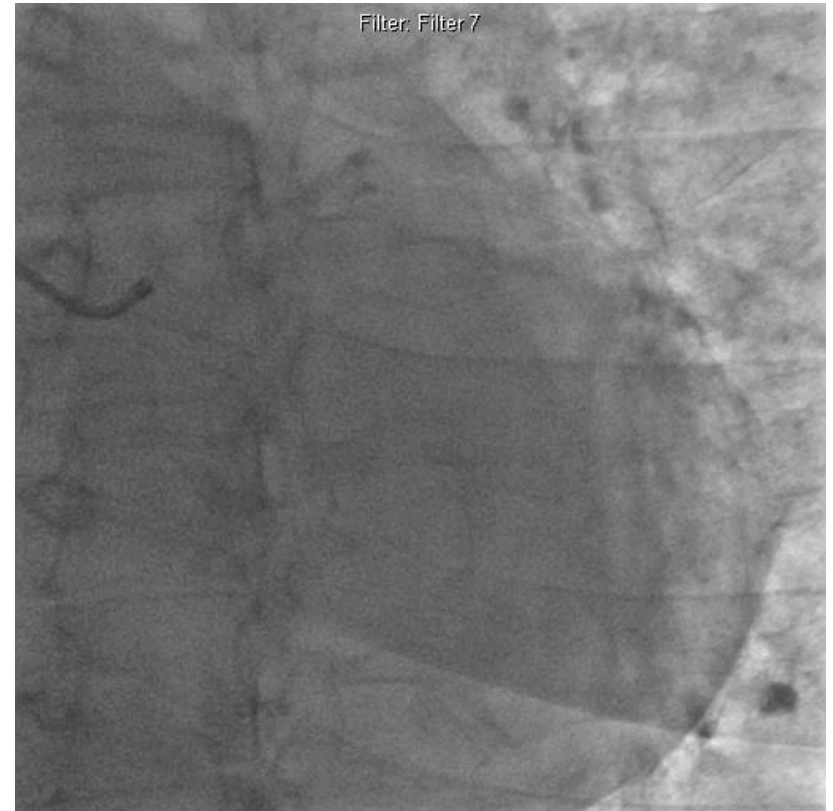
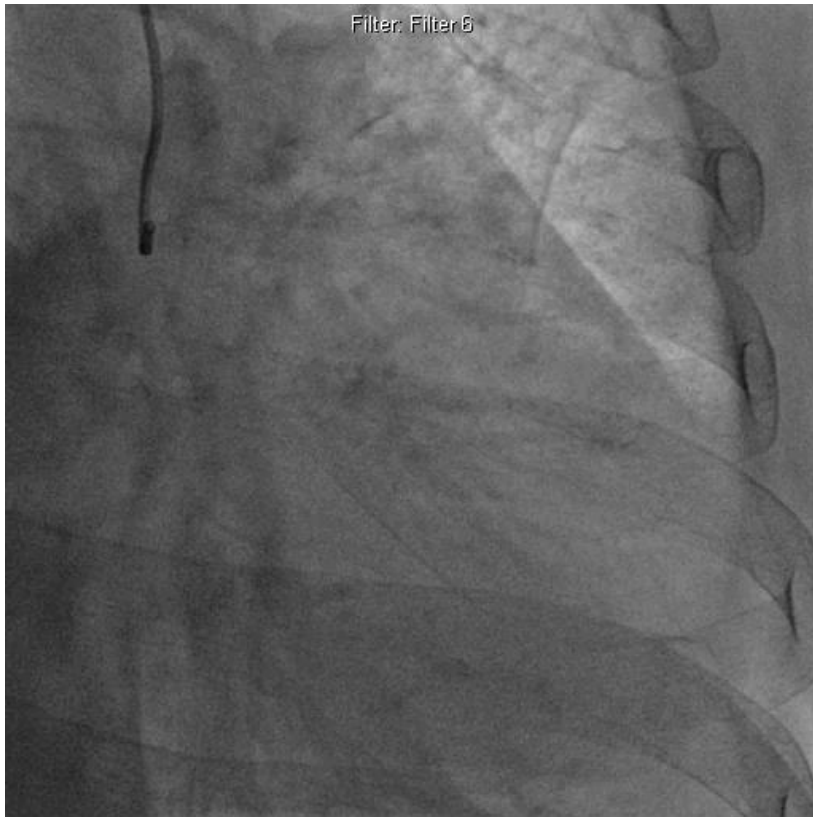
Initial CXR, Lab



CBC 7240/10.9/295k
BUN/Cr 23.3/0.68 Na/K
142/3.4
OT/PT 15/14 ALP 81 TP/alb
6.9/3.9 TB 0.31
CKMB/cTNI 0.7/0.01
PT/PTT 10.3/21.9

proBNP 177.3

Coronary angiogram



- Right transradial approach, JL/JR 3.5, 5 Fr
- Lt main distal ~ proximal LCx : tubular stenosis 90%
- Distal LCx : diffuse stenosis upto 50%
- Proximal LAD : diffuse long luminal narrowing upto 70%, calcification (+)



mid RCA : diffuse irregular narrowing upto 70%

Coronary intervention

- **Plan**
 - proximal LAD lesion : medical follow up
 - Lt main distal~proximal LCx :PCI with single stent (crossover)
 - Mid RCA : PCI with stent
- **Guiding catheter** : JL 3.5 6Fr end hole
- **Guide wire** : run through

Lossy Compressed (Derived)

Lossy Compressed (Derived)

IVUS finding



Lossy Compressed (Derived)

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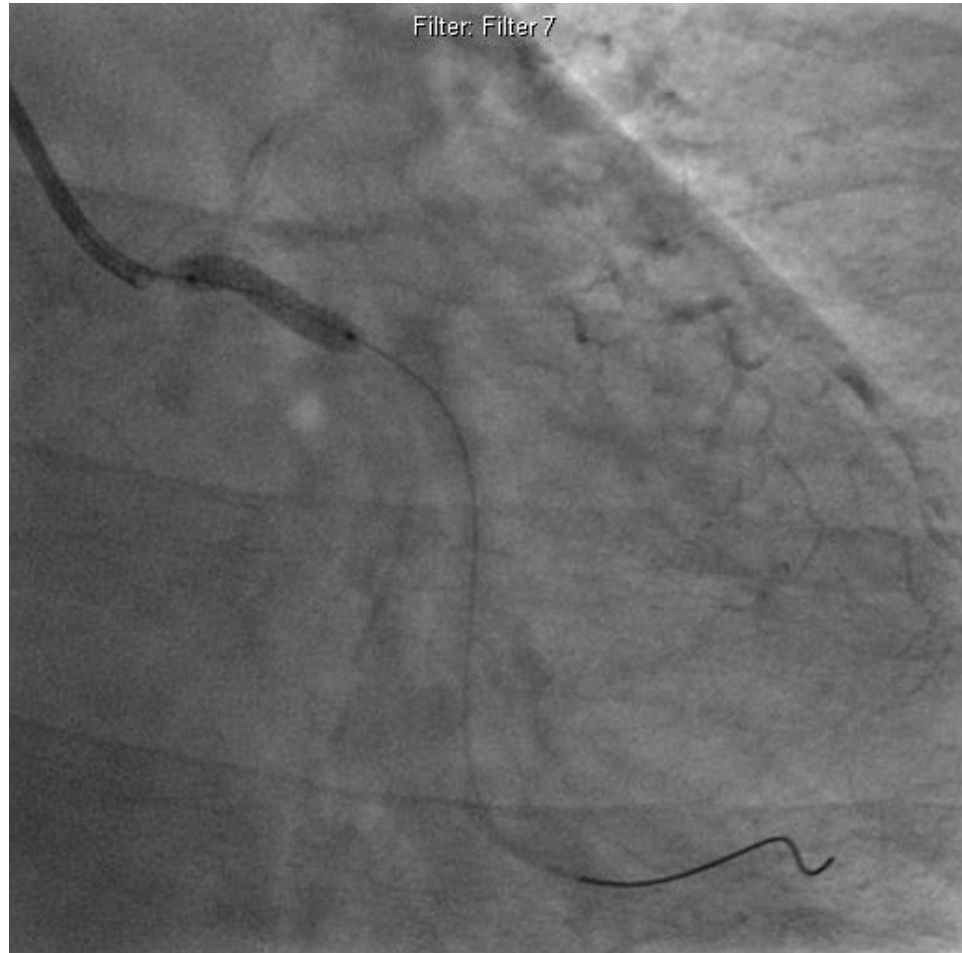
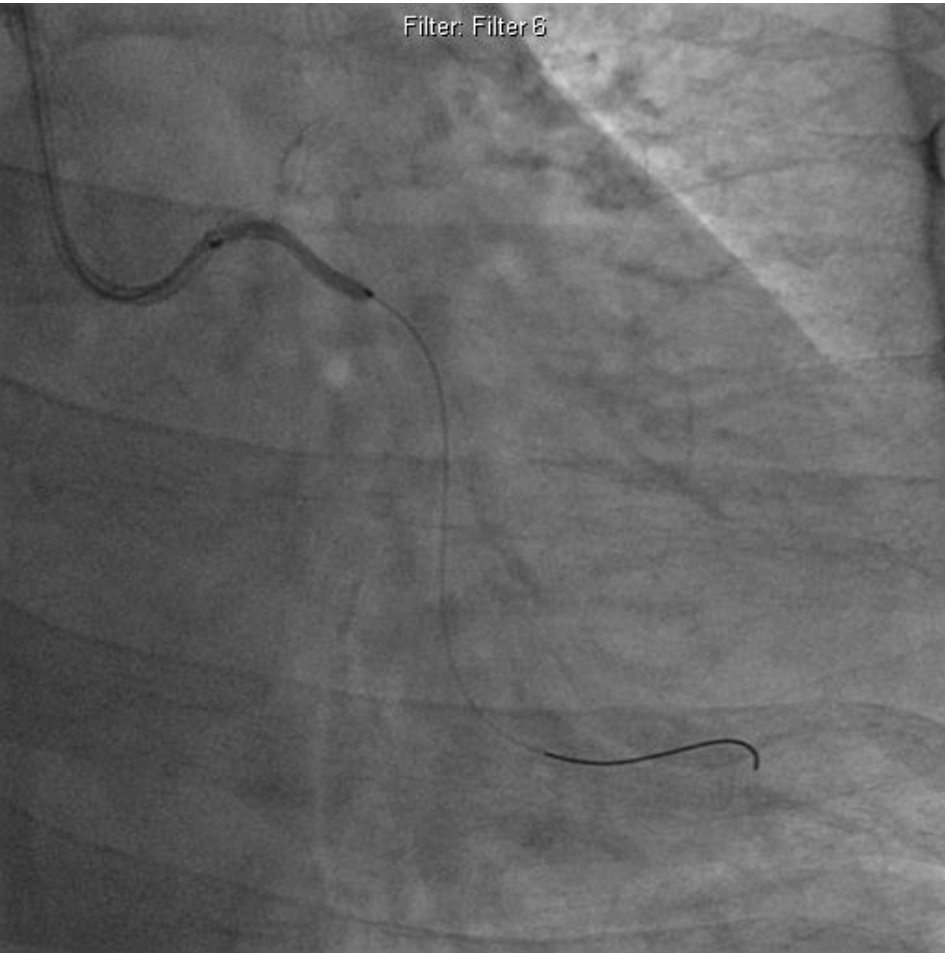
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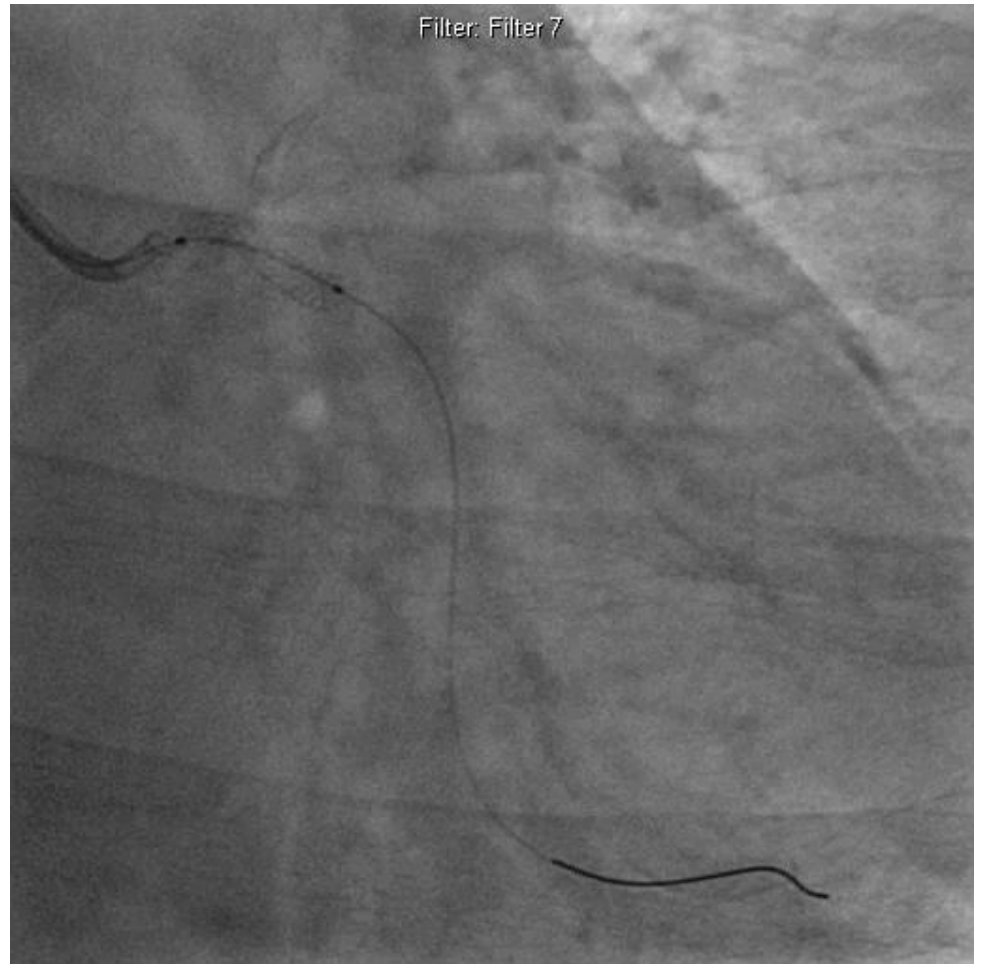
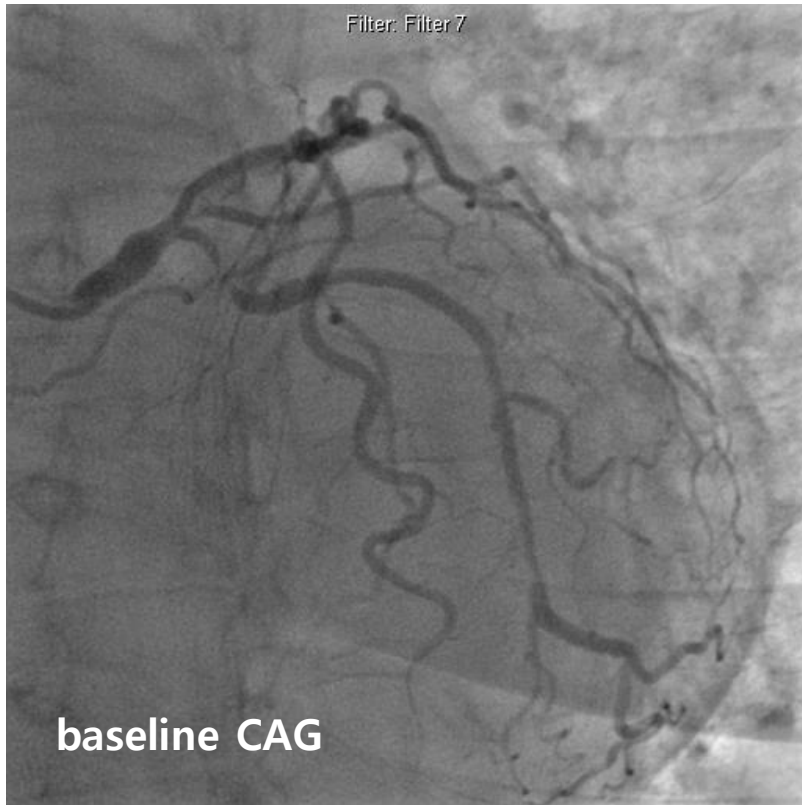
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(1) PCI at LCx



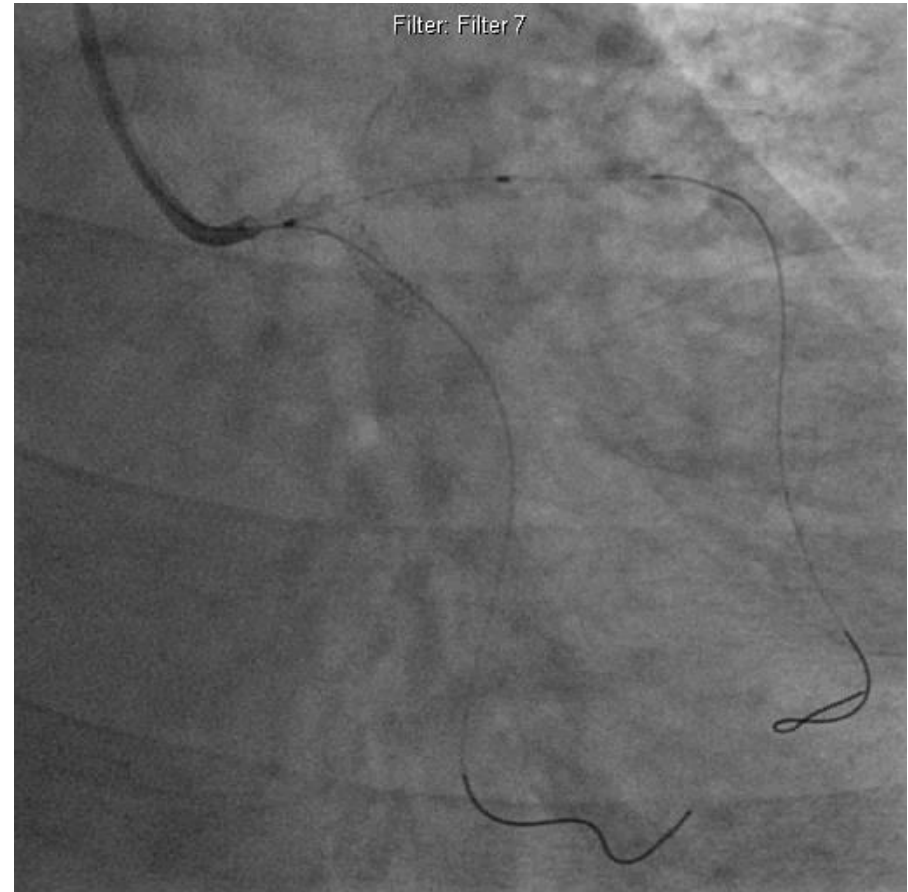
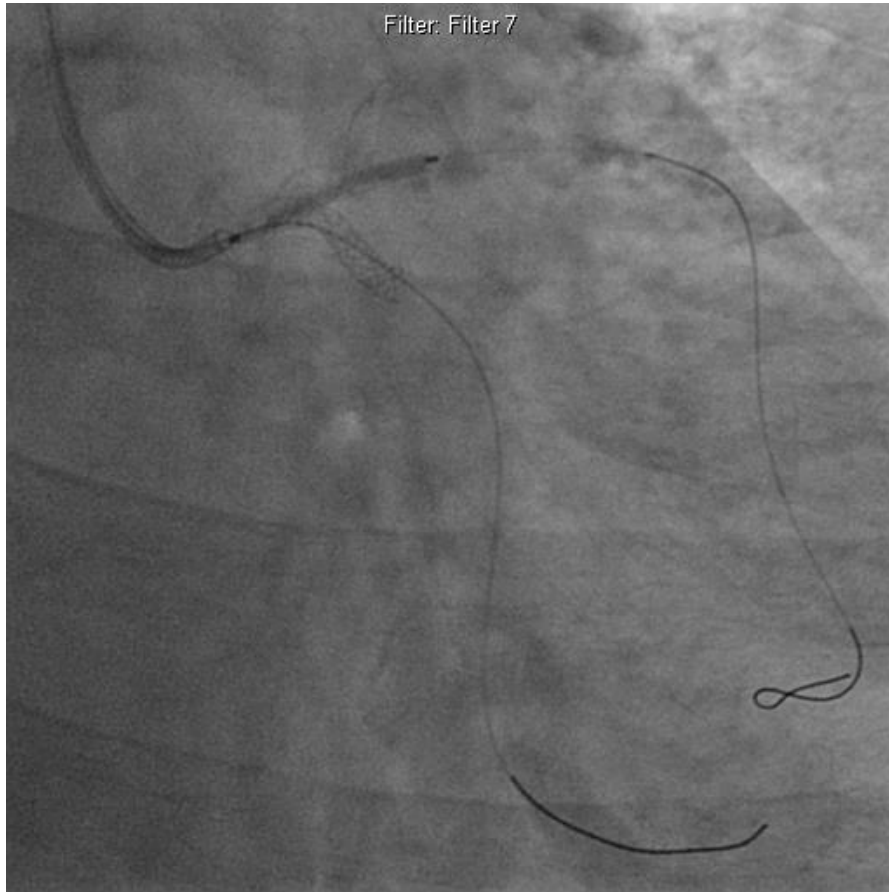
Balloon angioplasty with 2.0 * 20mm balloon
3.0*16 mm promus element stent, 20 atm

After LCx stenting, ...



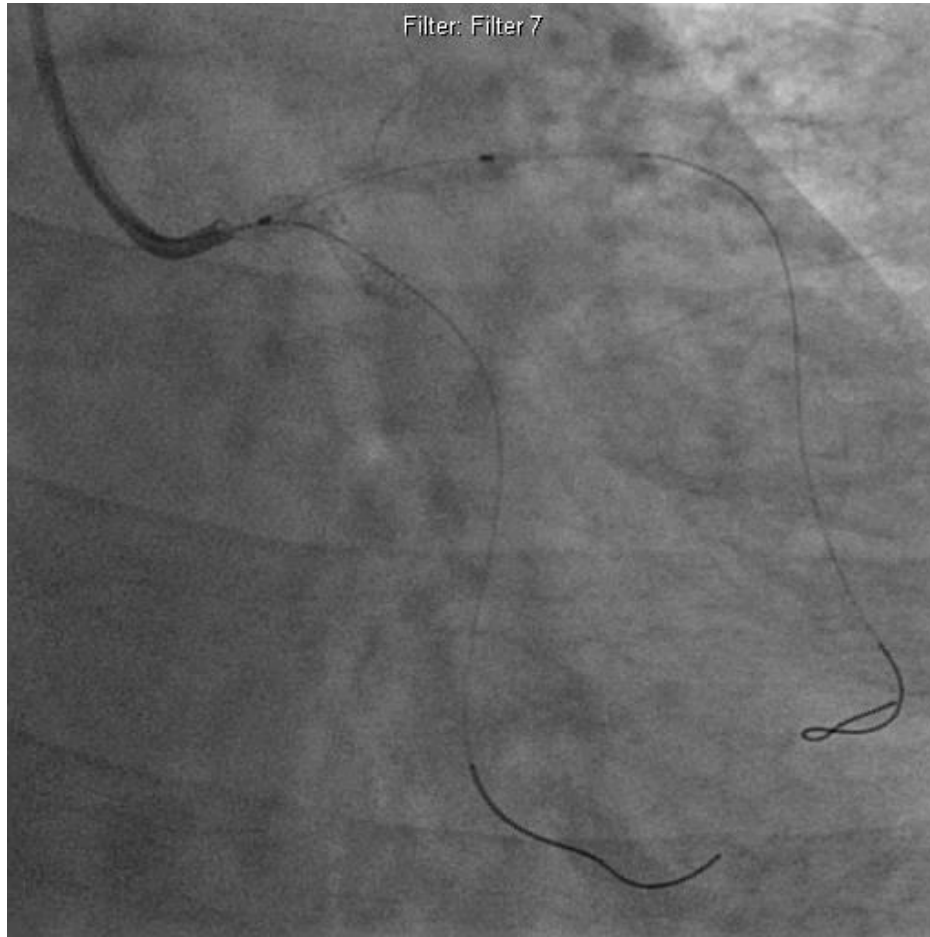
Proximal LAD was totally compromised

(2) PCI at LAD



Another guidewire (Fielder TC) was passed into LAD and balloon angioplasty with 2.0*20 mm balloon : 4 atm → LAD flow remained TIMI 1 and LCx flow was diminished with hazziness in pLCx stent.

Getting worse..



Hypotension with bradycardia was persistent

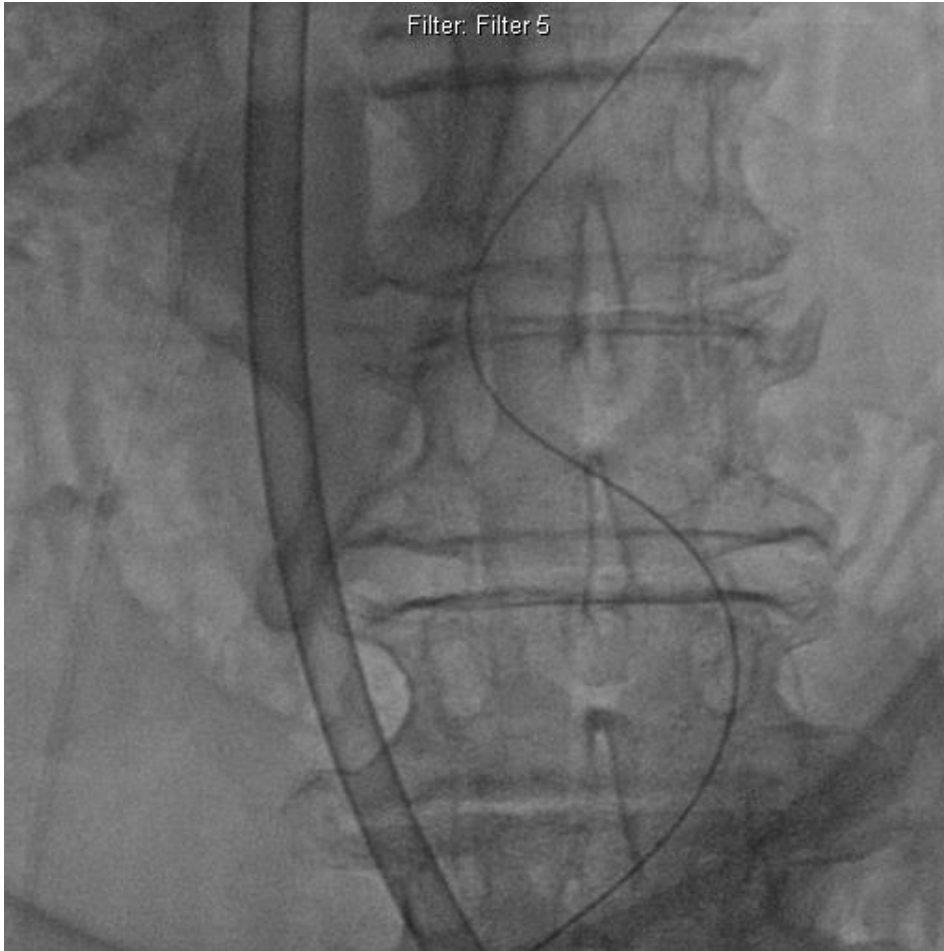
→ iv atropine, i.c epinephrine
continuous i.v inotropics,
manual thrombo-suction
i.c nicorandil,

→ repeated angioplasty at Lt
main ~ proximal LAD with
1.5*20 mm balloon : 10 atm

→ **Lt main total occlusion**

→ persistent severe hypotension,
Ventricular Fibrillation (+)

(3) Emergent care



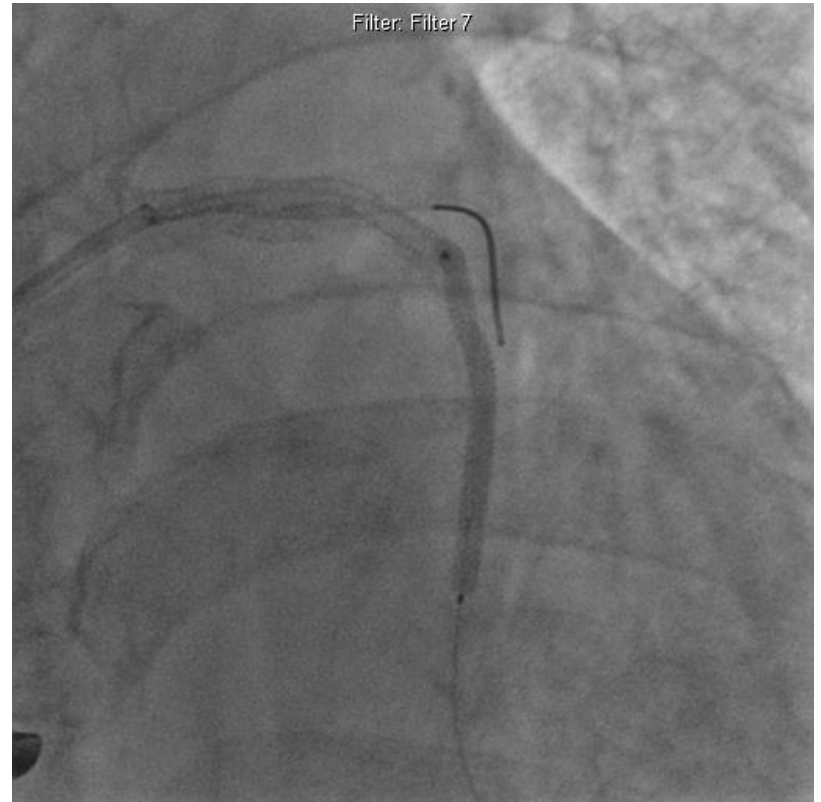
→ cardio-version was done #2

→ CPR (cardiopulmonary resuscitation) with mechanical ventilation was started.

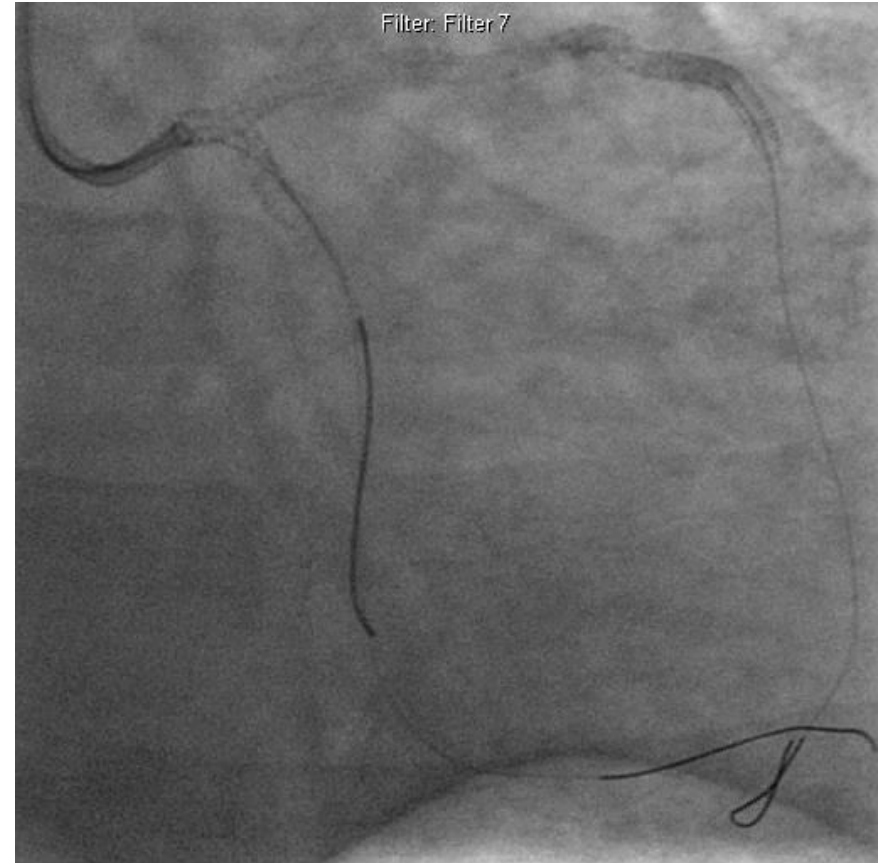
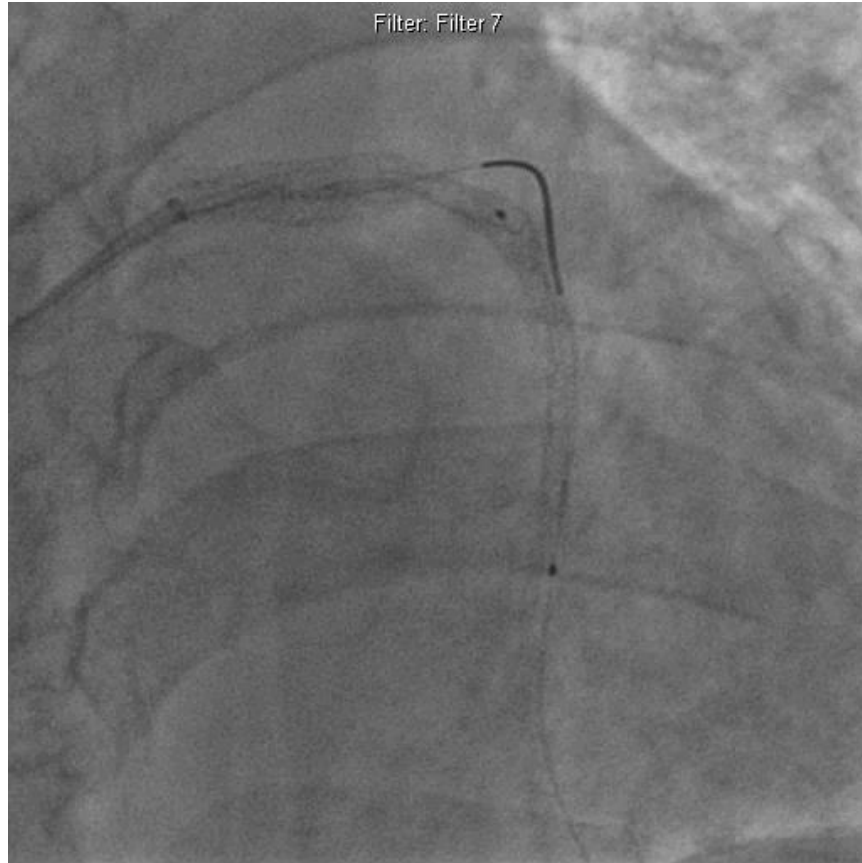
→ EBS (emergent bypass system) was started to keep basic tissue perfusion.

- IABP couldn't be used because of very tortuous descending aorta.

(4) PCI at LM~LAD

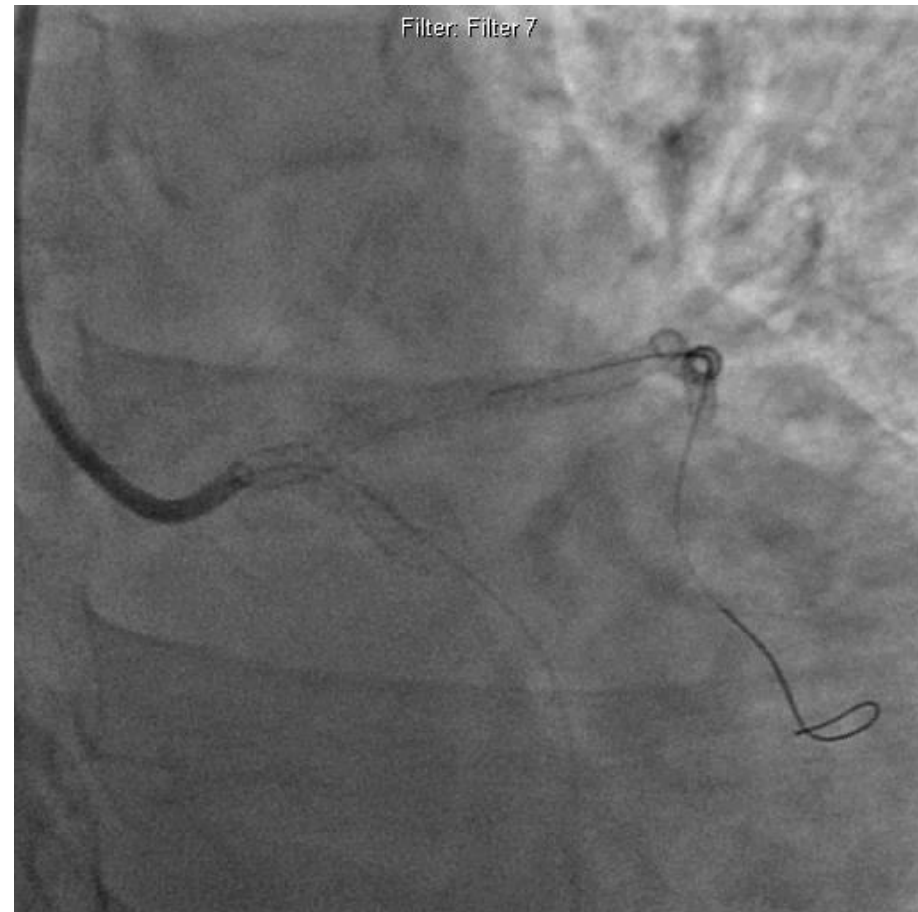
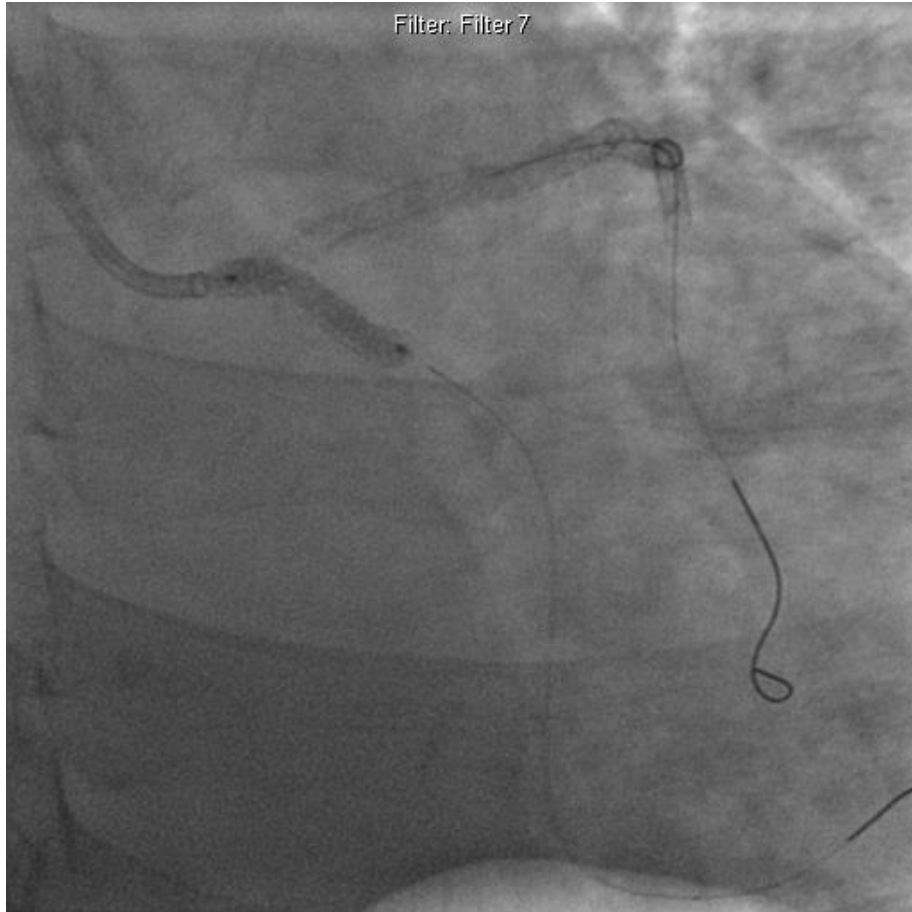


- angioplasty with 2.0*20 mm balloon was done several times
- 2.75*38 mm Promus element stent was deployed at LM distal ~ pLAD (Culotte stent) and 2.5*38mm promus element stent deployed at mid LAD with overlapped segment.



TIMI 3 flow was achieved. In spite of EBS and high dose inotropics were still used, vital signs were stabilized. Additional angioplasty with 3.75*8 mm sized NC balloon was done several times at Lt main~pLAD. At this time, LCx was compromised state.

(5) PCI at Lt main ~ proximal LCx



Angioplasty with 2.0*20 mm balloon at LM~pLCx and pLAD : 8~12 atm
And TIMI 3 flow of LCx was also achieved

Kissing balloon #3



LM~pLAD : 3.0*16mm 14atm #2, 16 atm #1
LM~pLCx : 2.5*20mm 14atm #2, 16 atm #1

Lossy Compressed (Derived)

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f/u IVUS

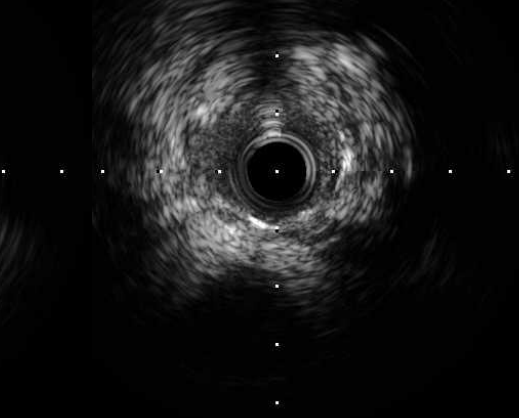
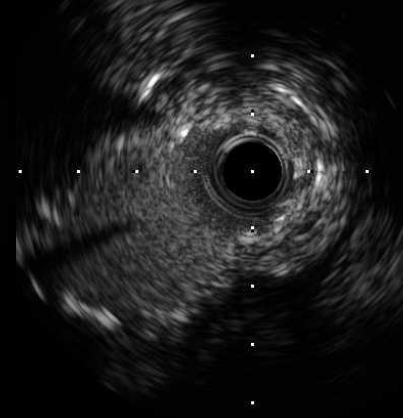
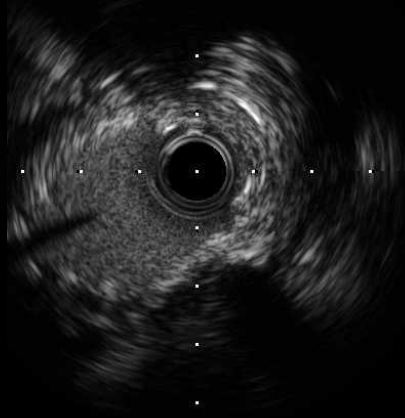
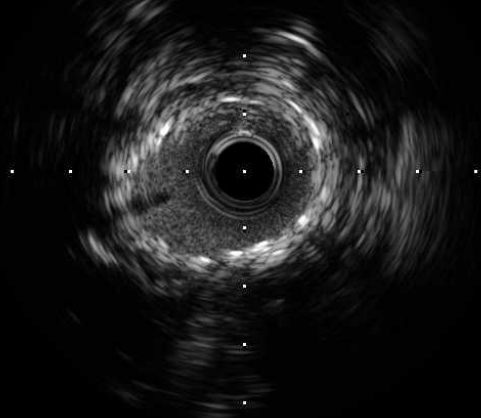
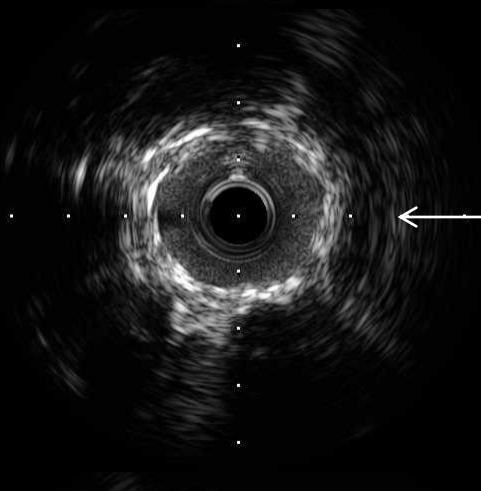
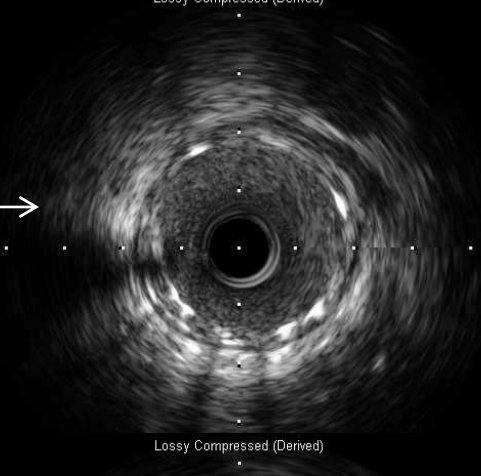
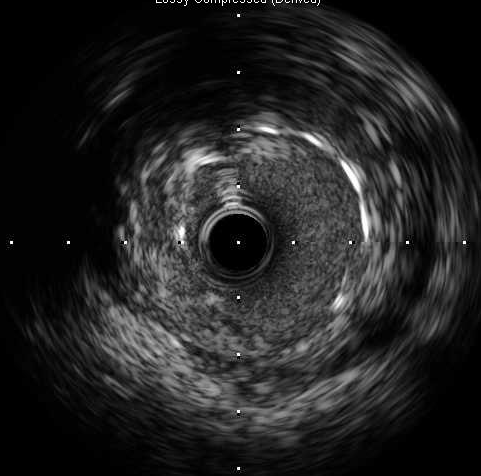


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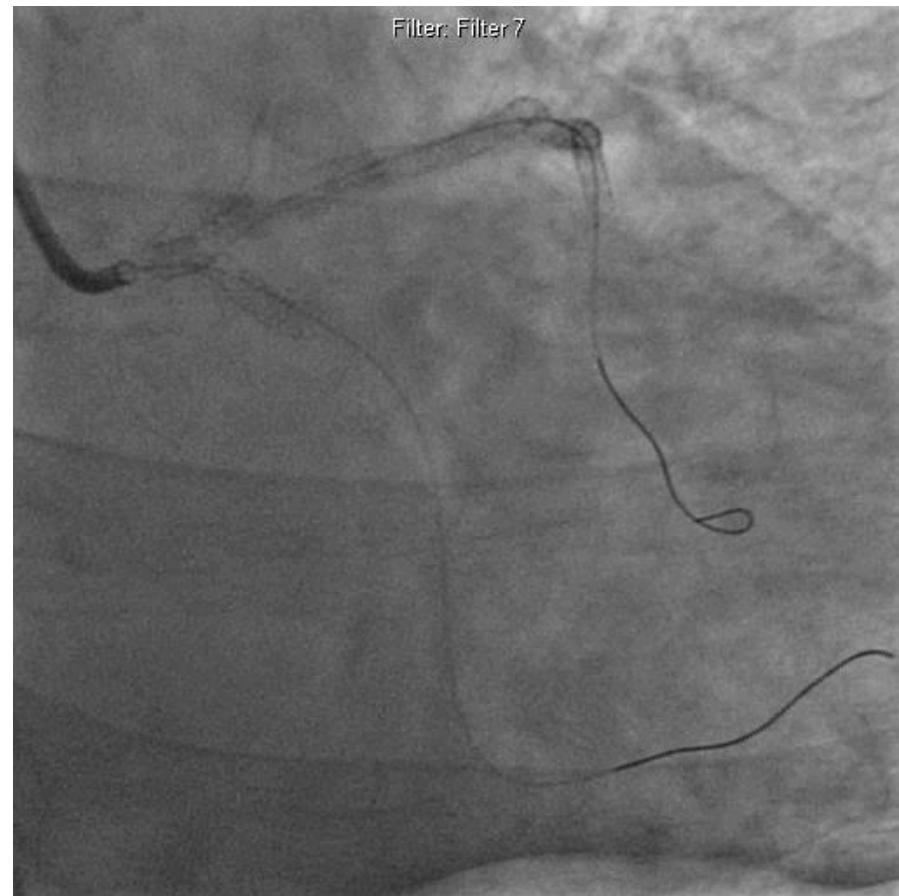
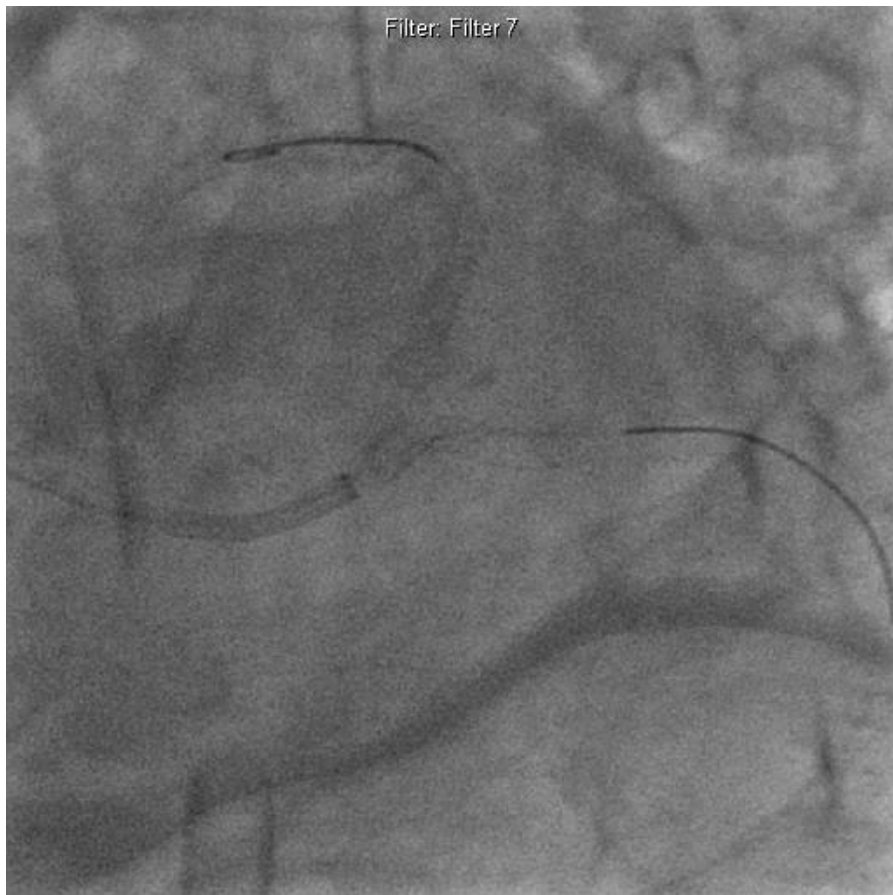
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(6) Final angiography



In Hospital course

- The next day : EBS removal
- After 1 week : weaning of mechanical ventilation
- After 3 weeks : discharged and follow up as outpatient
- **Discharge medication**
 - Aspirin 100mg qd
 - Clopidogrel 75mg qd
 - Cilostazol 100mg bid
 - Carvedilol 12.5mg bid
 - Atorvastatin 10mg qd
 - Torsemide 5mg bid
 - Famotidine 20mg bid

Discussion

- **What lead to cardiogenic shock ?**
 - displacement of plaque after stenting
 - rupture of unstable plaque and in situ thrombus formation
- **How it could be prevented ?**
 - coronary-artery bypass grafting (CABG)
 - pre-evaluation of lesion type with IVUS
 - : plaque characteristics, anatomic configuration
 - pre-dilatation at Lt main distal~proximal LAD
 - planned 2-stent approach
 - Simultaneous use of Gp IIbIIIa inhibitor

Thank you for attention