STEMI WITH A GIANT LM ANEURYSM

FU Zhenhong
Department of Cardiology, Chinese PLA General Hospital, Beijing, China

中国人民解放军总医院
Chinese PLA General Hospital

General Conditions

- Male, 58y , admitted with chief complain of paroxysmal chest pain 4m

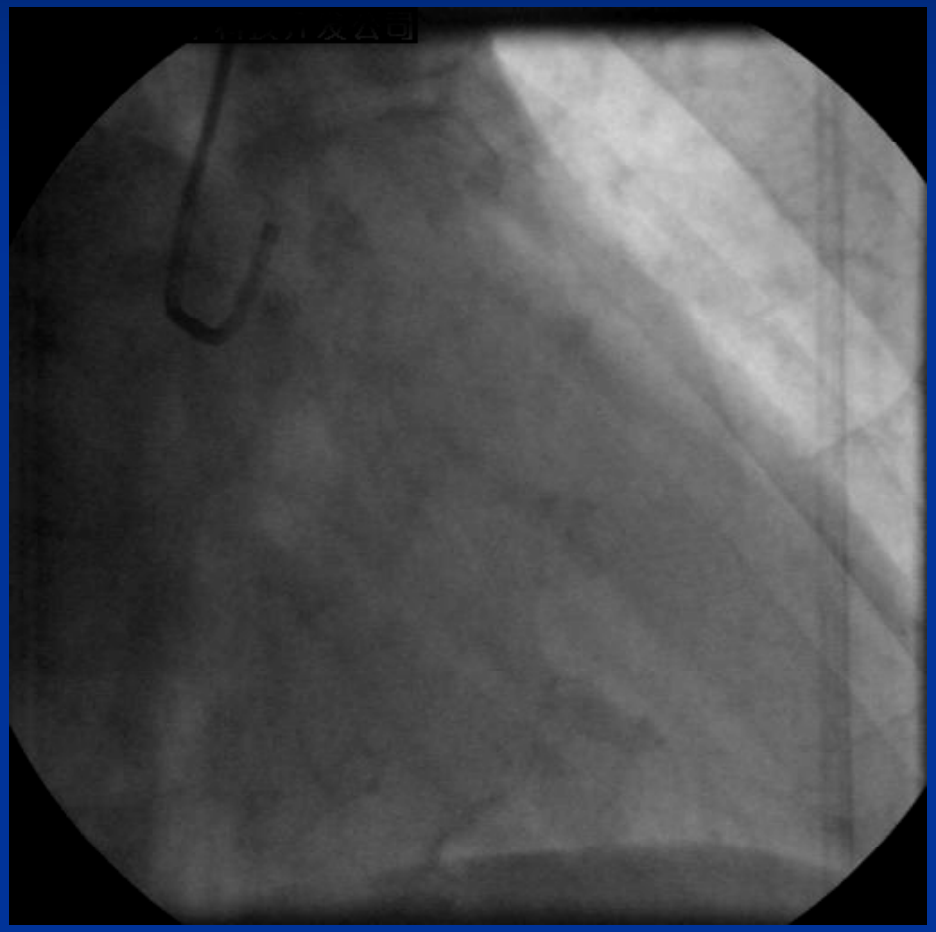
Risk factors:

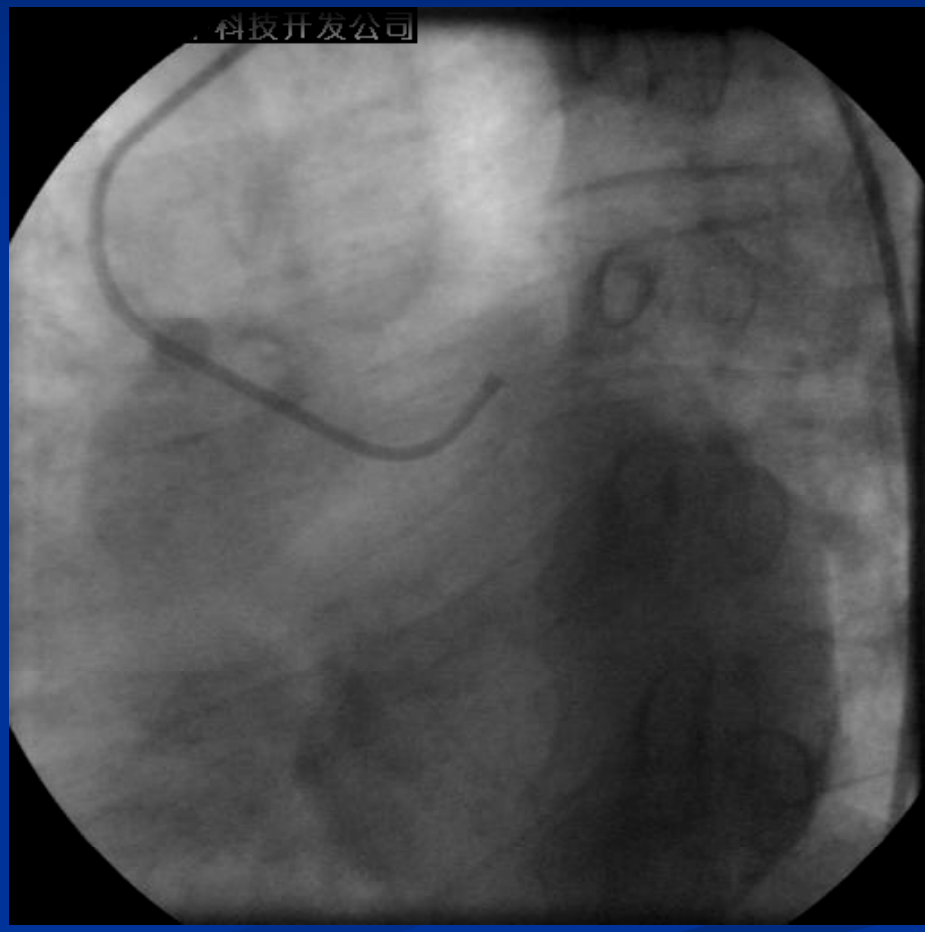
- Smoking 30y, 2 package/d
- Drinking
- Hypertension 1y
- Hyperlipidemia 1y LDL-C 3.48mmol/l
- Atherosclerosis 1y

Present history

- On July 5th 2012, the patient suffered persistent chest pain accompanied with perspiration and radiated to the shoulder, the symptom last 7 h. the patient was diagnosed acute lateral wall MI and was treated with thrombolysis.
- On July 17th 2012, he was transferred to the centre hospital, CAG was performed, one stent was implanted in SCA.

Coronary angiography(2012-7-18)

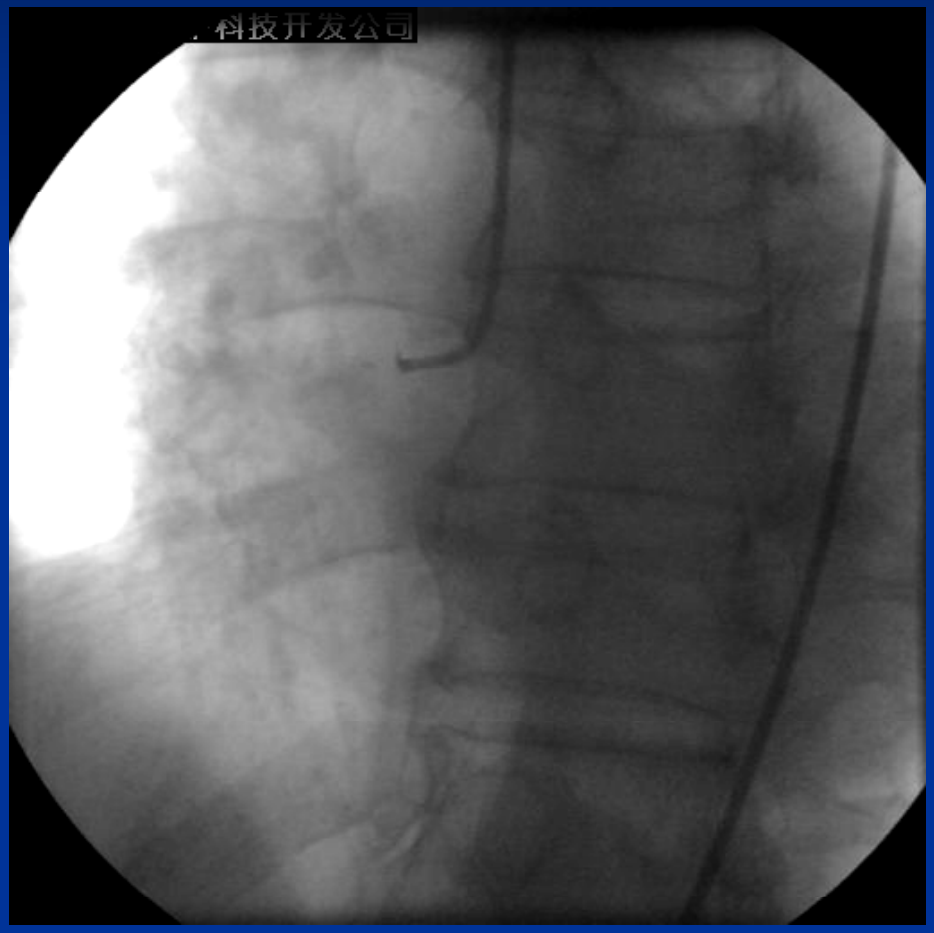


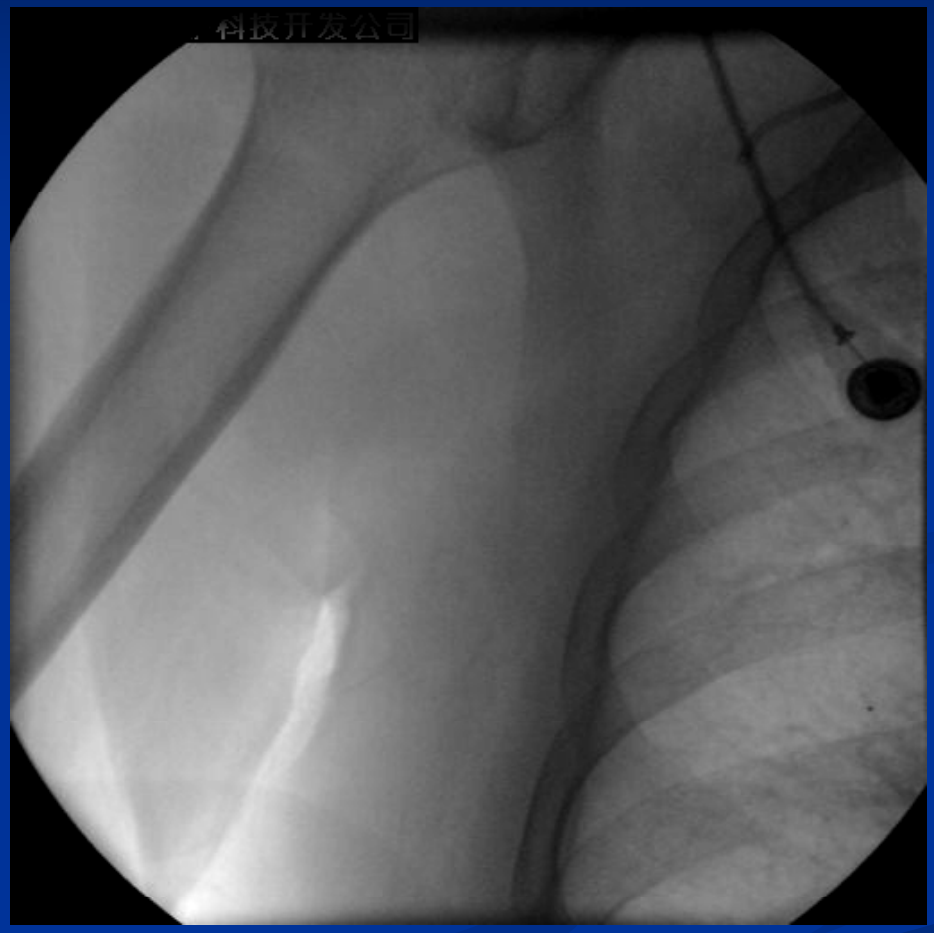


LM:A giant aneurysm, LAD: nearly normal, D1:90%, LCX: 90%

中国人民解放军总医院
Chinese PLA General Hospital

Angiography

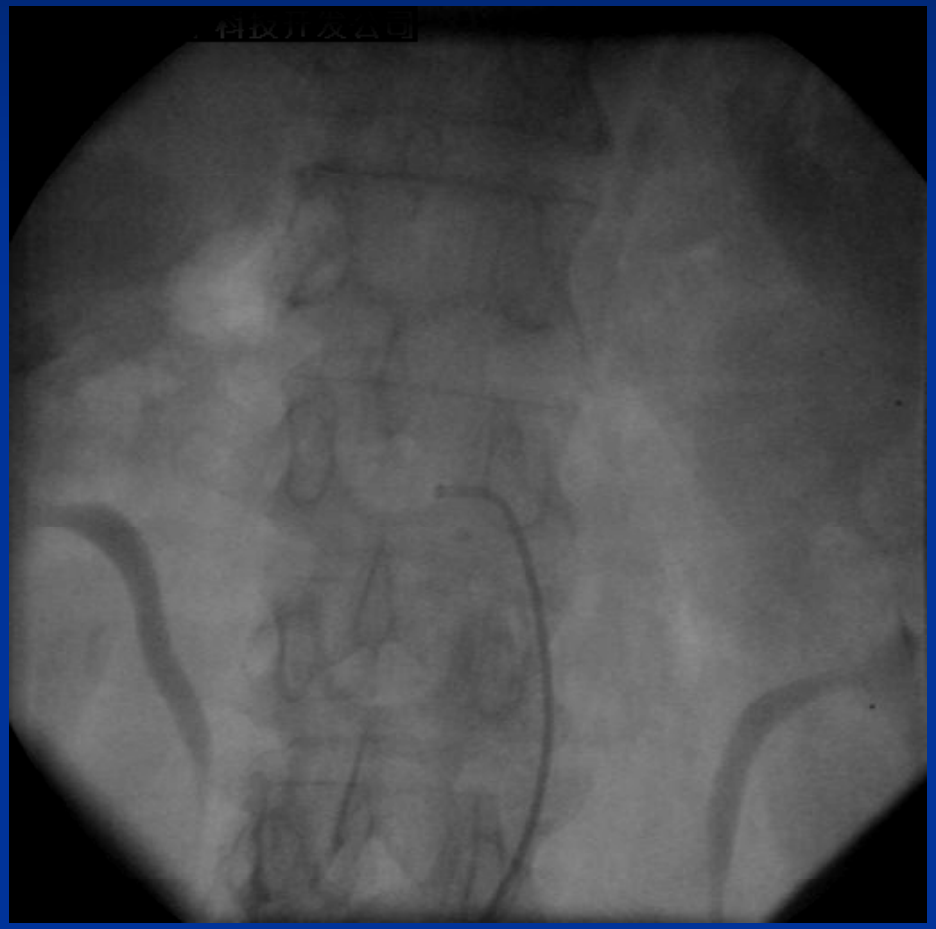


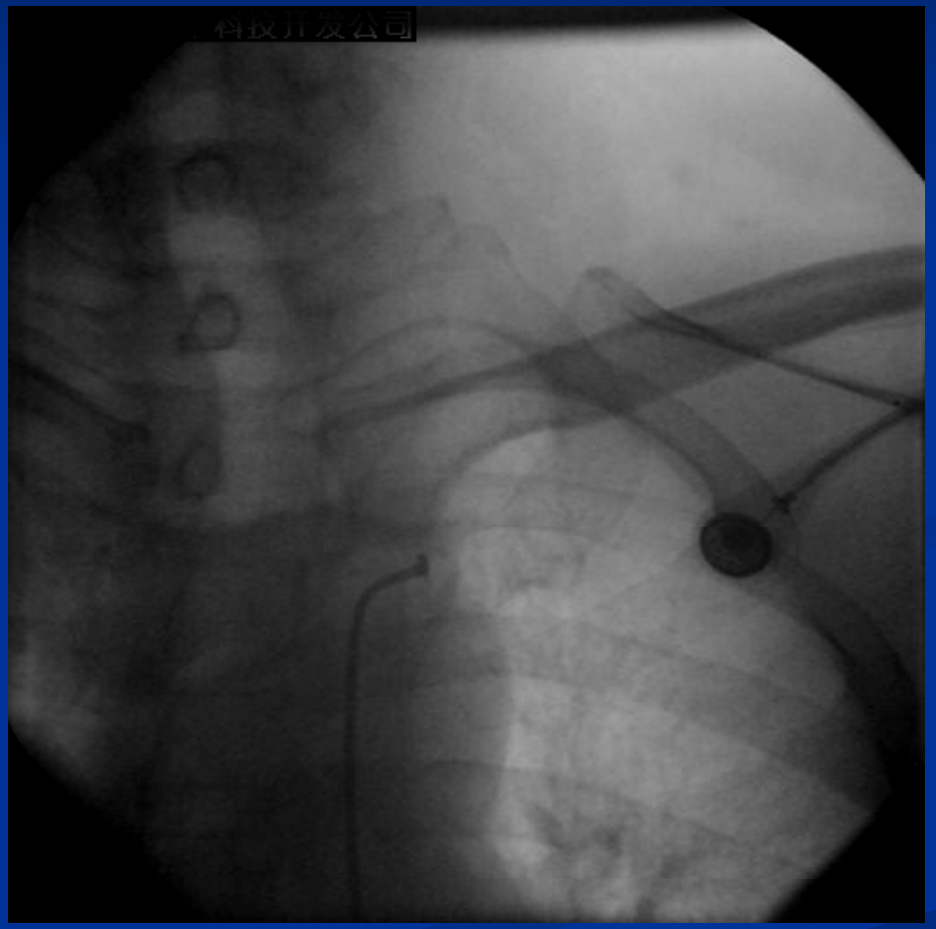


RCA: normal,

Right brachial artery: occluded

Peripheral artery angiography



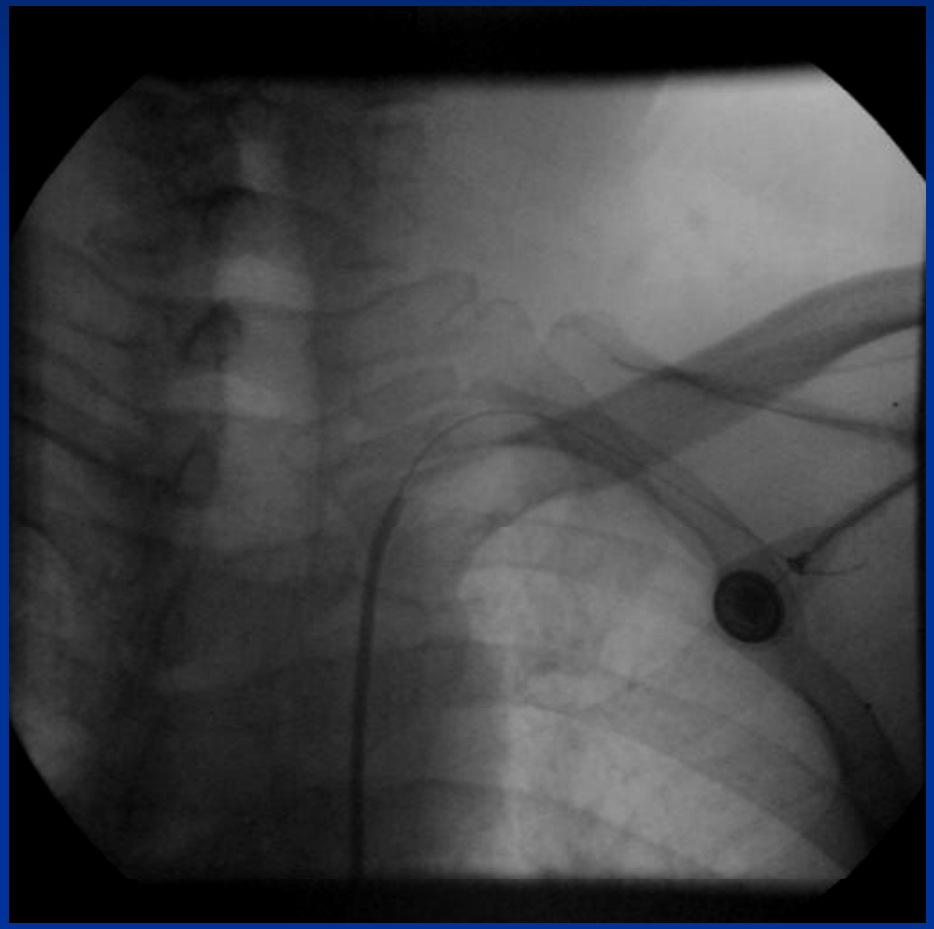


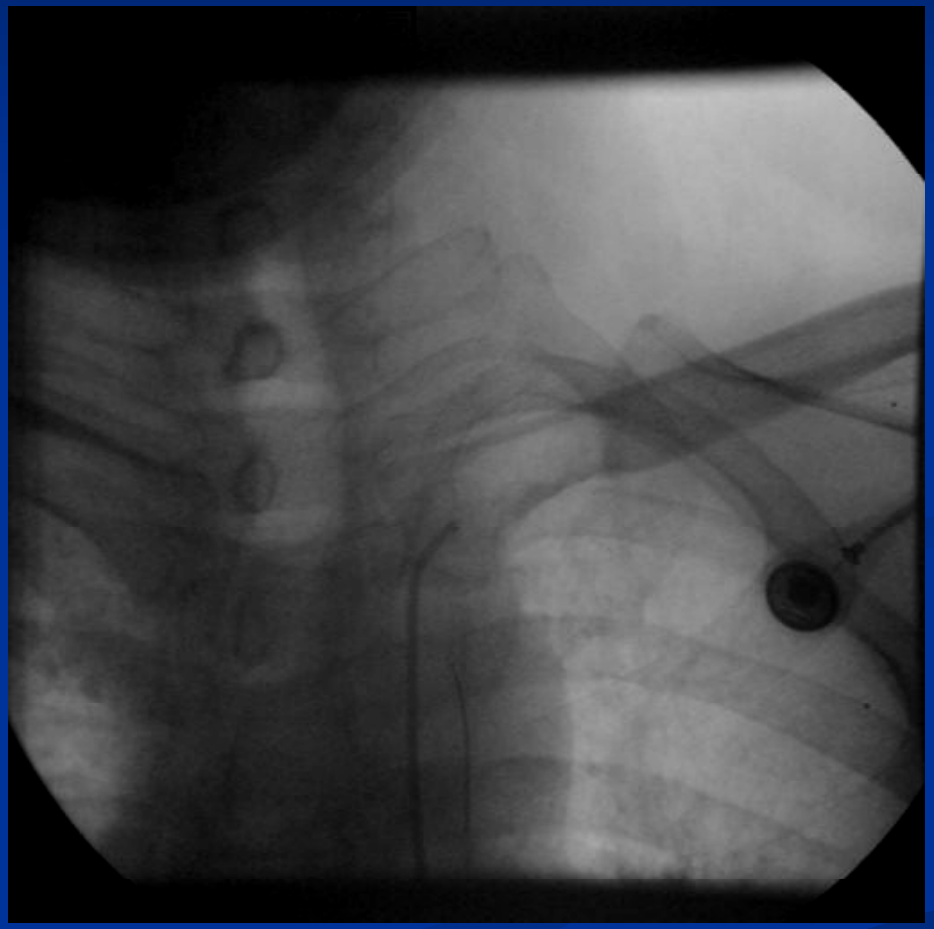
Right renal artery: 50%

Left subclavical artery: 80%, vertebral artery 80%

中国人民解放军总医院
Chinese PLA General Hospital

Intervention of subclavical artery



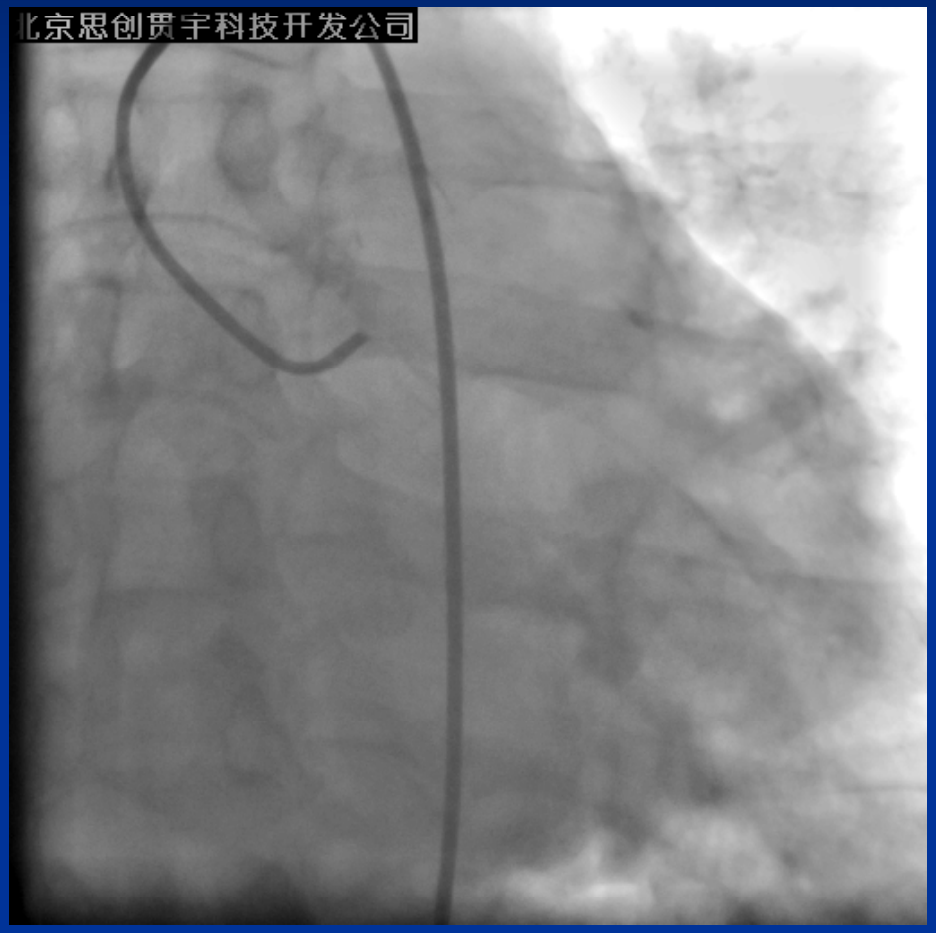


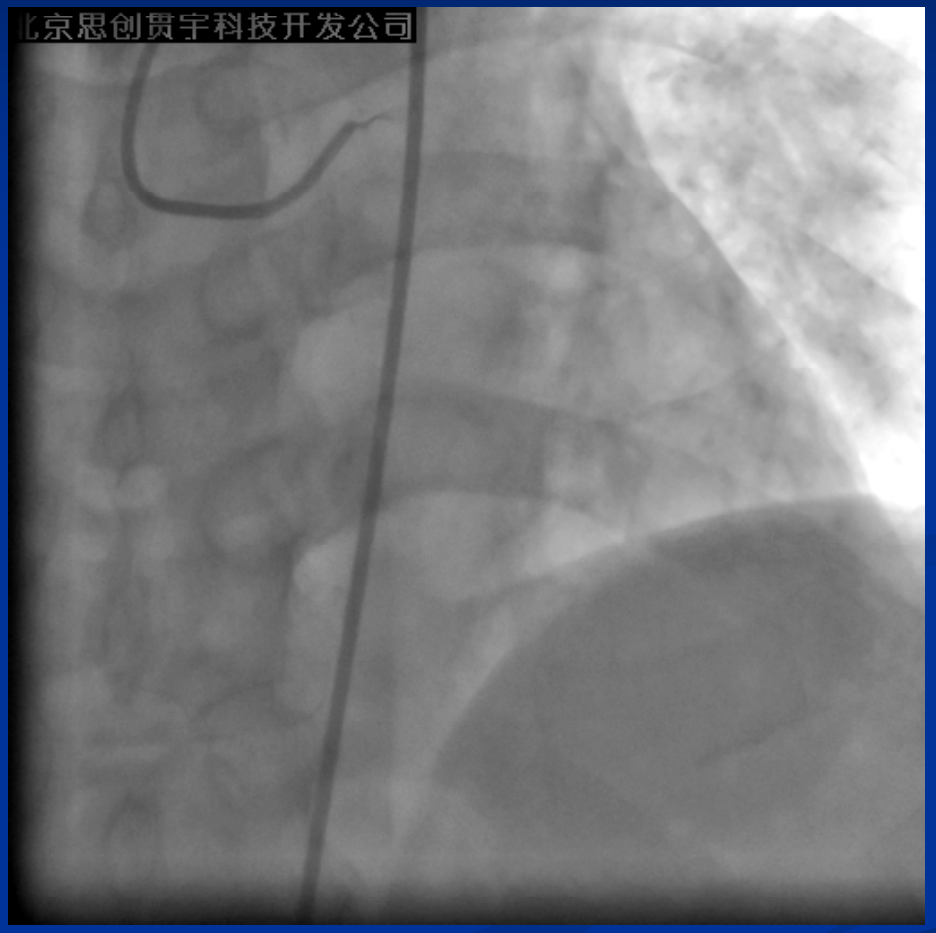
中国人民解放军总医院
Chinese PLA General Hospital

Present history

After that, the patient took double anti-platelet drugs and Rosuvastatin regularly, unfortunately, 2m later he suffered a more severe persistent chest pain again and accompanied with unconsciousness, respiratory and cardiac arrest , the patient was diagnosed acute extensive anterior wall MI, ECG showed VF, after defibrillation, he was transferred to cath-lab, and the emergency CAG and PCI was performed.

CAG

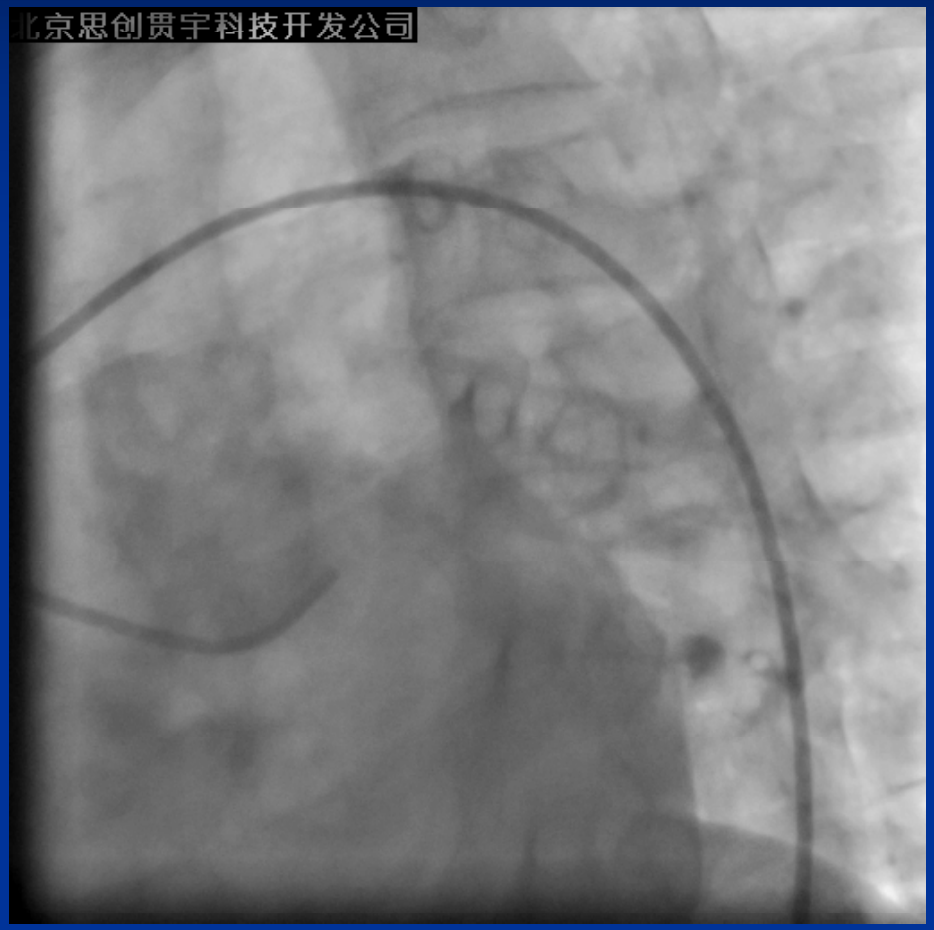


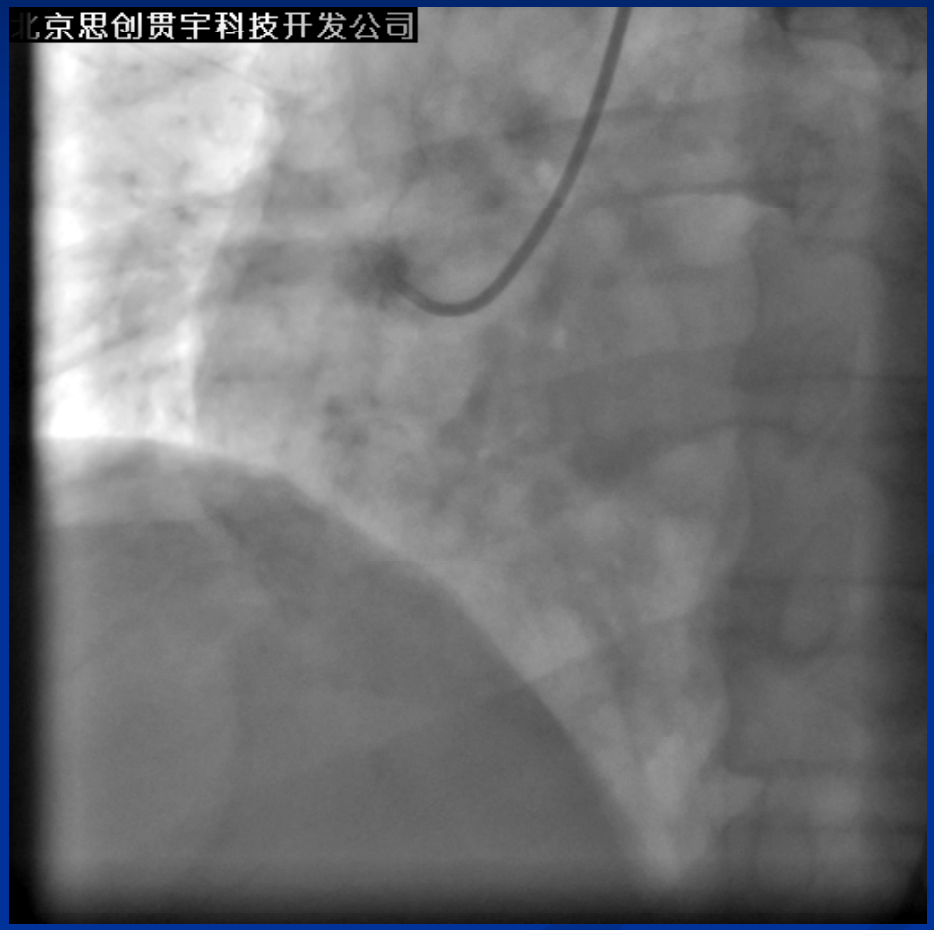


LM:A giant aneurysm,

LAD: 90%, D1:90%,

CAG

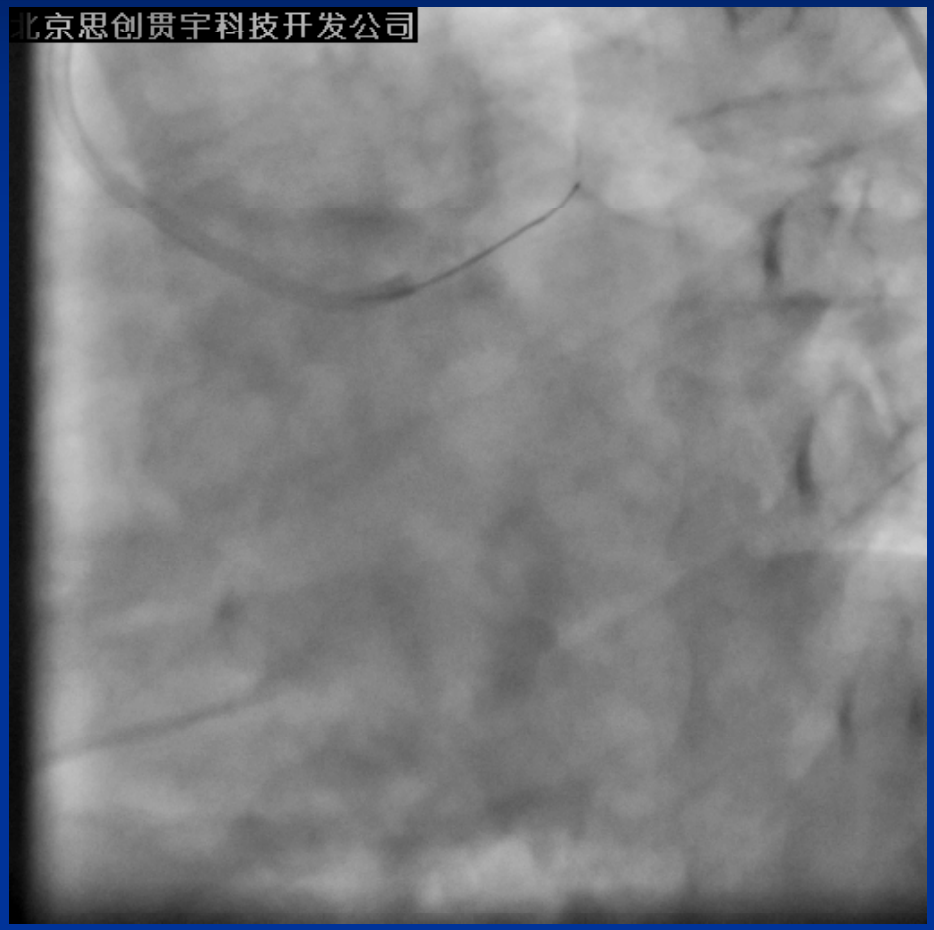


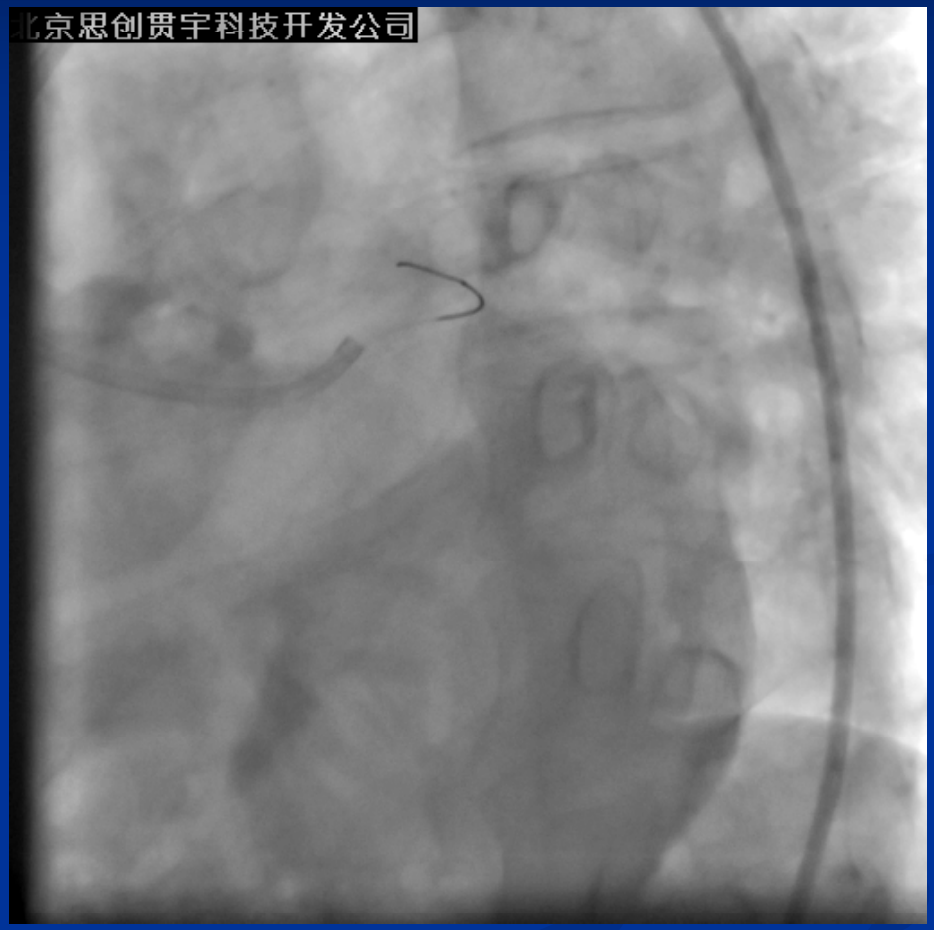


LCX: 90%

RCA: normal,

LAD PCI

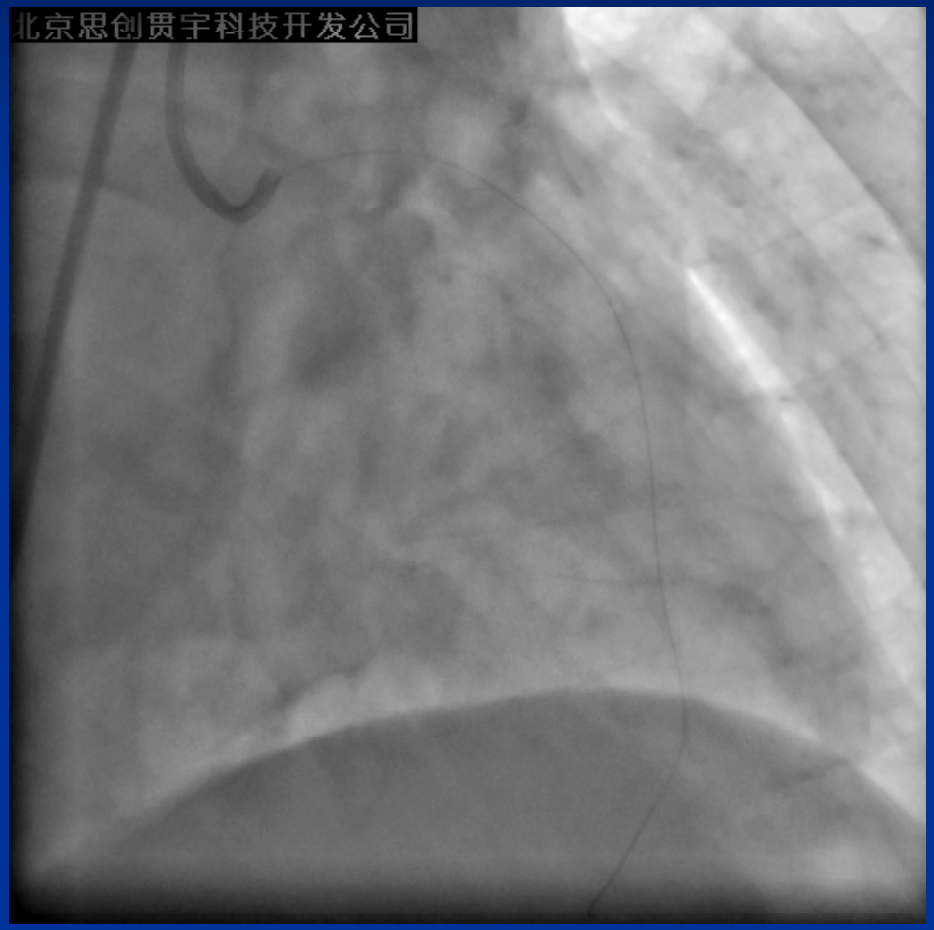


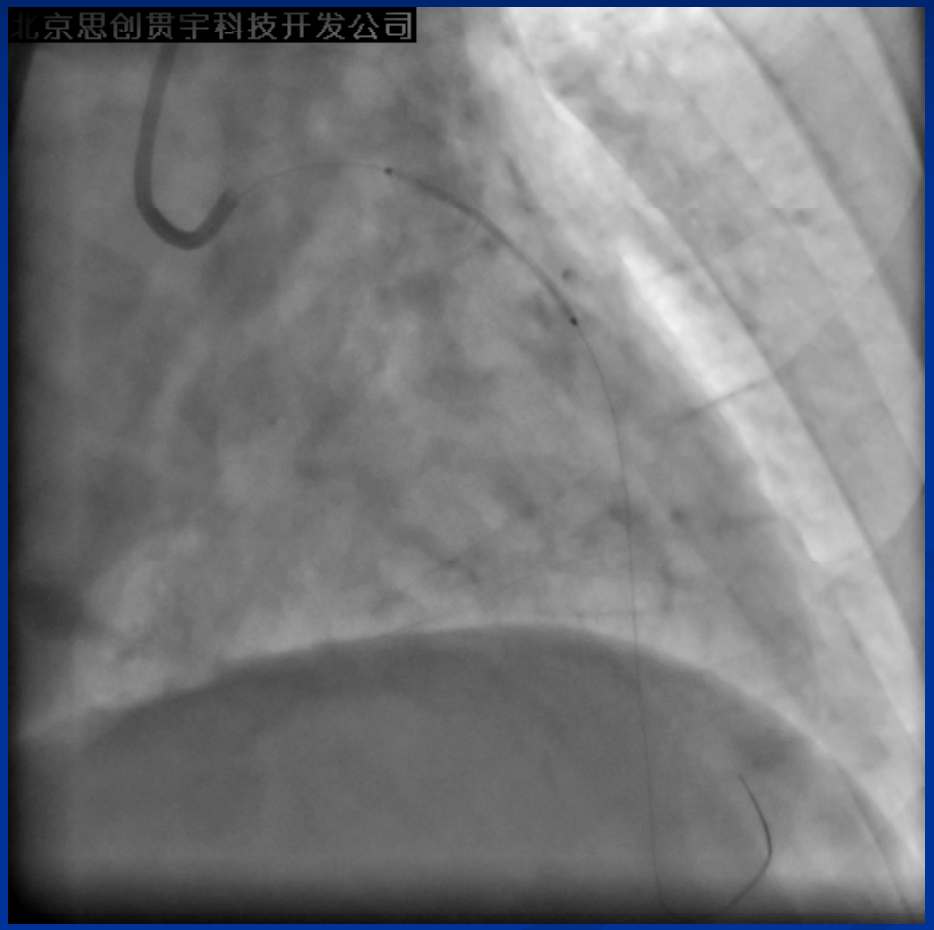


Guiding: 6F JL4, Wire: Routhrough,

中国人民解放军总医院
Chinese PLA General Hospital

LAD PCI



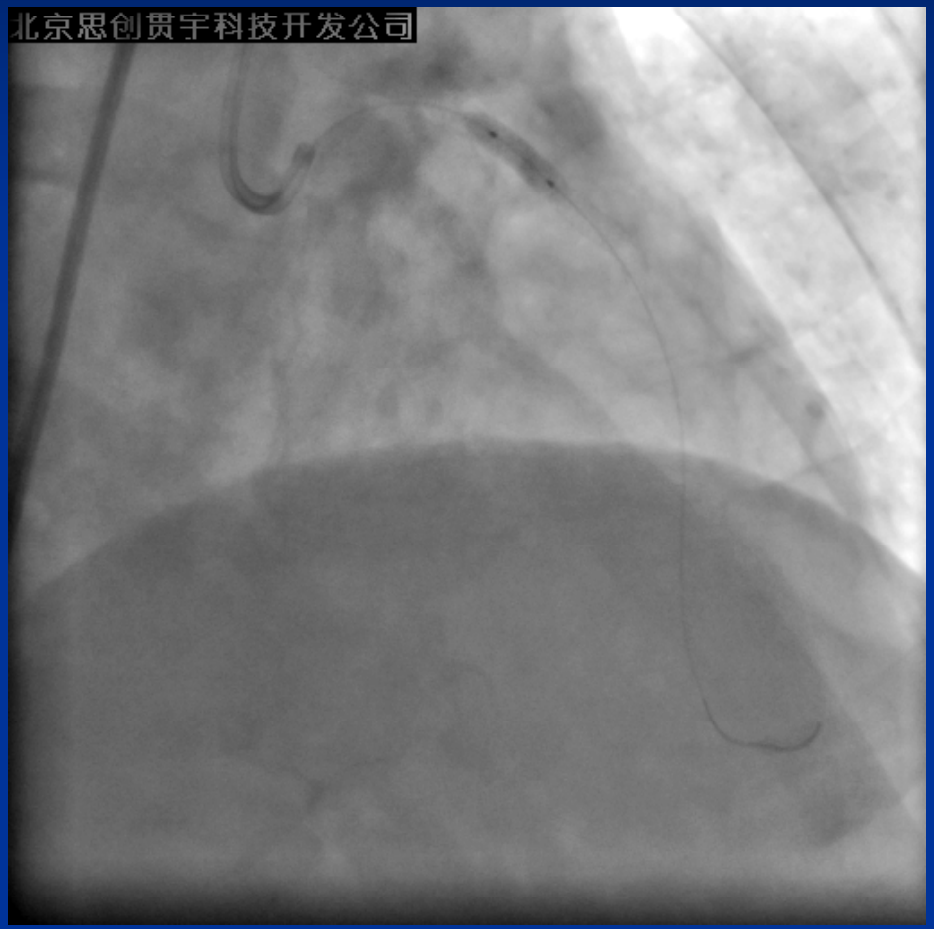


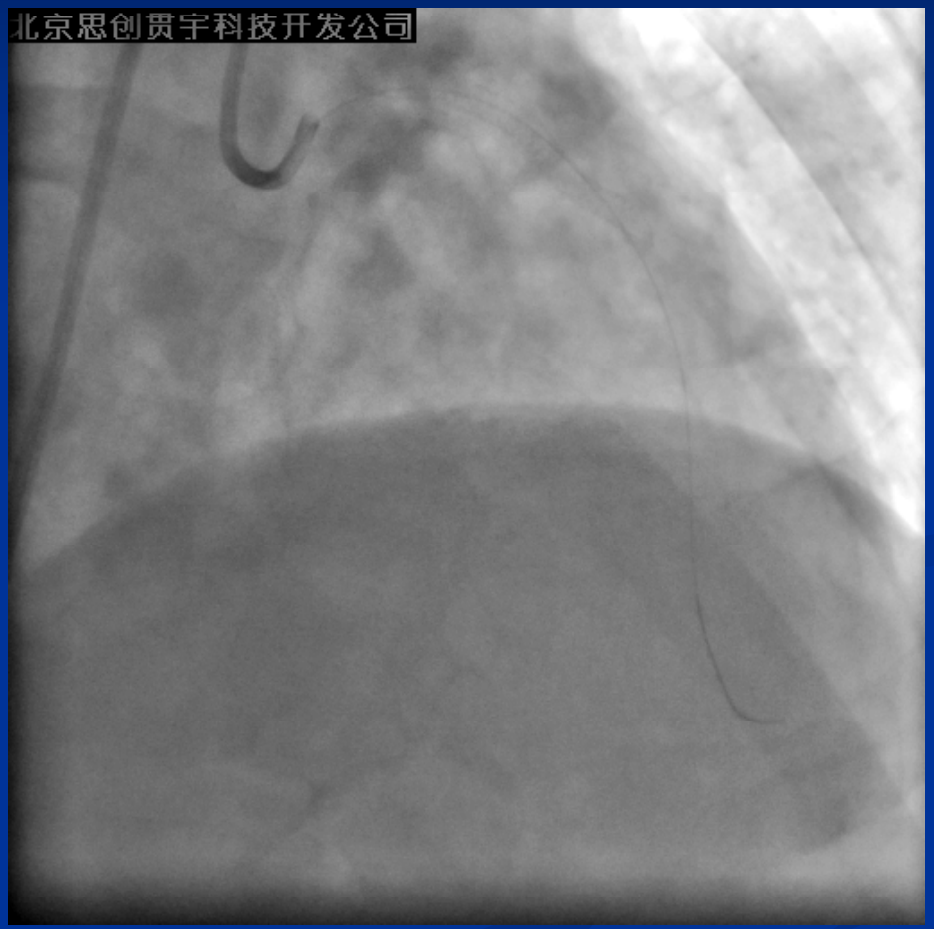
Guiding: 6F JL4,

Stent: Firebird 2 2.75X29mm 12atm

中国人民解放军总医院
Chinese PLA General Hospital

LAD PCI

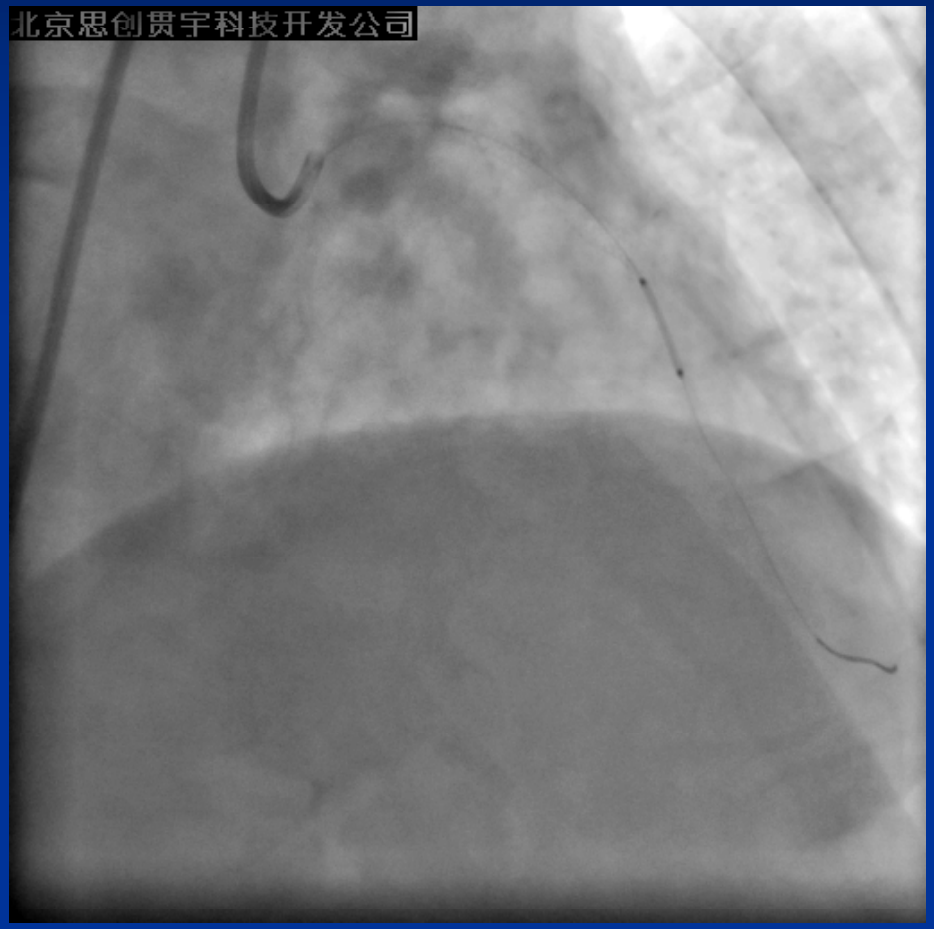


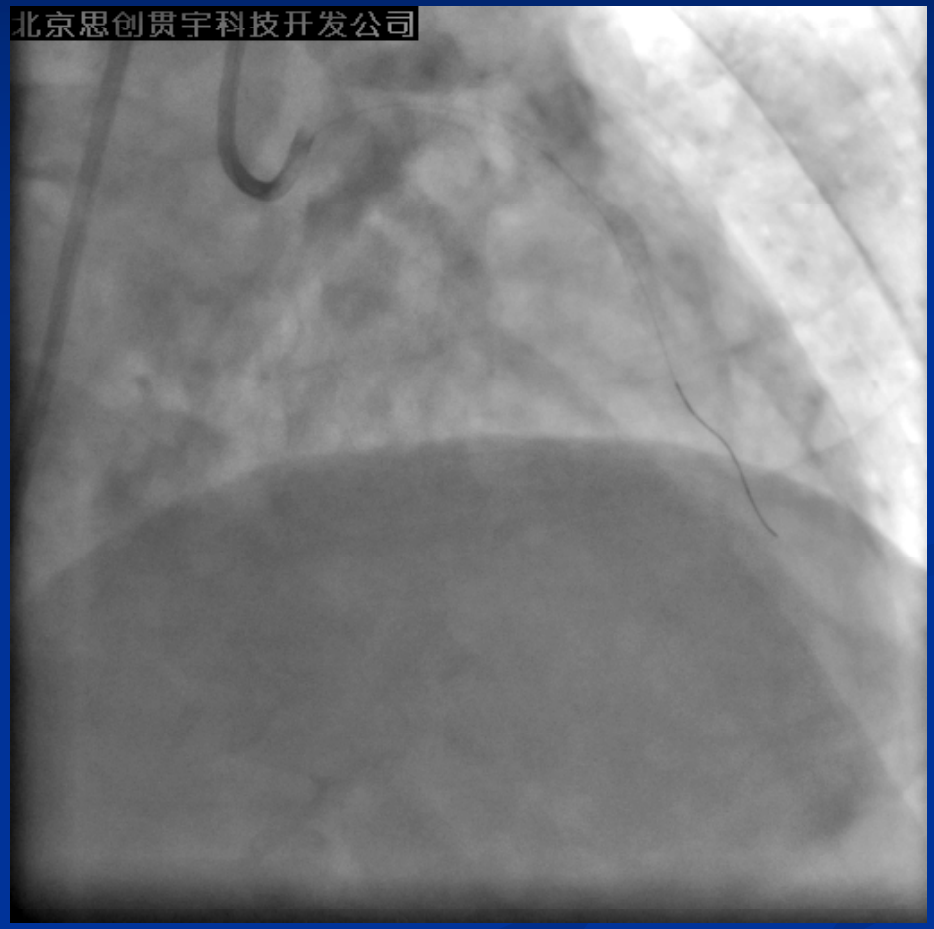


Balloon: Voyage NC 3.0X15mm 14 atm

中国人民解放军总医院
Chinese PLA General Hospital

LAD PCI





Guiding: 6F JL4,

Stent: Firebird 2 2.5X13mm 12atm

中国人民解放军总医院
Chinese PLA General Hospital

Present history

He took double anti-platelet drugs and Rosuvastatin regularly, unfortunately, 1m later he suffered exertional chest pain, distress and dyspnea again. At that time, he came to our hospital.

PE: BP 121/91mmHg, normal.

Diagnosis

1.Coronary heart disease

Old myocardial infarction(anterior, lateral wall)

Unstable angina pectoris

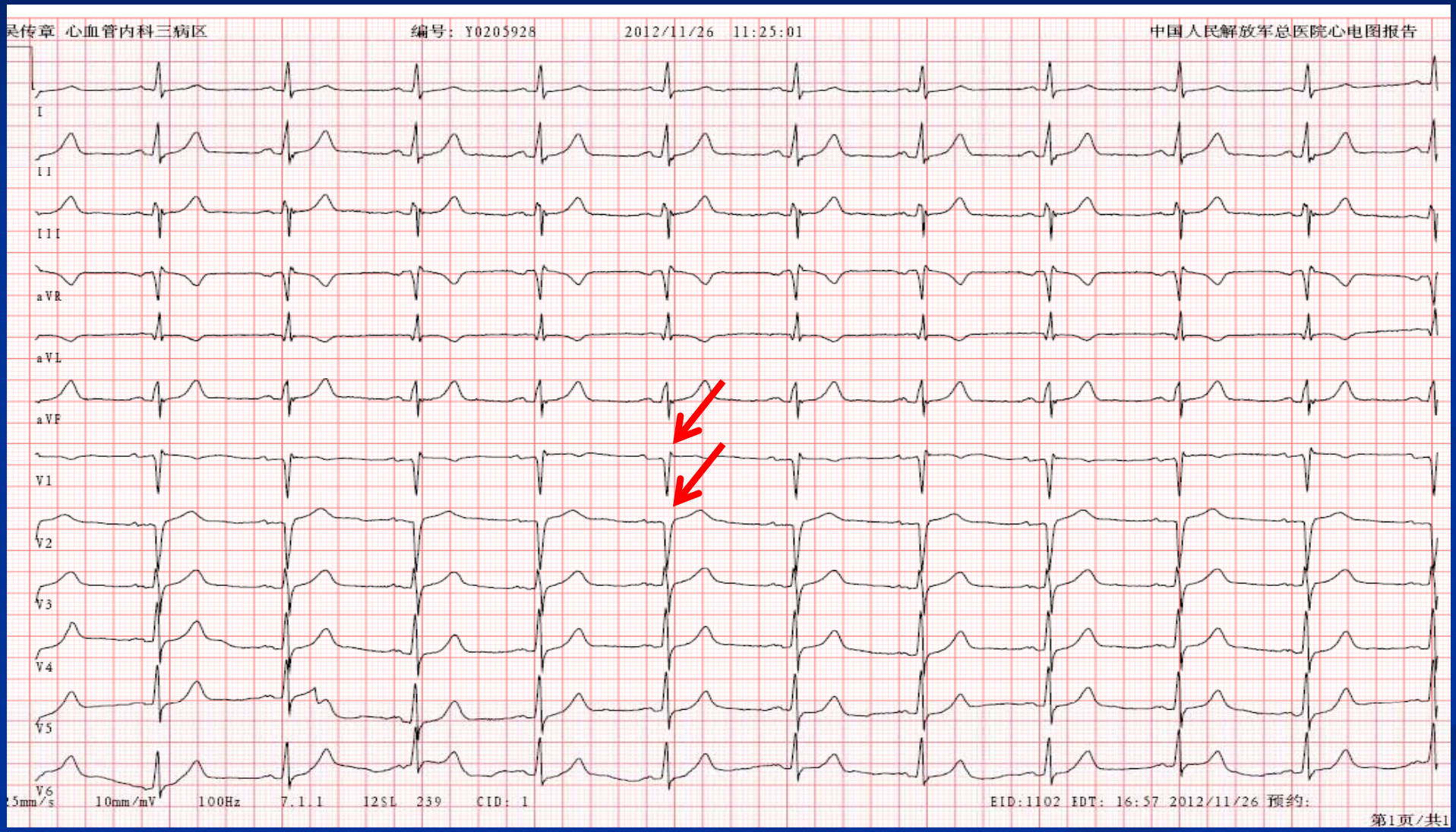
post PCI

2.Hypertension(very high risk)

3.Hyperlipidemia

4.Atherosclerosis

ECG



中国人民解放军总医院
Chinese PLA General Hospital

Echocardiogram

EF:47%
Hypodynamic of LV
Segmental ventricular motion disorder

Laboratory examination

1.Blood routine: normal

2.Biochemistry assay: normal

3.Tumor markers: normal

4.Thyroid function: normal

5.Inflammatory value: CRP, ESR, immune globulin normal.

6.Systemic immune disease: rheumatic value normal.

Questions

1. What are the reasons for the formation of a giant LM aneurysm ?
2. Why the unfortunate patient suffered AMI 2 times in 2 month?
3. What we can do for him? And which was the best therapy in the future?

Answers

1. What are the reasons for the formation of LM aneurysm ?

1. Atherosclerosis
2. Congenital disease
3. Systemic immune diseases(Kawasaki, SLE, Takayasu, and others),
4. connective tissues disorders(Marfans and Ehler-Danlos syndrome)
5. Dissection and Trauma.
6. Positive remodel post PCI

Answers

2.Why the patient suffered AMI 2 times in 2 month?

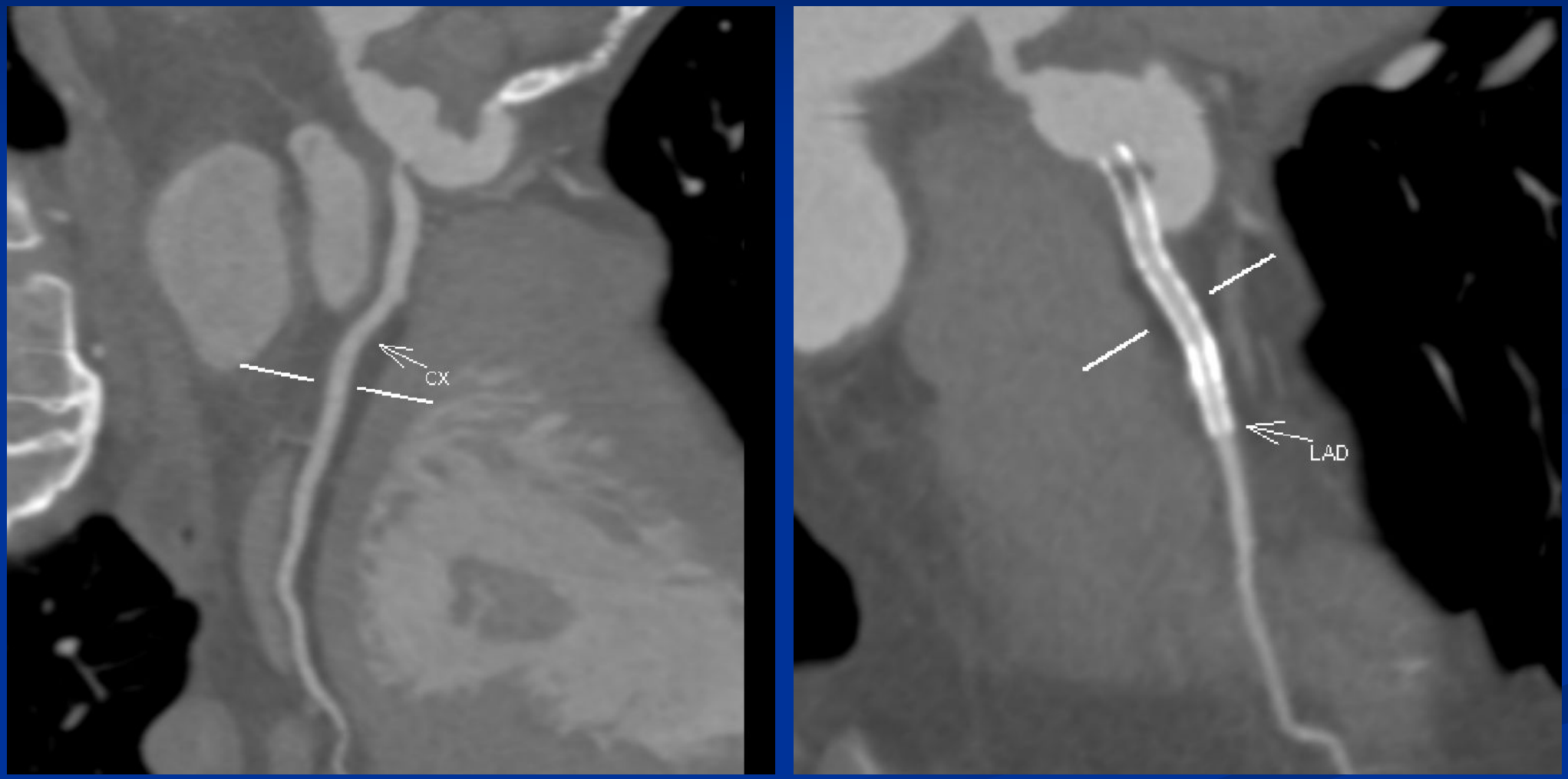
1. **Rupture of plaque**
2. **Restenosis in-stent**
3. **Insufficiency of double anti-platelet treatment**
4. **Embolism by thrombus in the aneurysm**

TEG:

AA—70.3%

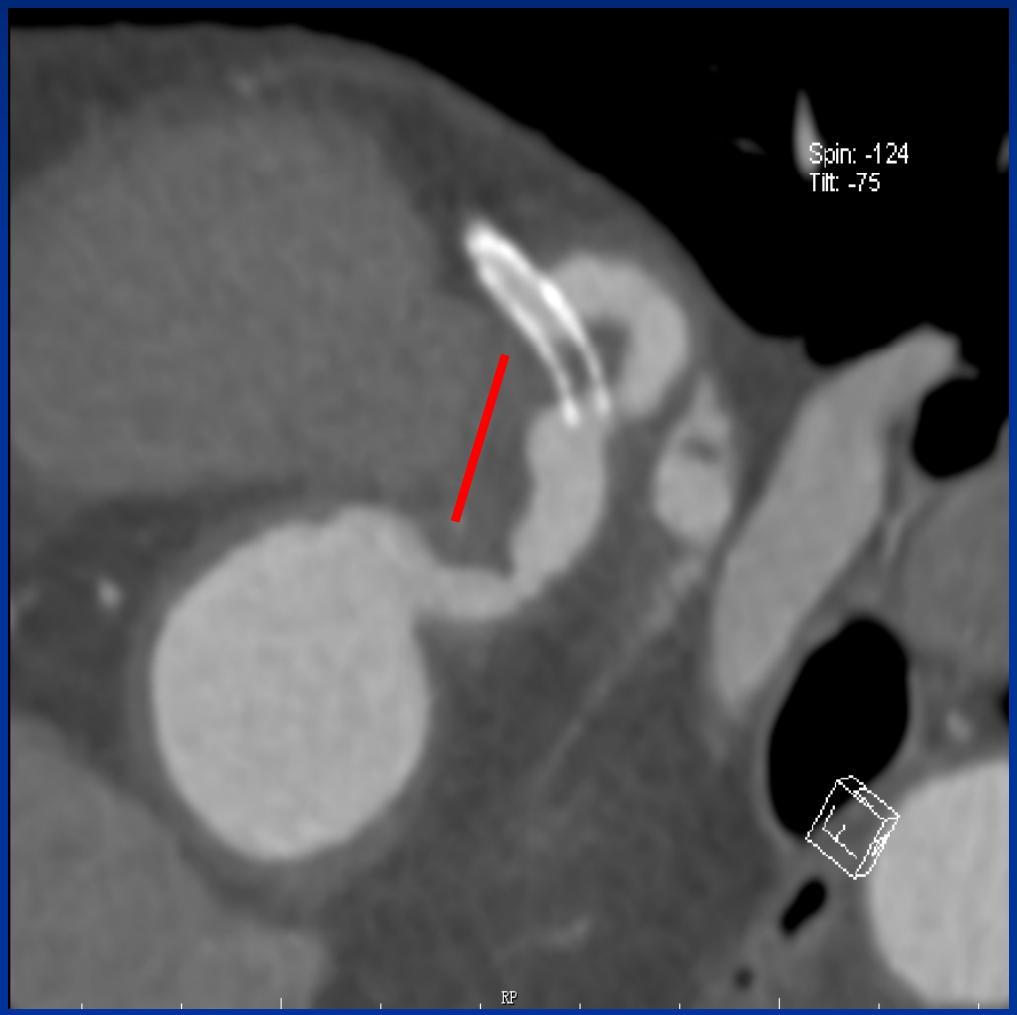
ADP—11.2%

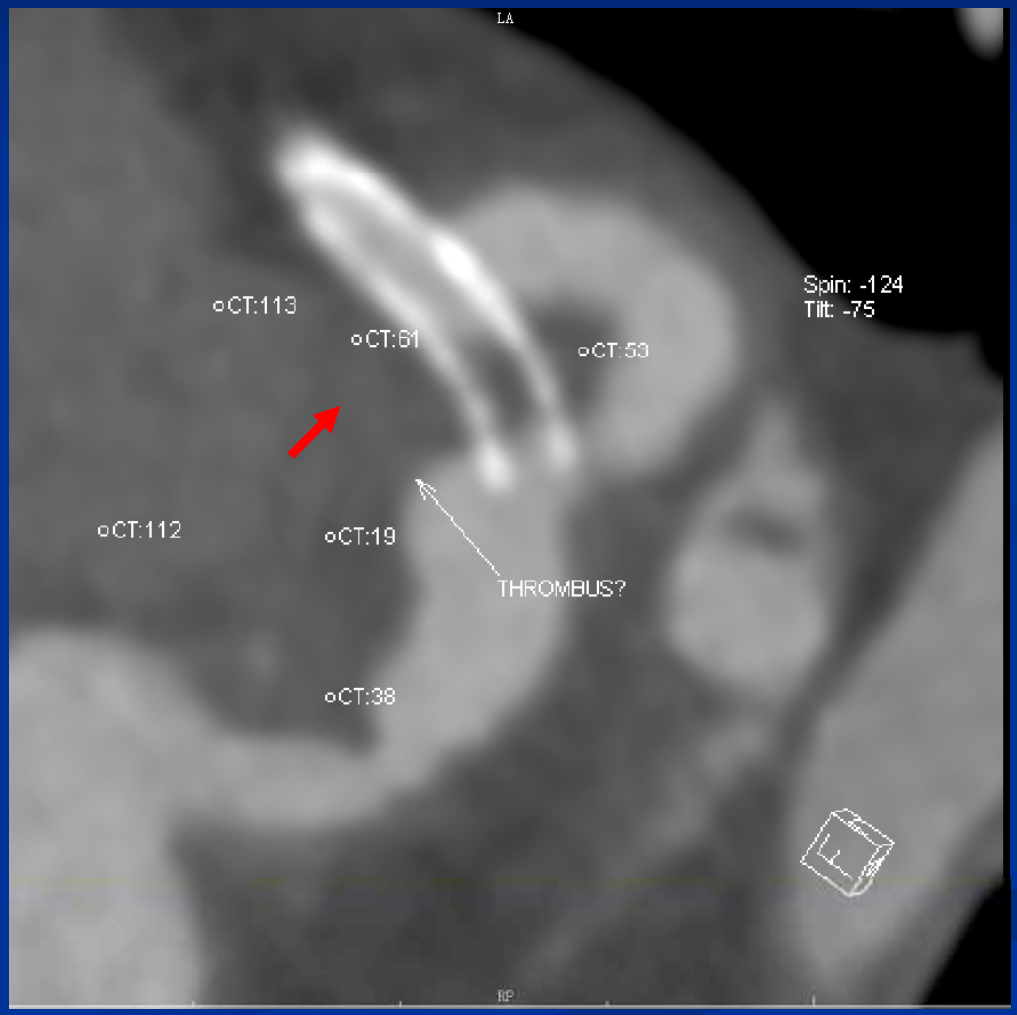
Coronary CTA



中国人民解放军总医院
Chinese PLA General Hospital

Coronary CTA

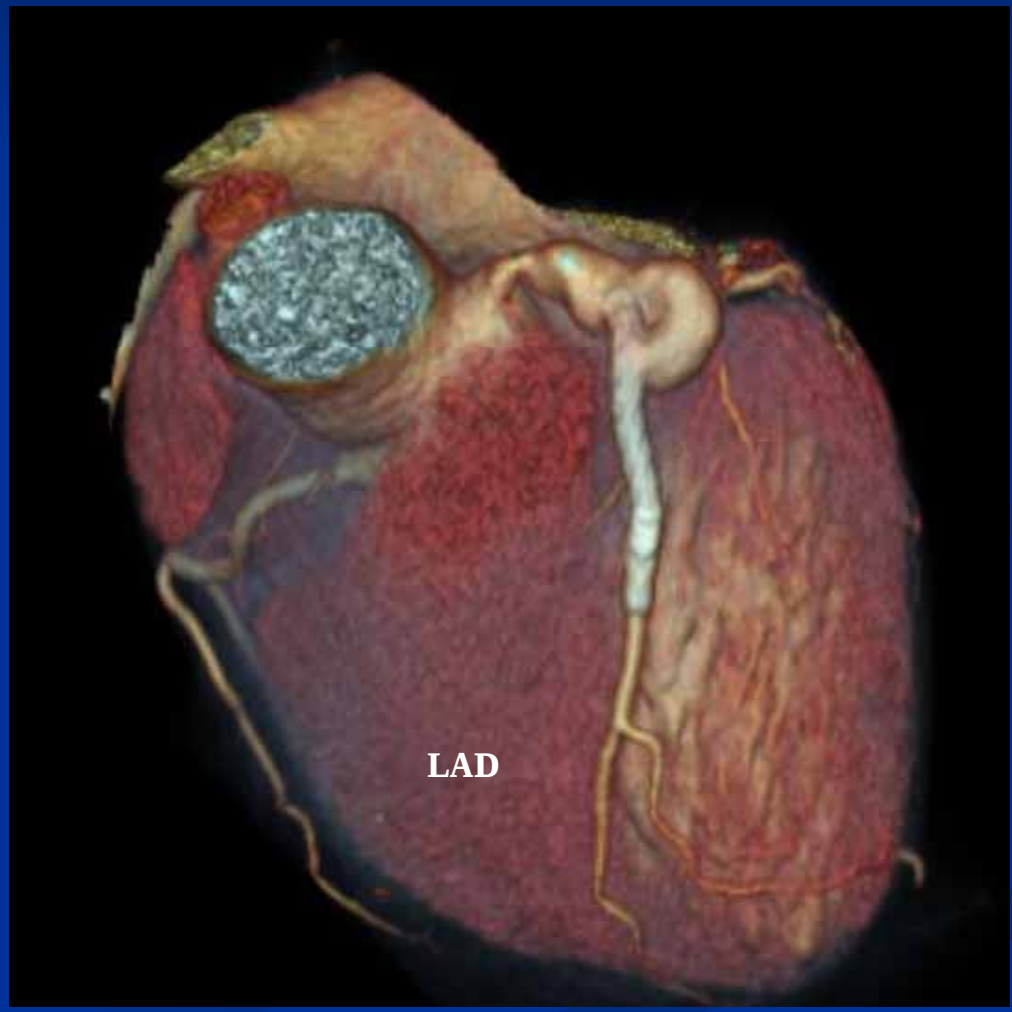




A lot of thrombosis in LM and LAD

中国人民解放军总医院
Chinese PLA General Hospital

Coronary CTA



中国人民解放军总医院
Chinese PLA General Hospital

Answers

3.What we can do for him? And which was the best therapy in the future?

Intensitive medcine treatments

1.anti-thrombosis : Aspirin:100mg/d,Clopidogrel: 150mg/d,LWMH:60mg/12h

2.anti-remodeling : B-blocker, ACEI

3.anti-angina : Isosorbide mononitrate 40mg/d, nicorandil 5mg/8h

4.Stablize plaque: Rosuvastatin 20mg/d

Answers

3.What we can do for him? And which was the b
therapy in the future?

CABG indications:

(1) CAAs near bifurcation of large branches;

(2) evidence of emboli from the aneurysm to the distal coronary bed resulting in myocardial ischemia;

(3) progressive enlargement of a CAA documented by serial angiographic measurements;

(4) CAAs in the left main stem.

Answers

- **The patient was transferred to the surgery, and CABG was performed 2 weeks later.**

3 Bridge vessels:

1.LIMA to LAD m

2.Ascending to D1(SVBG)

3. Ascending to OM2 (SVBG)

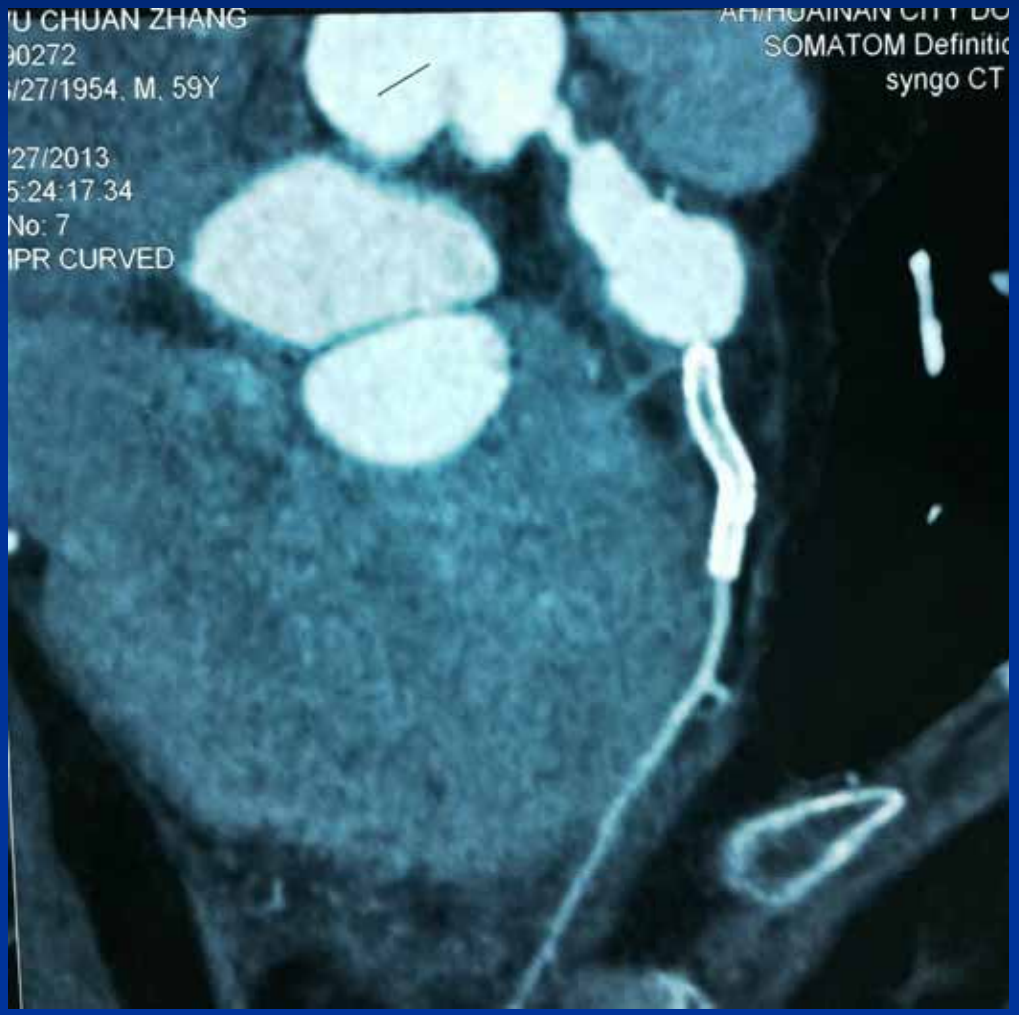
Follow up

After discharged, the patient took medicine regularly, the symptoms relieve, but 3m later, he felt chest tightness after exertion. On March 27th 2013, coronary CTA showed:

1.LIMA to LAD was open.

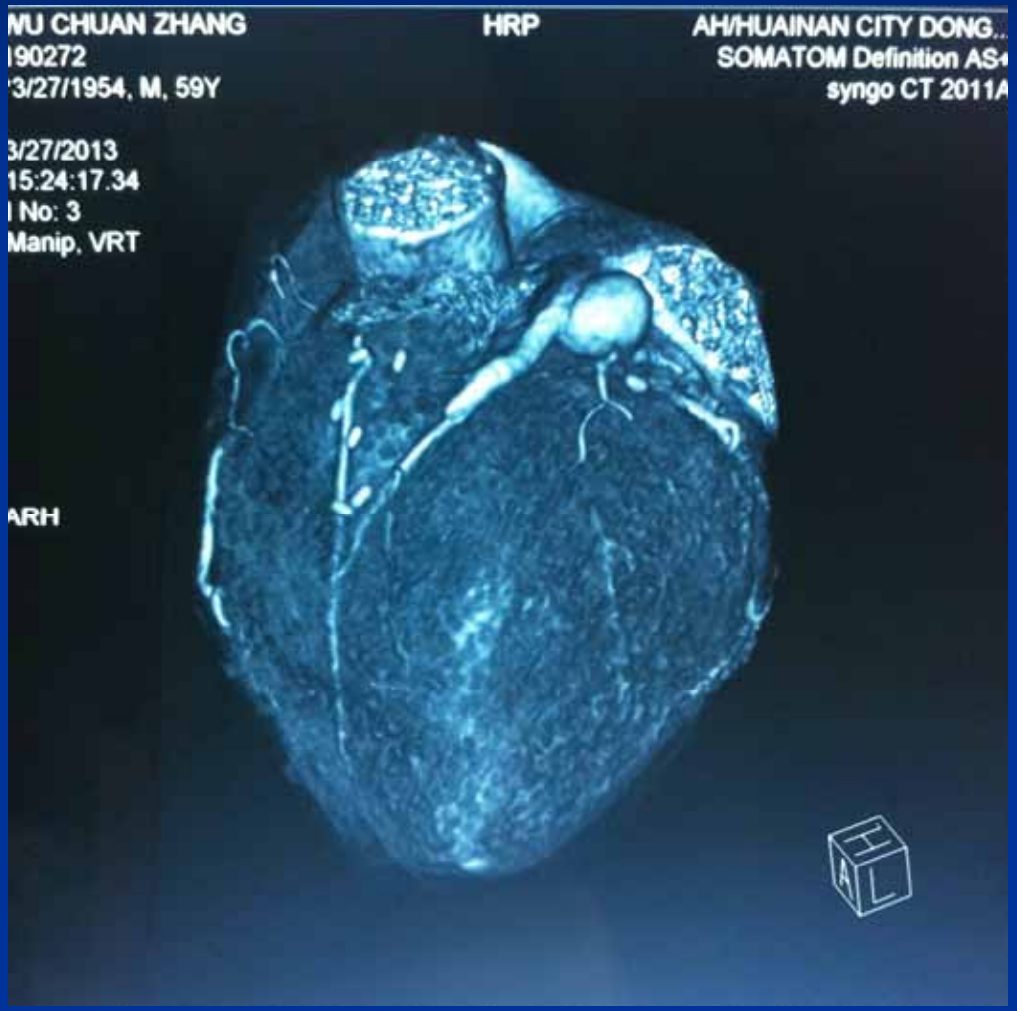
2.Ascending to D1 and OM2 were total occluded.

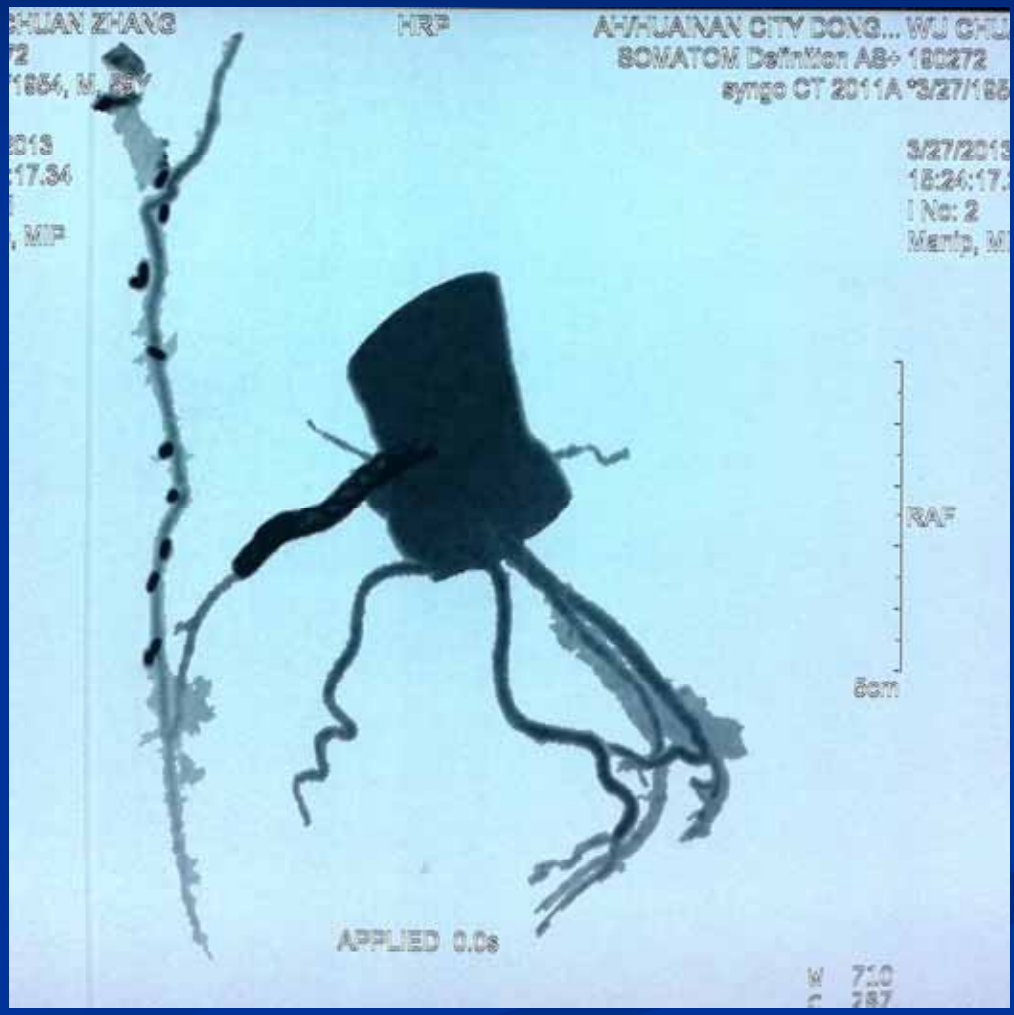
Follow up



中国人民解放军总医院
Chinese PLA General Hospital

Follow up





中国人民解放军总医院
Chinese PLA General Hospital

Conclusions

1. Left main coronary artery anaeurysm are rare, and have a high risk for thrombus. Atherosclerosis is the most common cause of CAA .
2. Before emergency PCI for STEMI, accurate analysis of lesion is necessary. IVUS/CTA are beneficial for evaluate the internal composition.
3. Intensive medical treatments especially the effective anti-thrombosis therapies are important. CABG is a better method for coronary anaeurysm.
4. Regular follow up of CAA patient is benefit for prognosis.