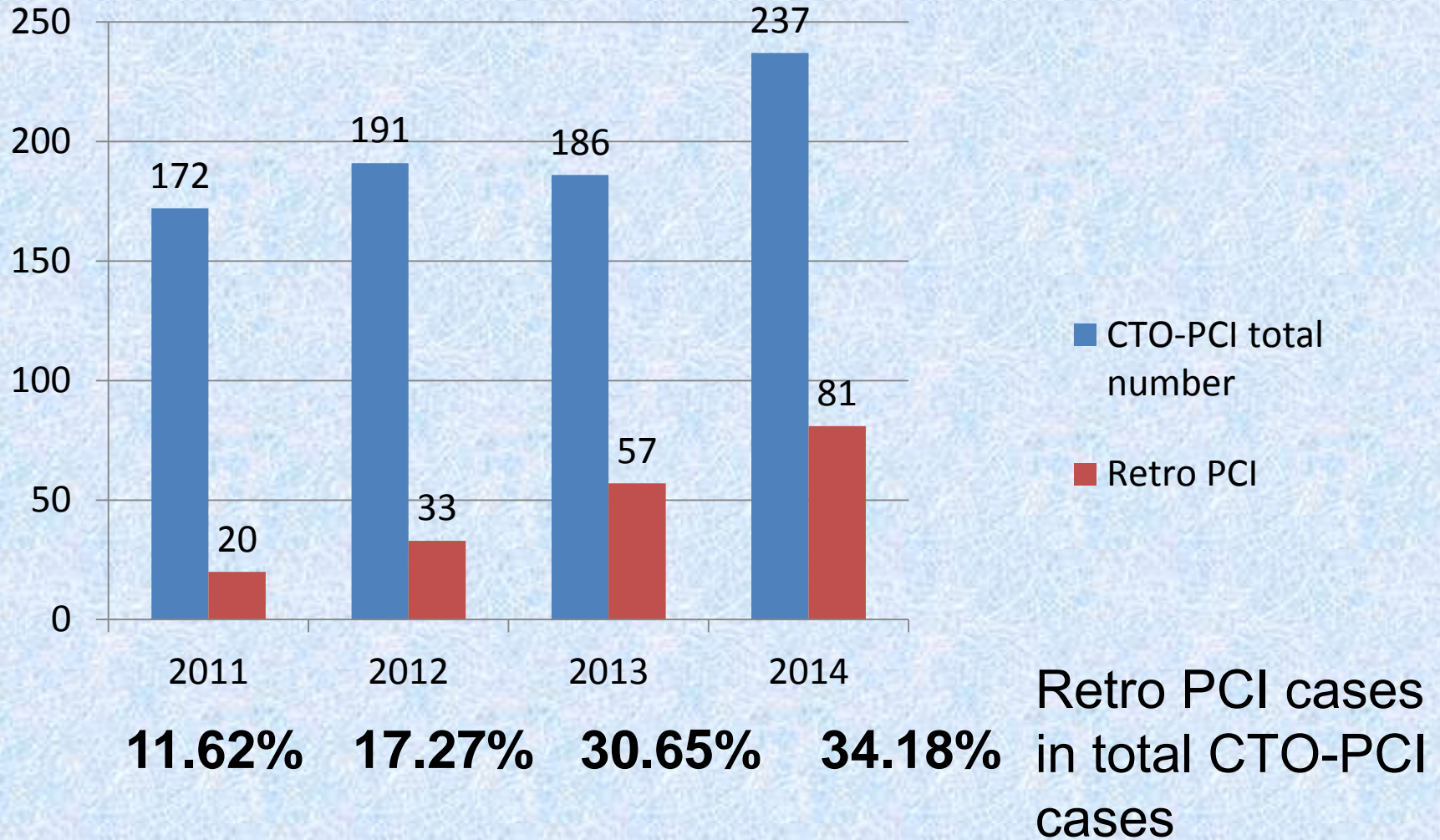


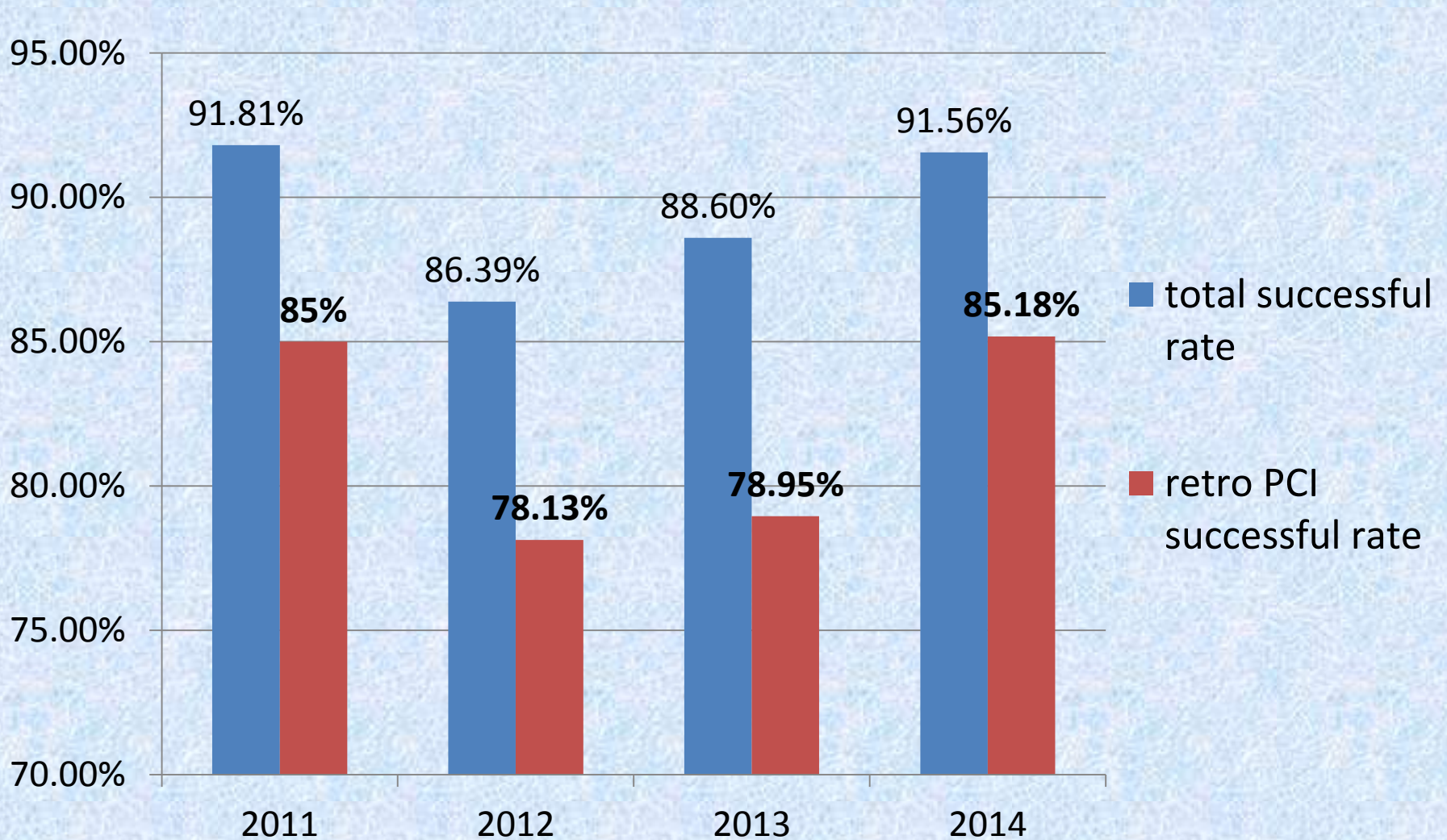
My Failed CTO-PCI Case

Bin ZHANG MD PhD
Guangdong General Hospital
Guangdong Cardiovascular Institute
CHINA

CTO-PCI in my hospital recent 4 years



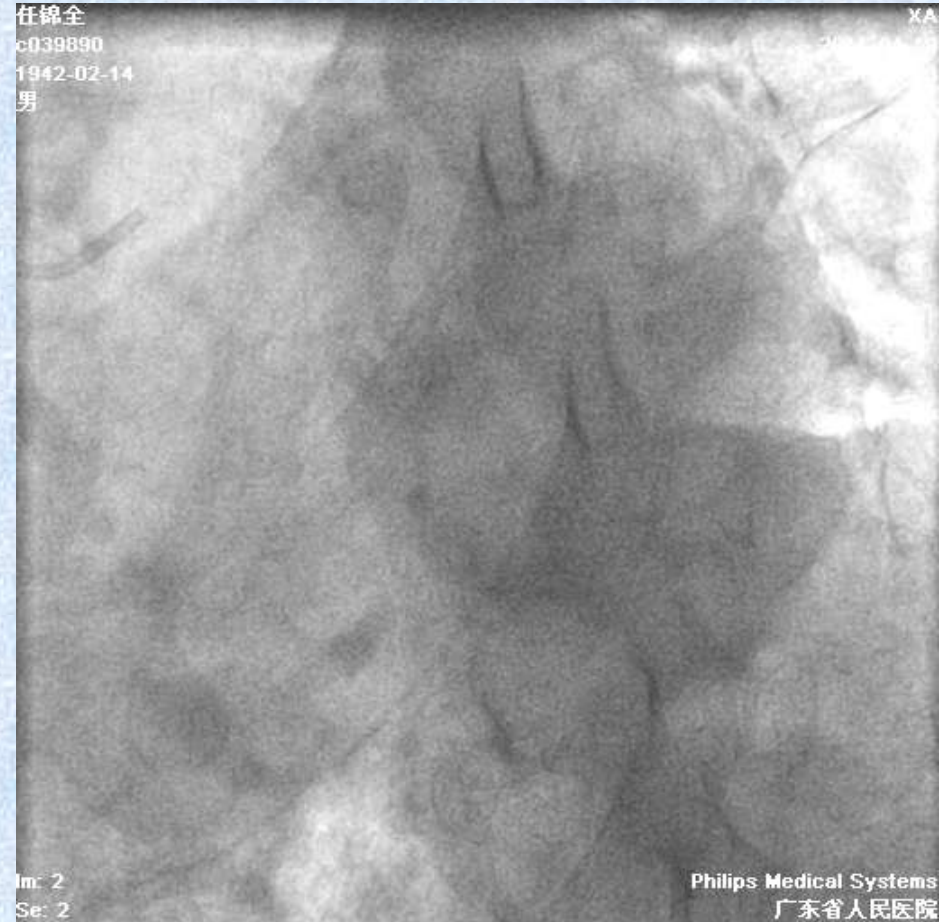
CTO-PCI Successful Rate



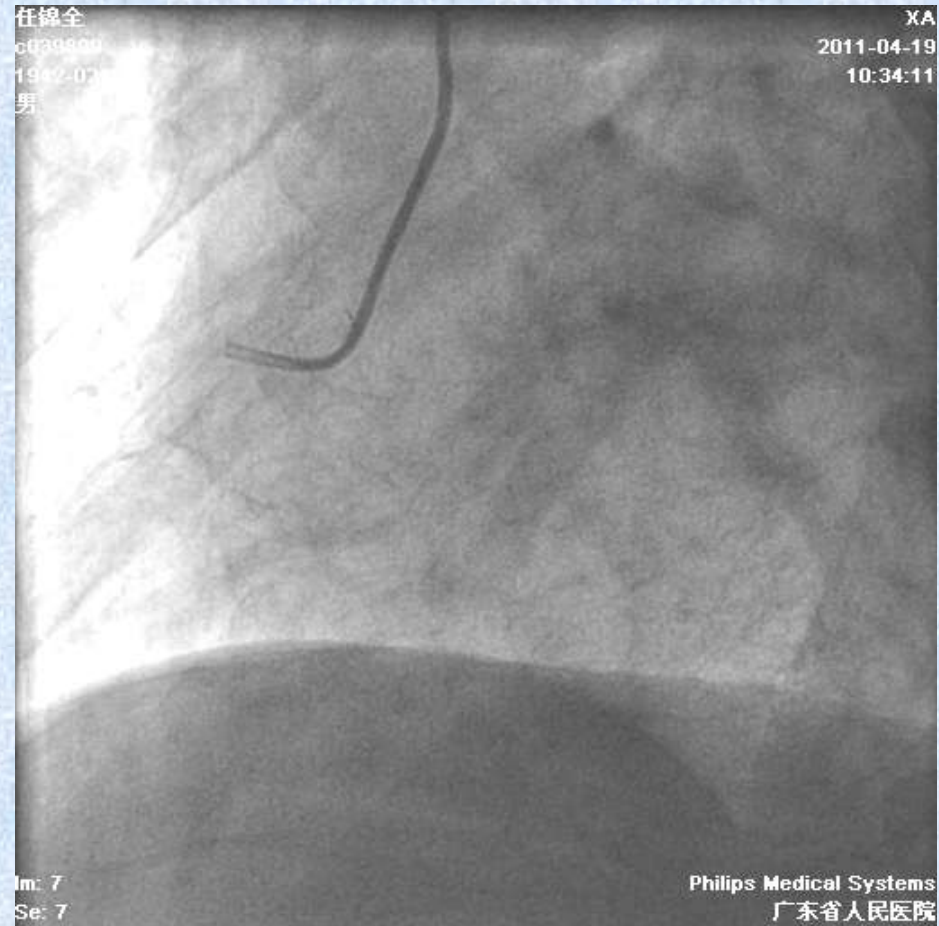
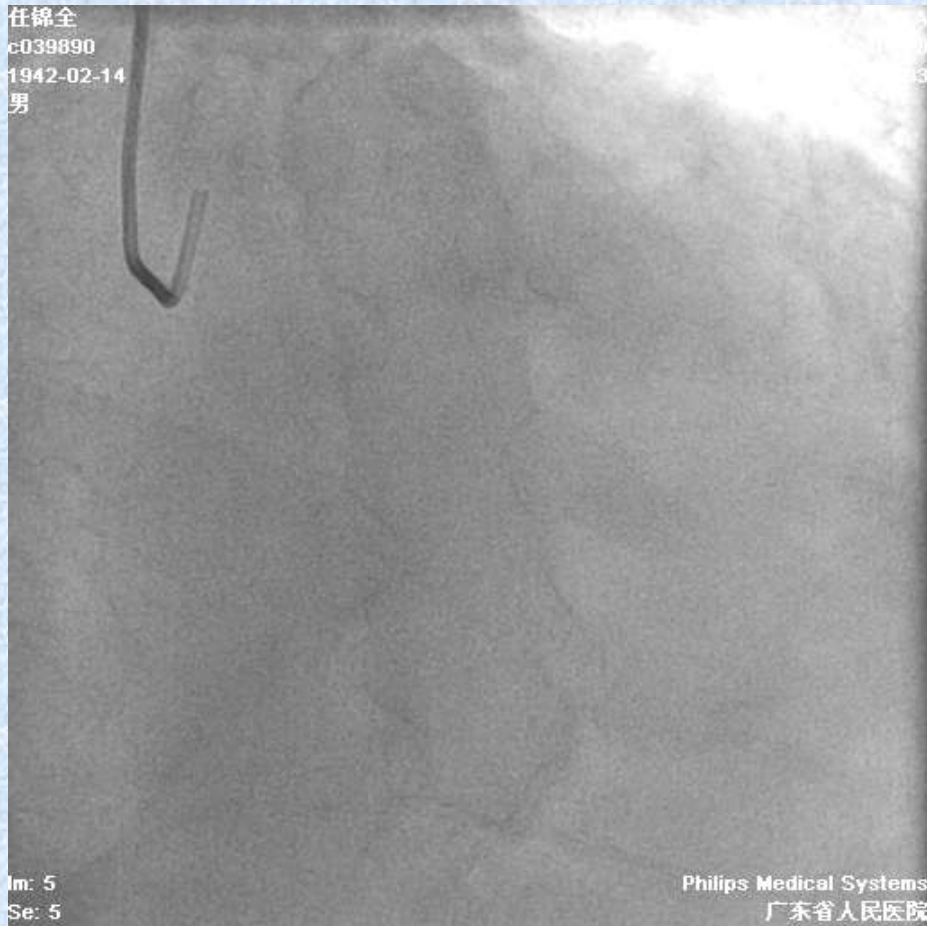
Clinical Presentation

- ✓ A 72-year-old gentleman with exertional chest pain and SOB 15 years.
- ✓ Anterior MI in 2003. Posterior MI in 2006 and 2009
- ✓ CADRF: DM; Hypertension; ex-Smoker.
- ✓ Other medical history: COPD
- ✓ Echocardiogram: LVDd: 65mm, LVDs: 56mm; LVEF: 33%
- ✓ He was first admitted in my hospital in 2011

Baseline Angiography (2011-4-19)



Baseline Angiography (2011-4-19)

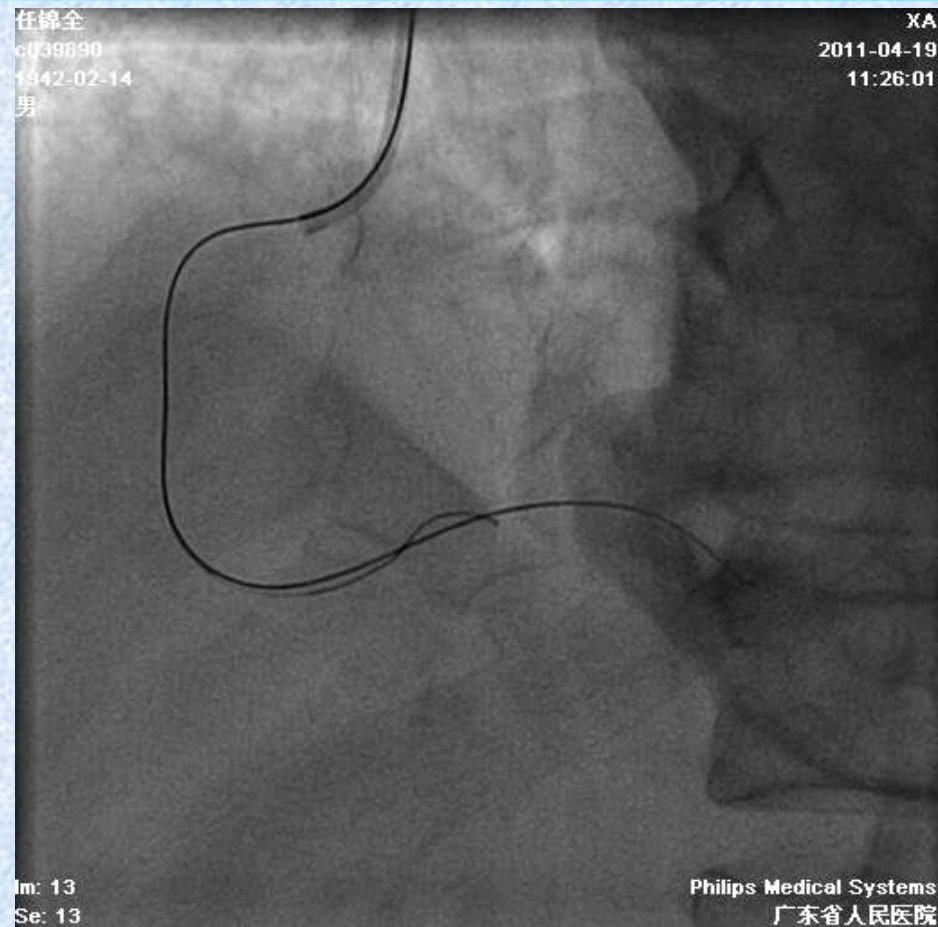
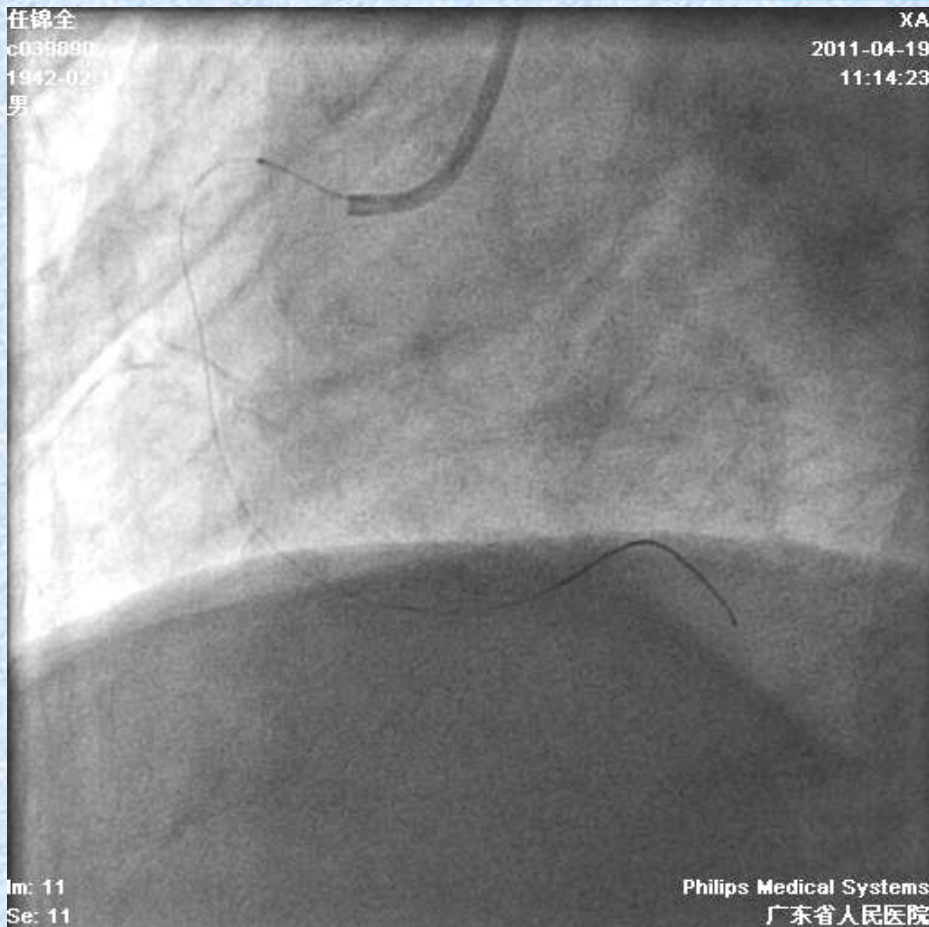


Treatment Strategys

✓ CABG

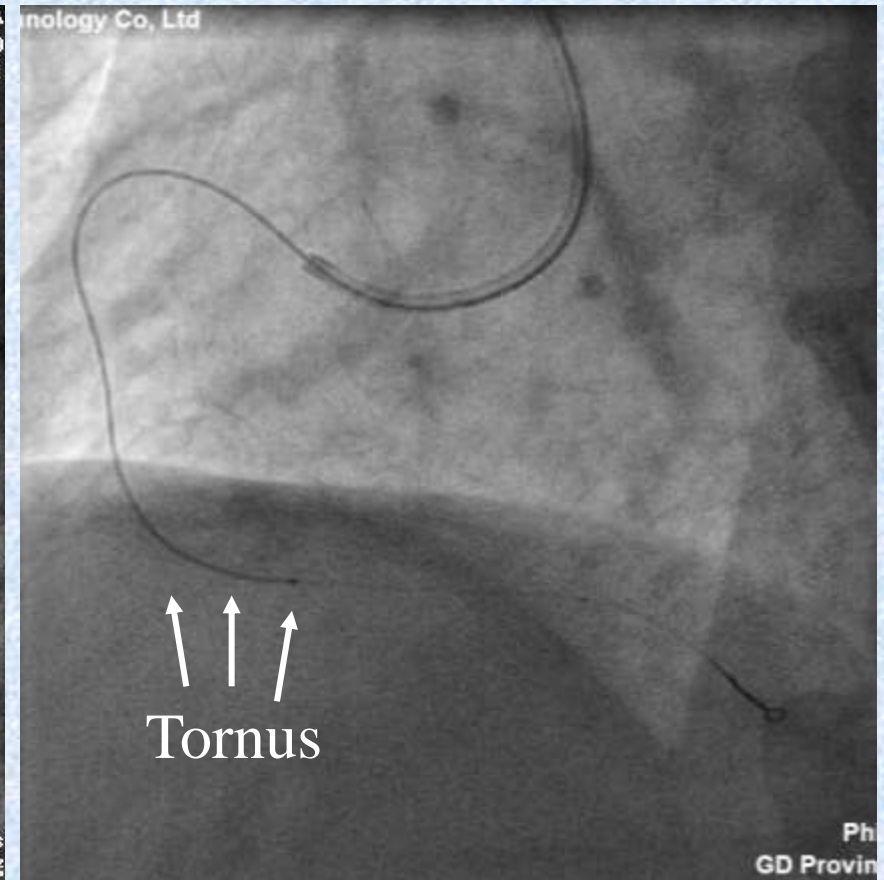
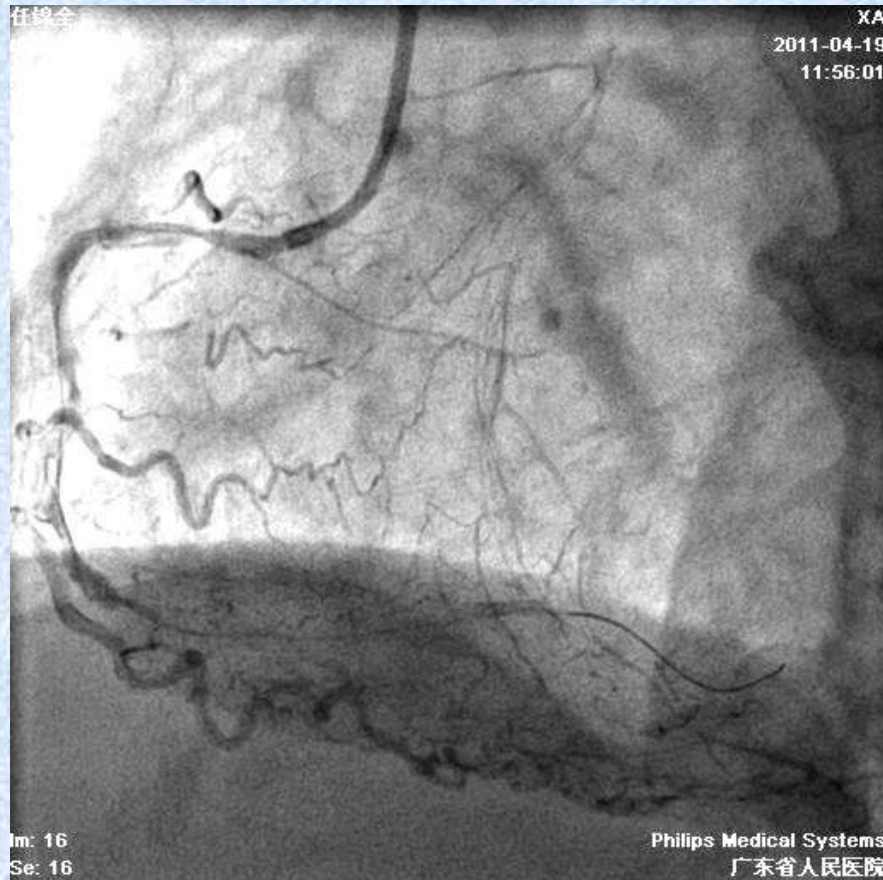
✓ The patient's relative died in 2008 after CABG. He absolutely refused CABG

PCI to RCA (2011-4-19)



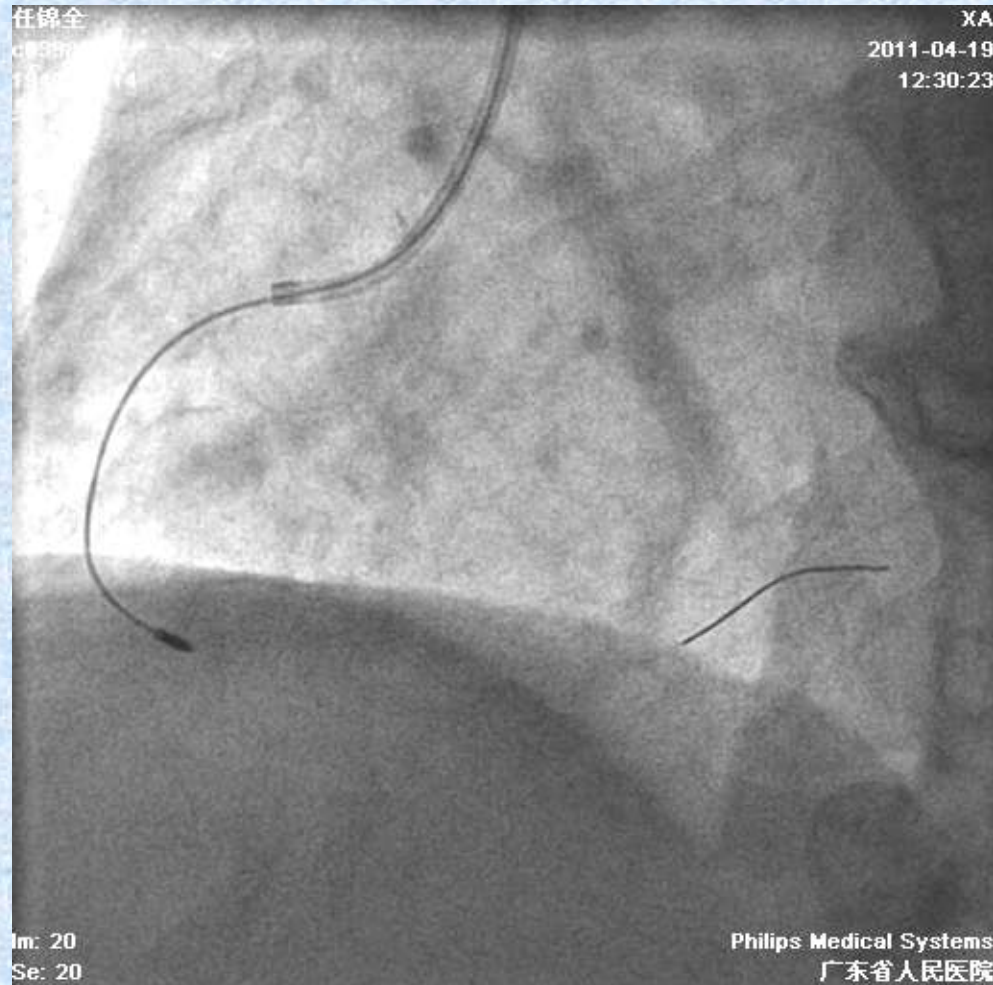
Transradial approach, 6F JR GC, Pilot 150 & Conquest Pro wires

The Smallest Balloon Failed to Cross Lesion



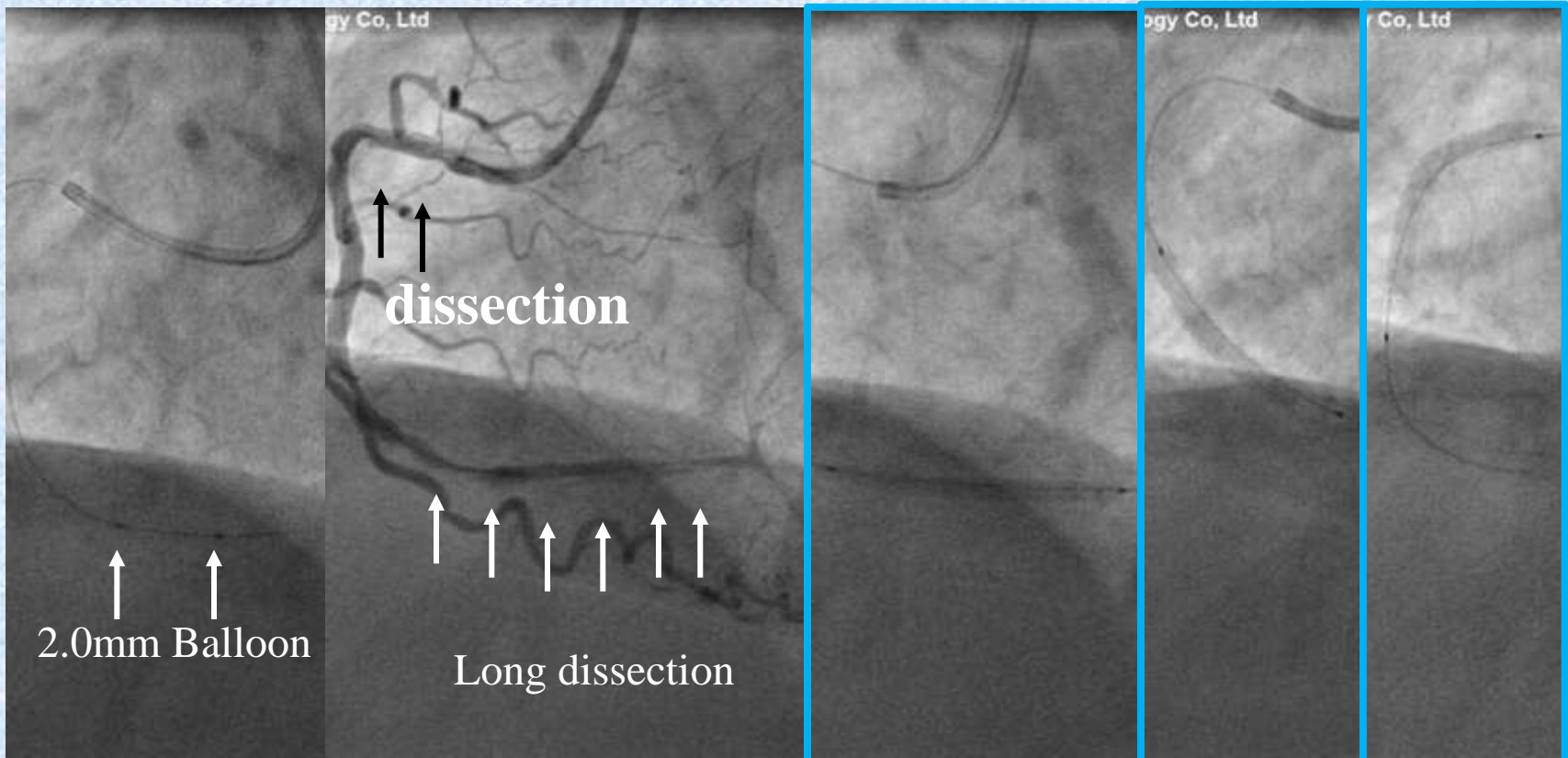
ϕ 1.25mm Ryujin balloon & Tornus were unable to cross CTO

Coronary Rotational Atherectomy



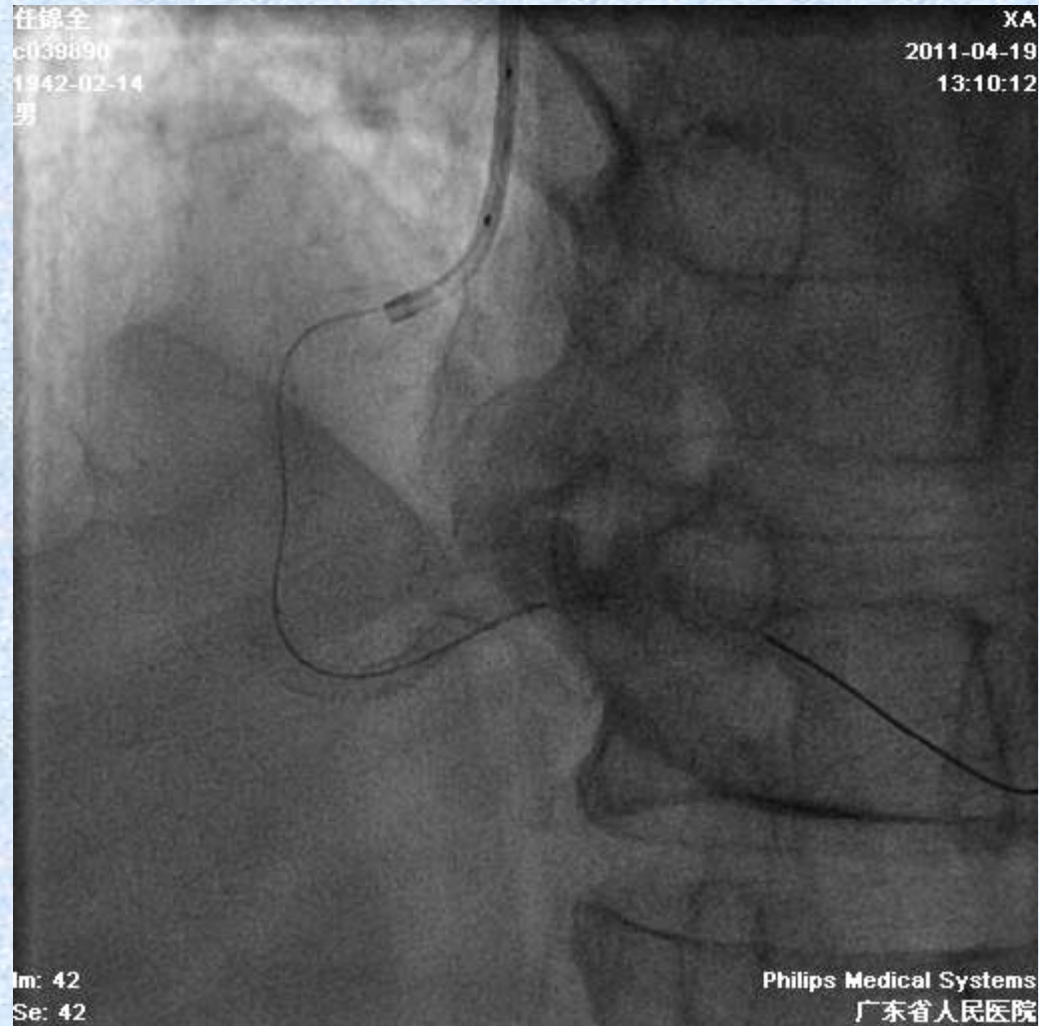
$\phi 1.25\text{mm}$ burr

Stents Implantation

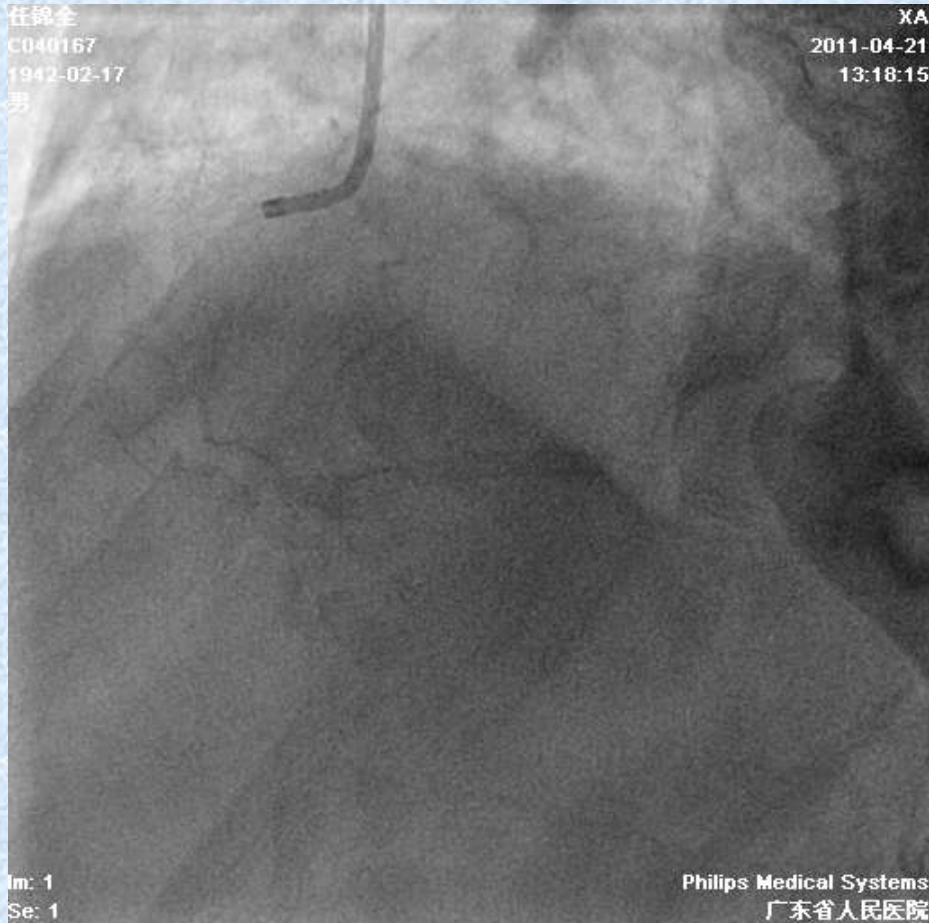


**2.5 × 36, 3.0 × 29, 3.5 × 36mm
Partner™ stents**

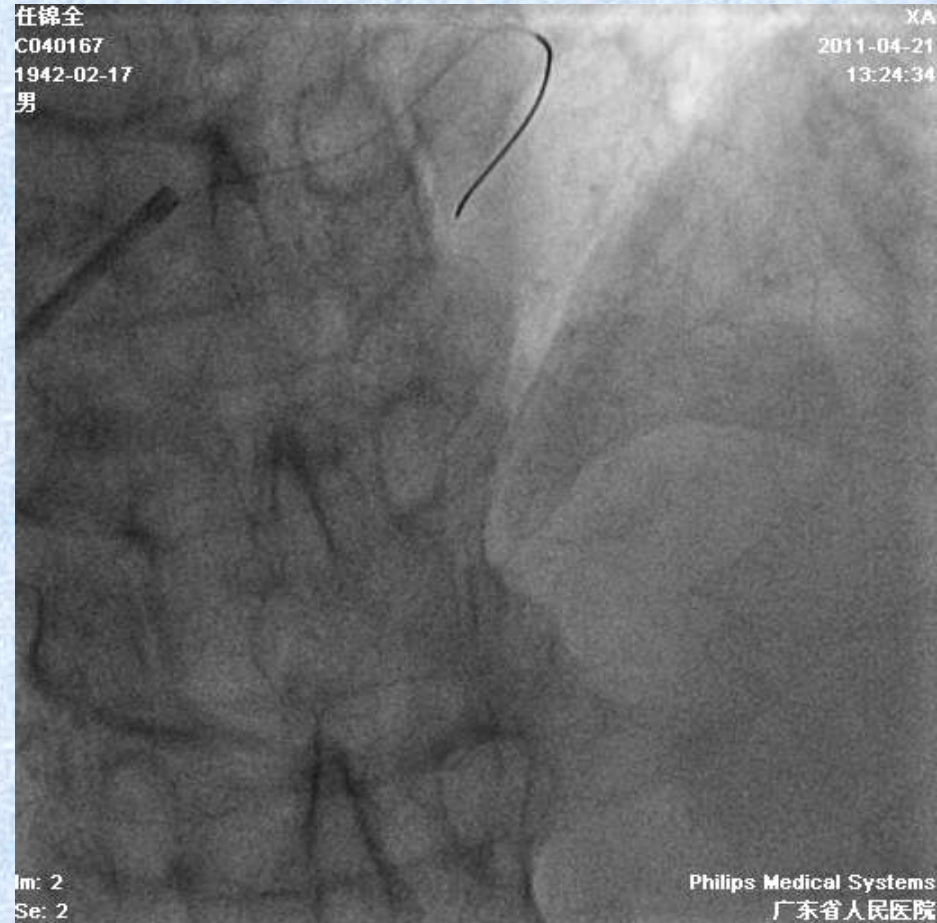
Results of PCI to RCA



PCI to LCA (2011-4-21)

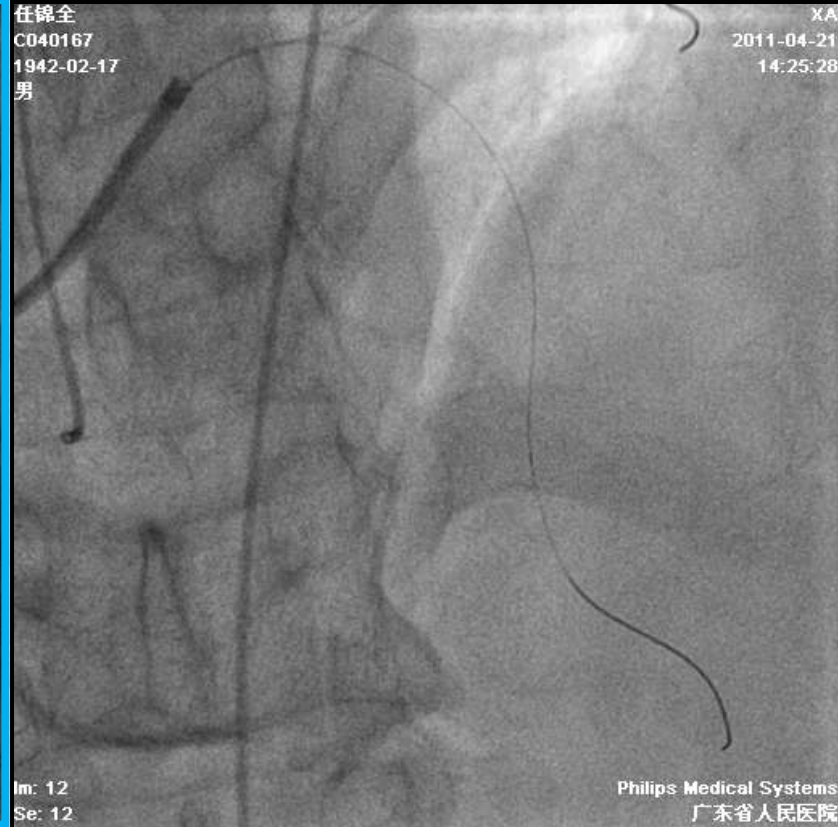
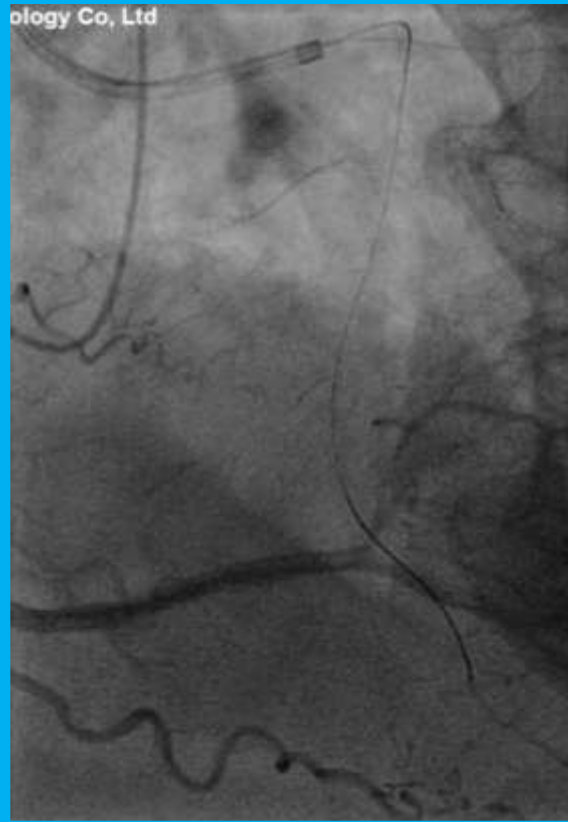
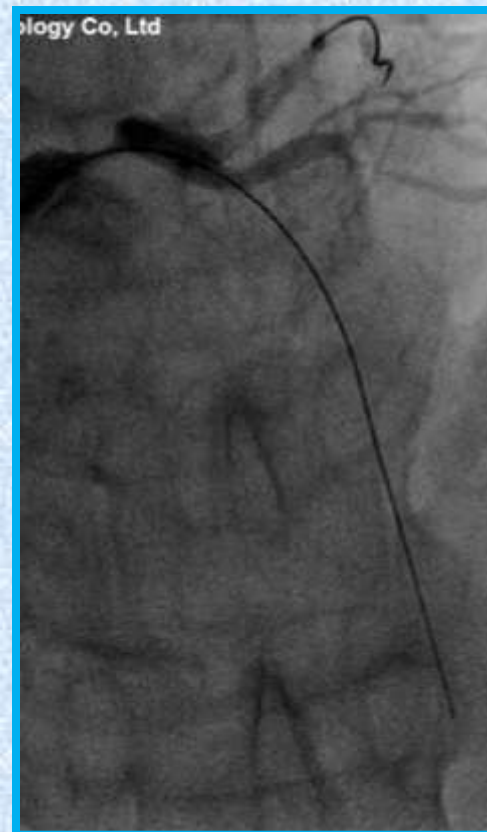


Re-check RCA



Transradial; 6F XB 3.0;
Runthrough in LCX

Successfully Cross CTO of LAD



Congquest Pro



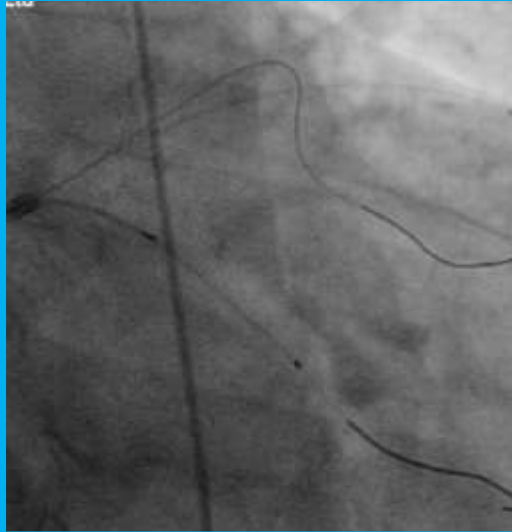
Pilot 150

**Contralateral
angiography**

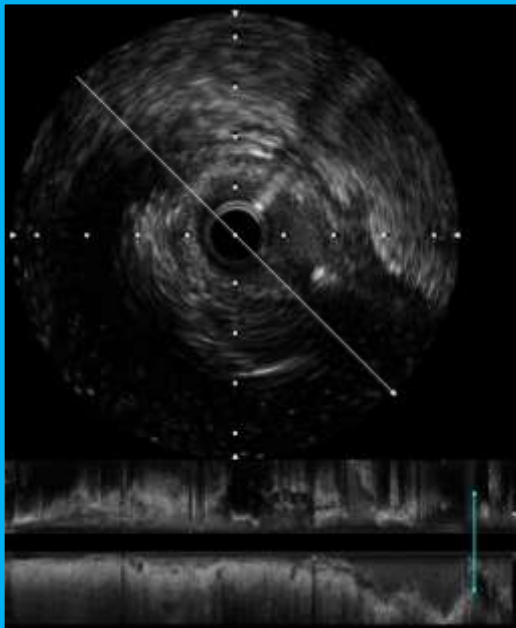
**After 2.5mm balloon
dilatation**

PCI to LAD

IVUS in LAD & LCX

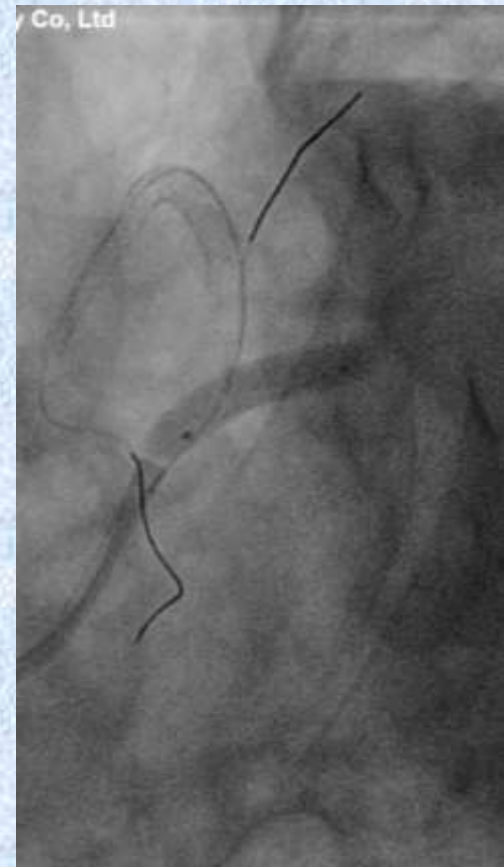
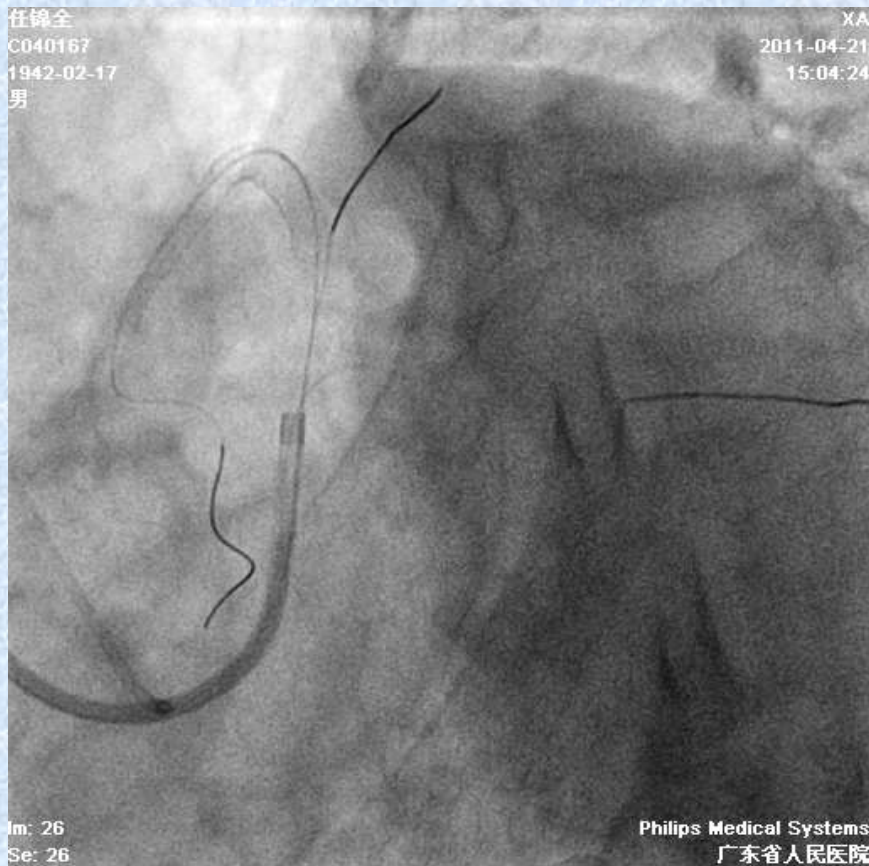


3.5 × 28mm &
2.5 × 33 mm
Firebird 2™ stents



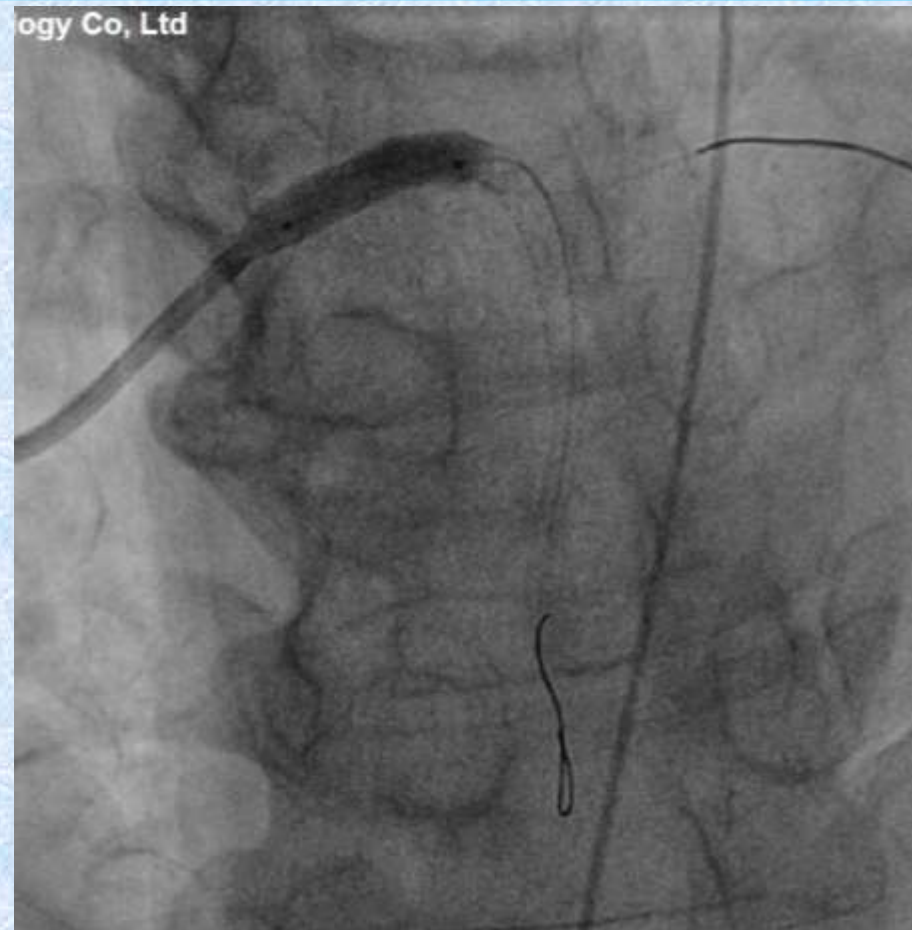
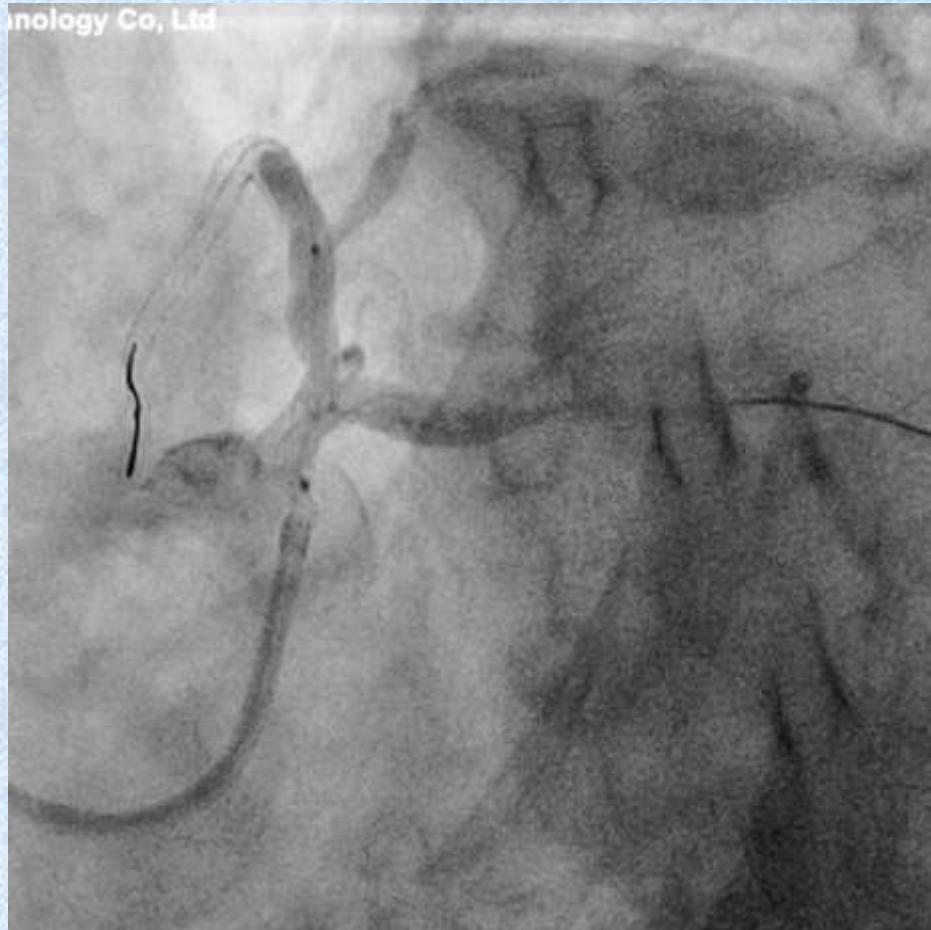
Culotte Stent Technique for LM

-- how to implant stents in a big vessel



Transfemoral; 7F XB 3.5;
4.0 × 18mm Firebird2™ stent

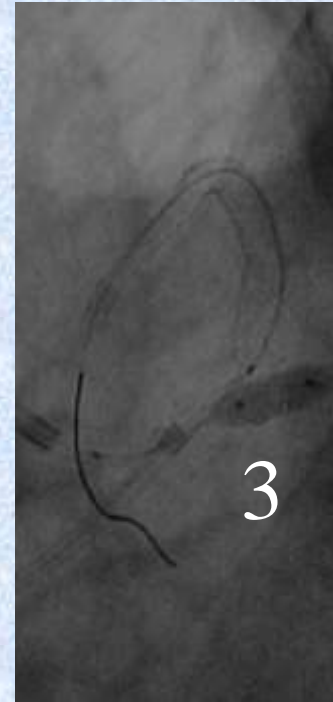
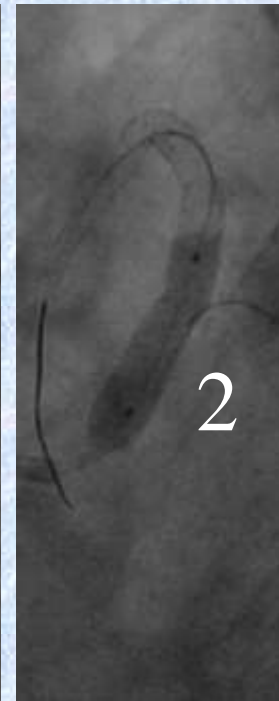
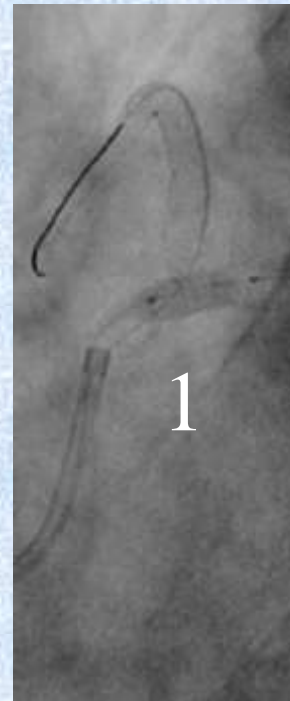
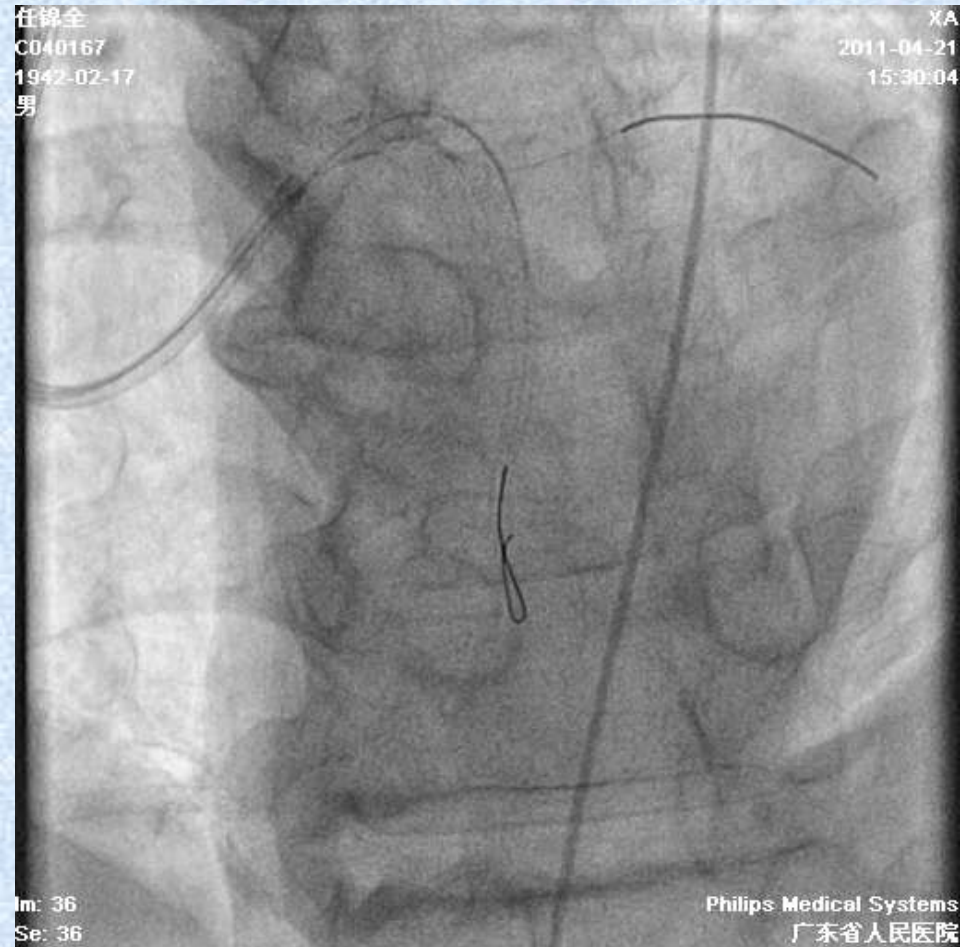
Deployment of Stents in LM



4.0 × 23mm Firebird 2™ stent

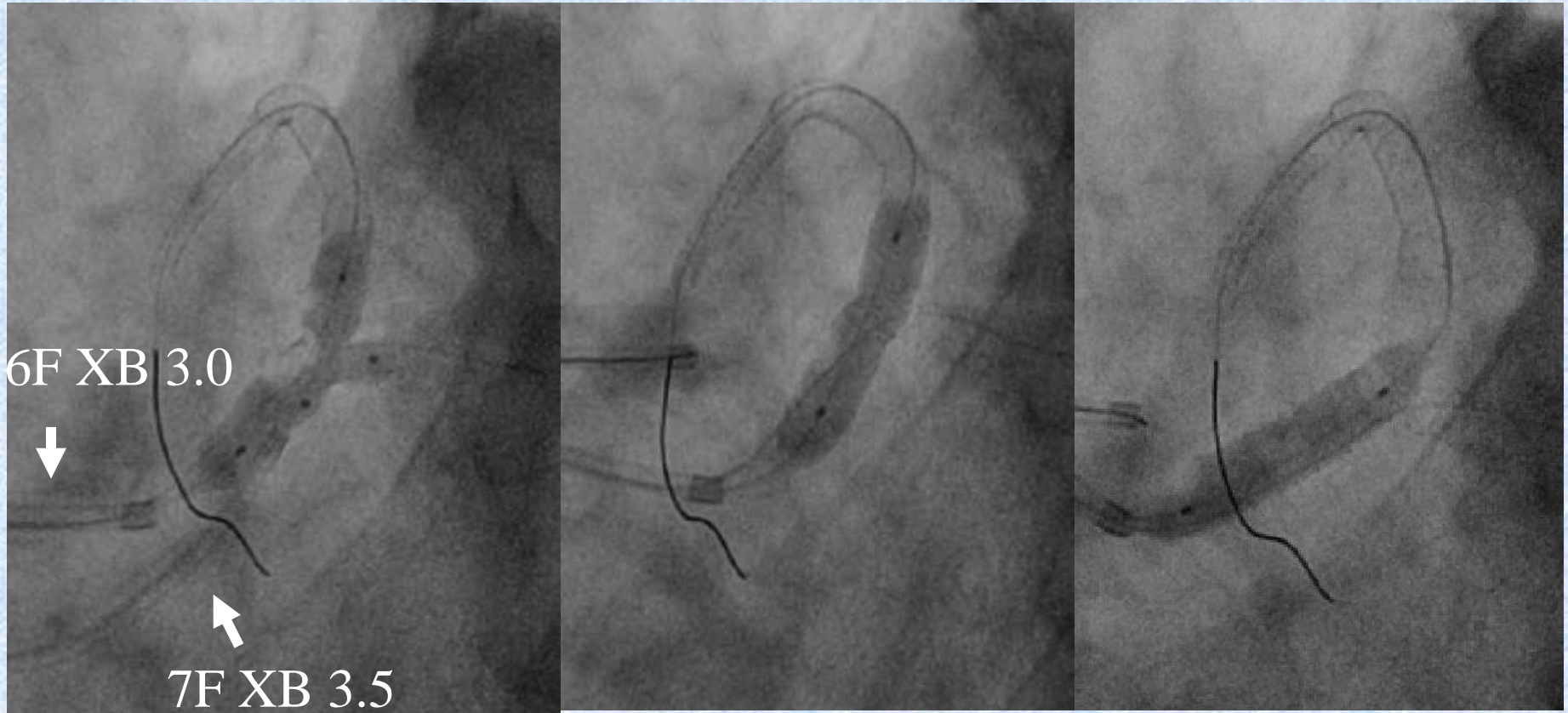
Post-dilatation in LM

---What size balloon should we use?



1. $3.5 \times 8\text{mm}$ NC balloon
2. $6.0 \times 20\text{mm}$ balloon Aviator
3. $4.0 \times 12\text{mm}$ NC balloon

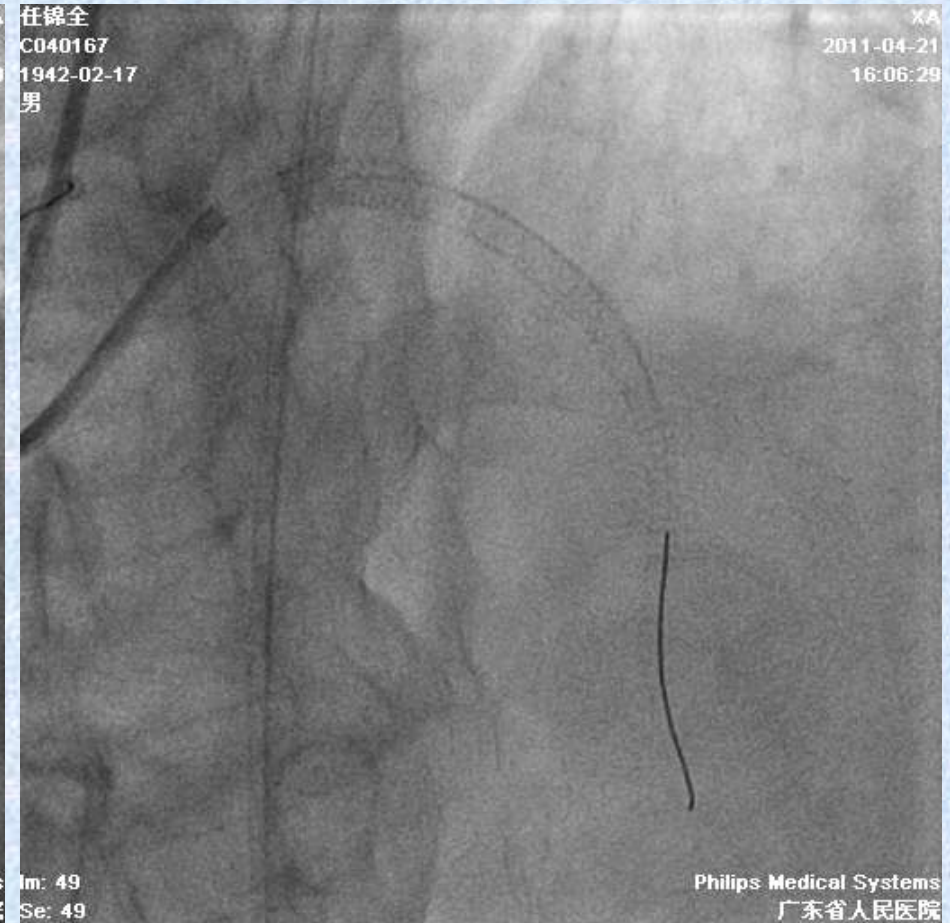
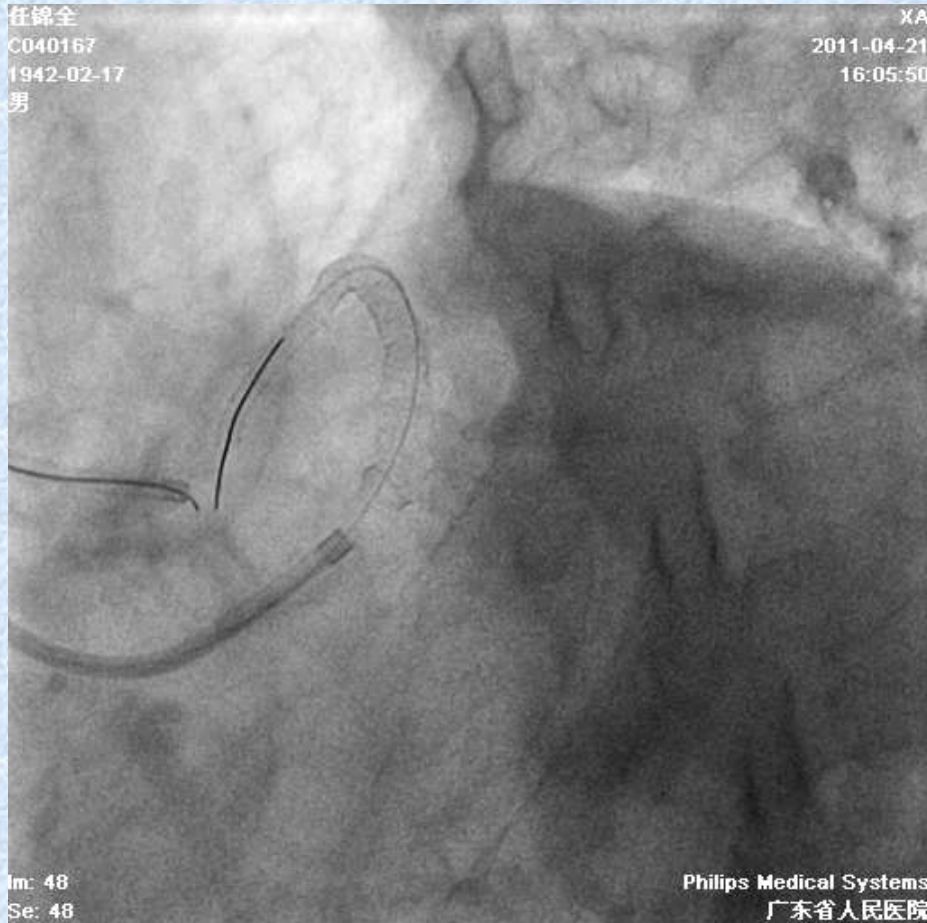
Should I Do Kiss Ballooning



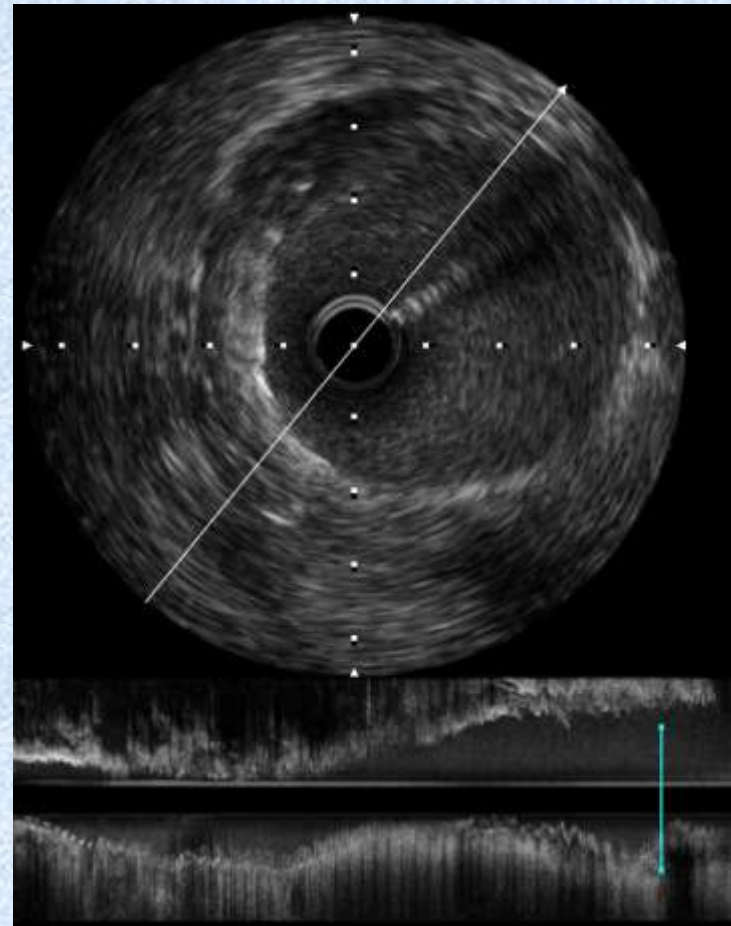
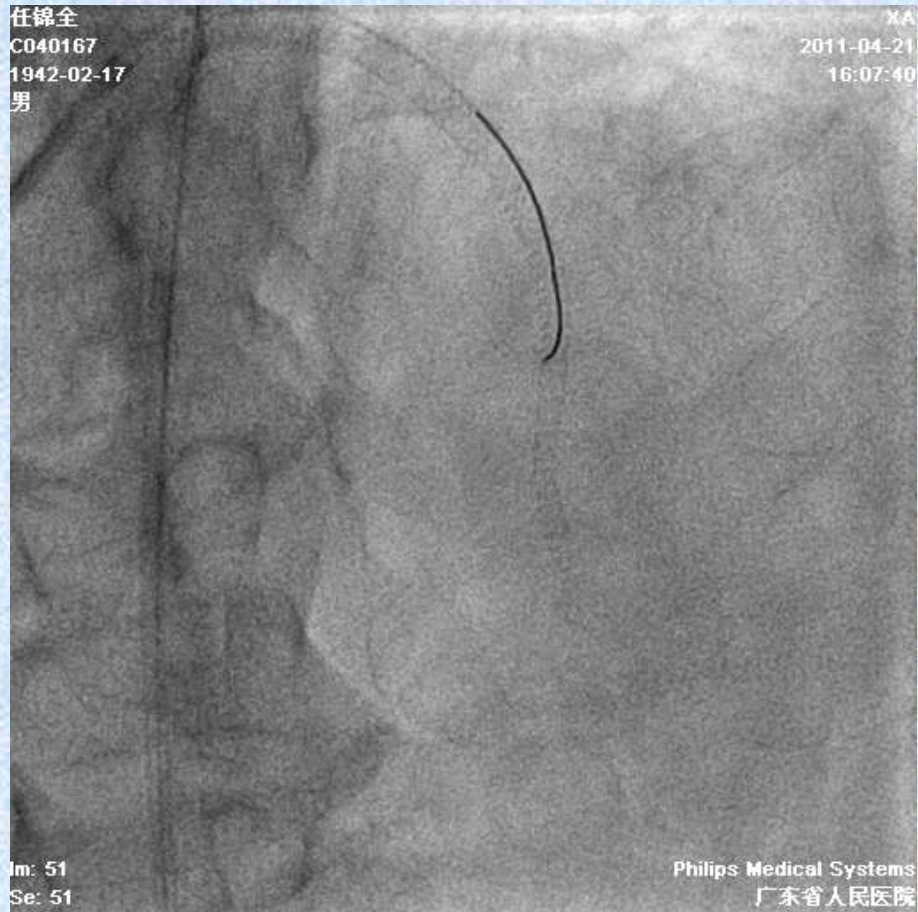
2 Guiding catheters

POT

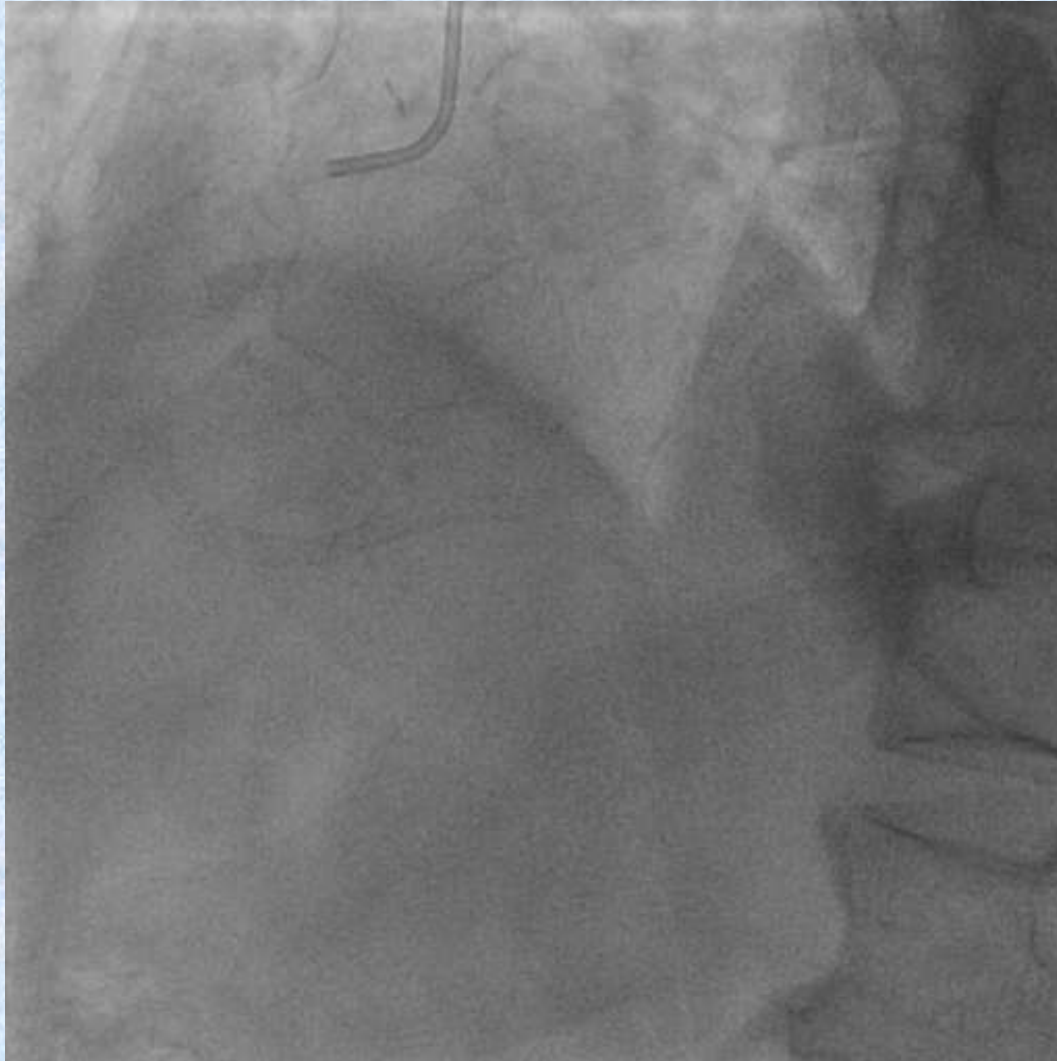
Final Results



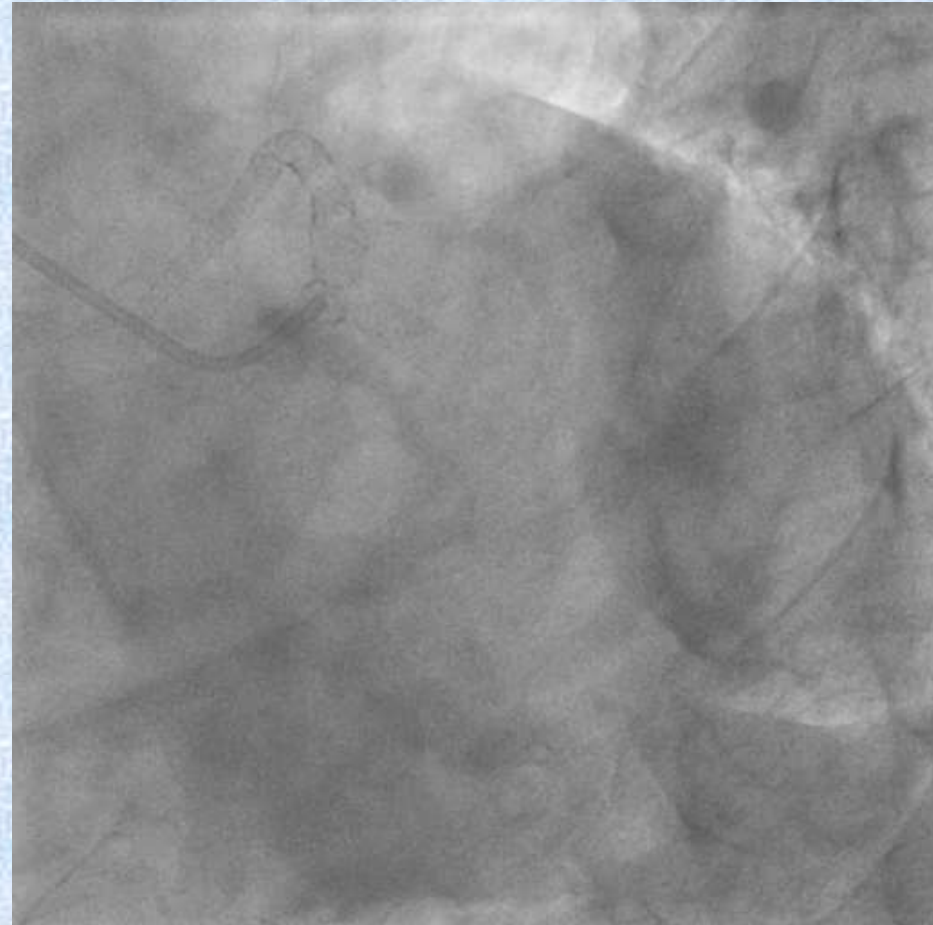
Final Results



One Year Re-check



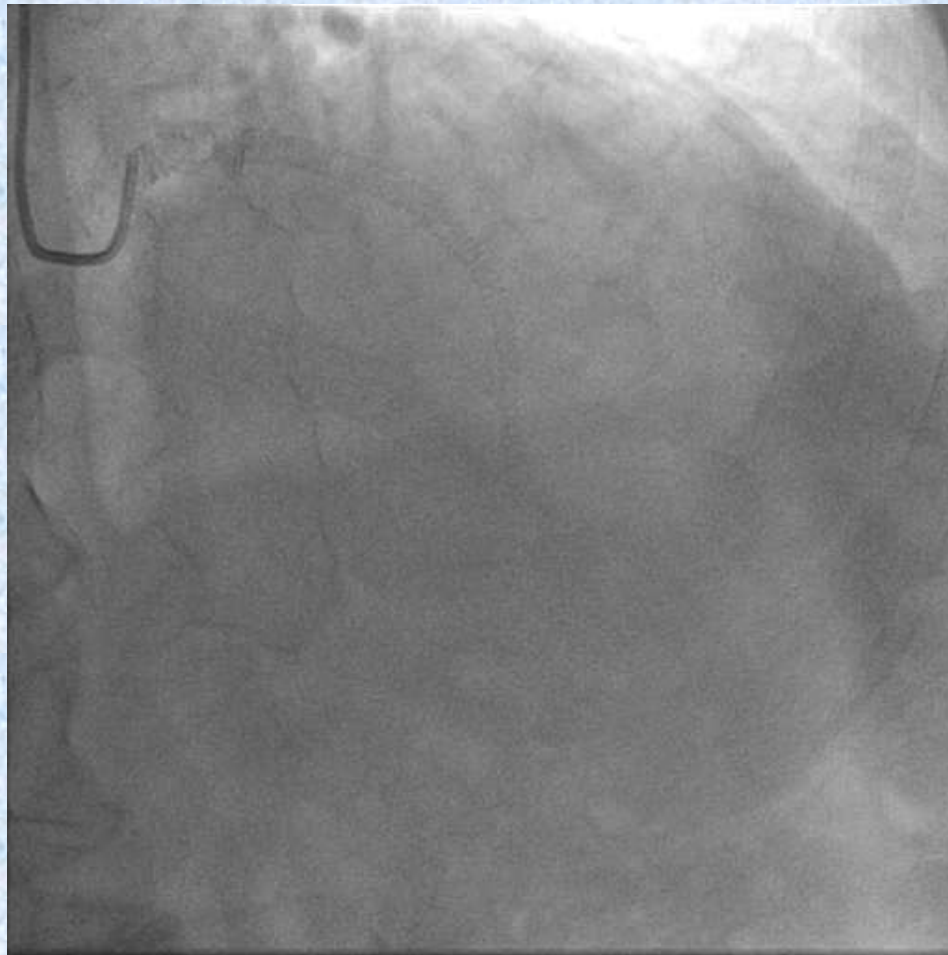
One Year Re-check



Back for SOB 4 years after PCI

- ✓ The Patient was admitted on April 21st 2015 as SOB for 3 months
- ✓ No angina
- ✓ Echocardiogram: LVDd: 71mm, LVDd: 60mm; LVEF: 31%

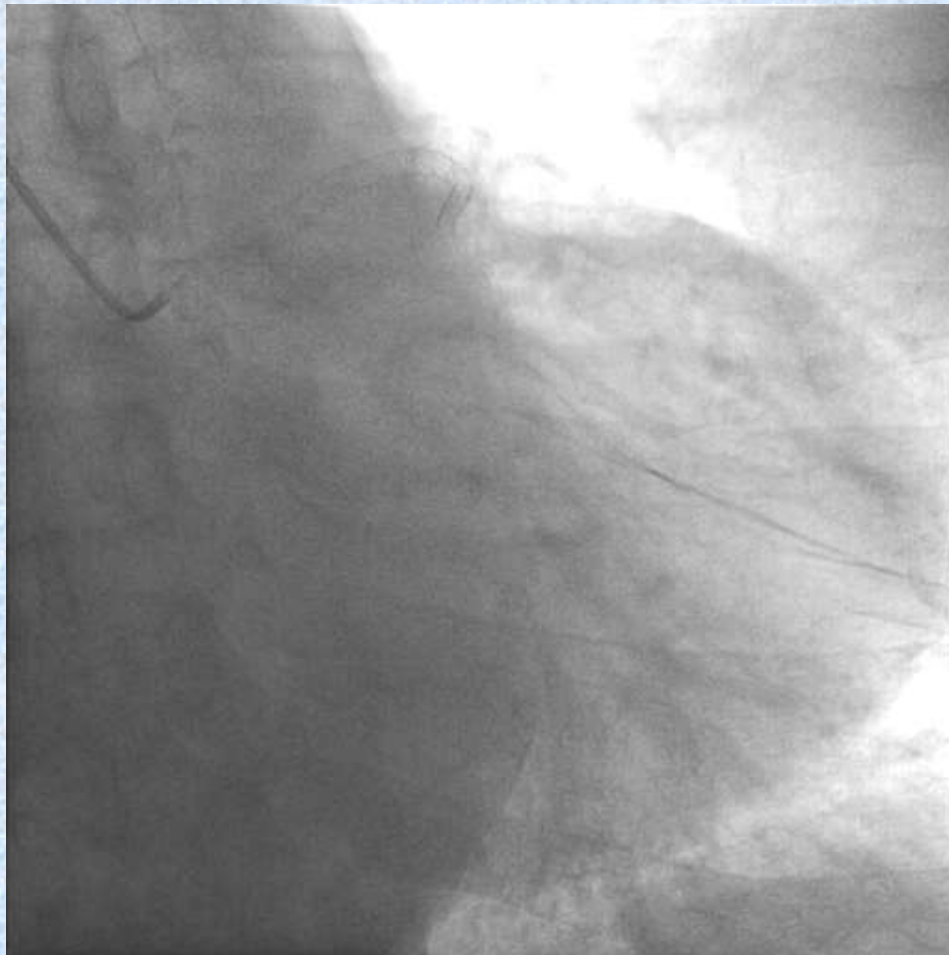
Angiography (2015-4-21)



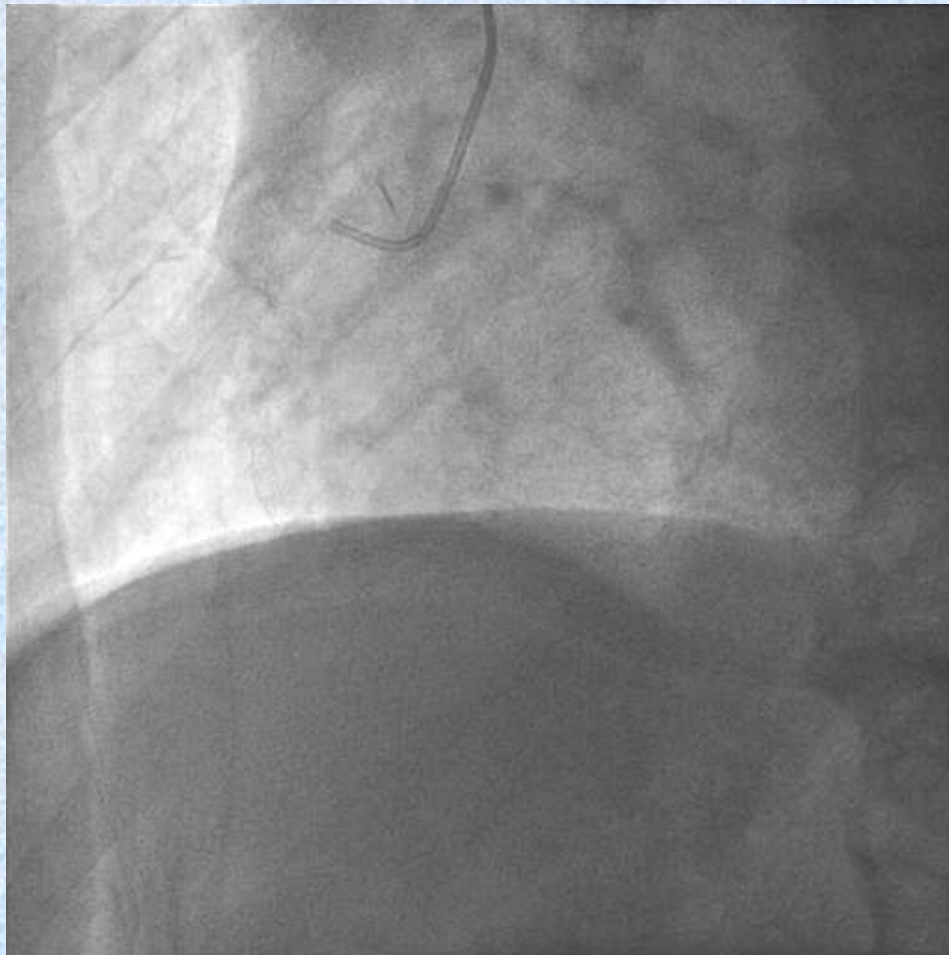
Angiography (2015-4-21)



Angiography (2015-4-21)

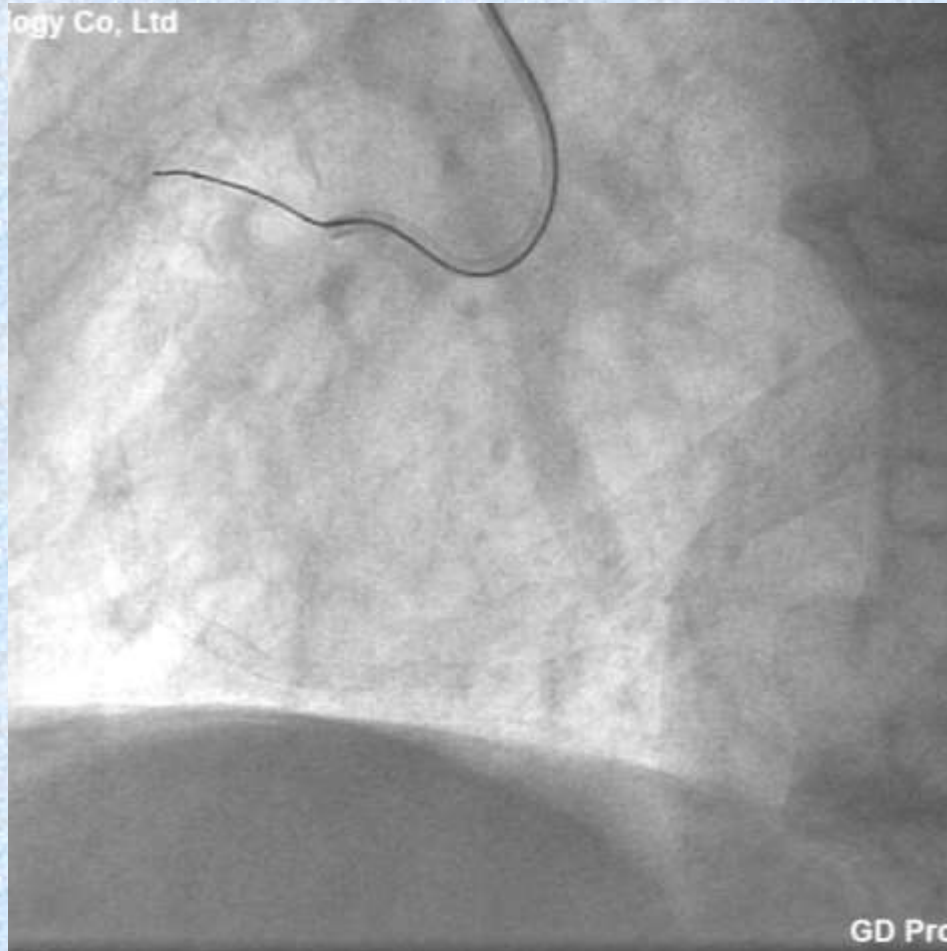


Angiography (2015-4-21)

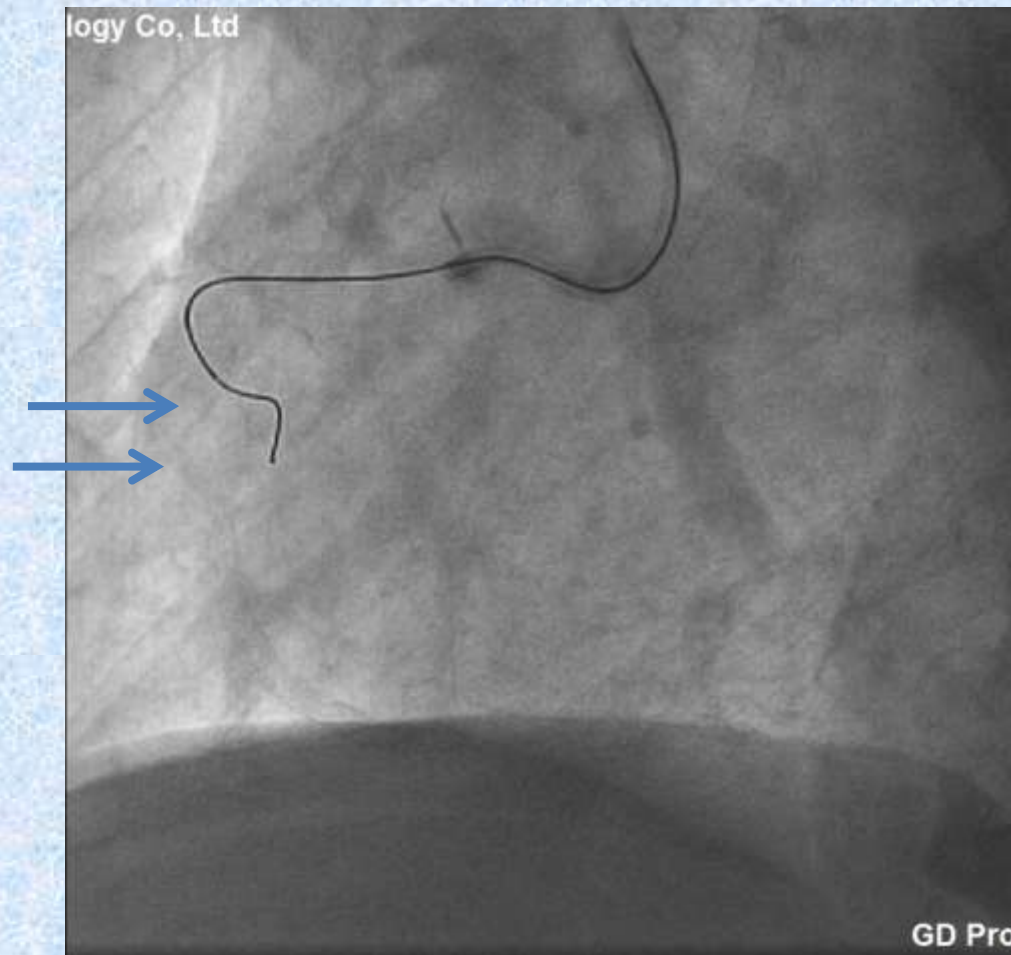


PCI (2015-4-21)

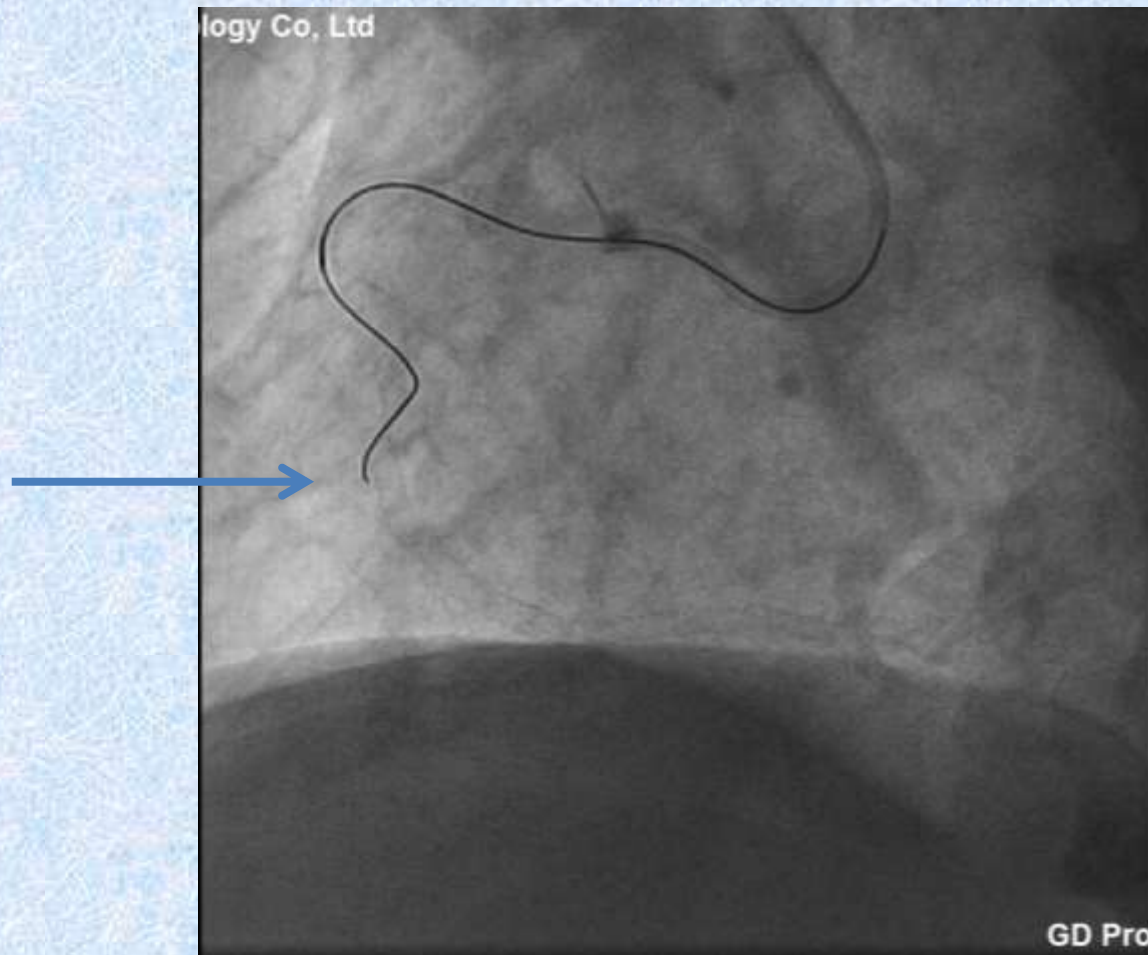
6F AL1.0
Ultermate
Bros 3
Finecross



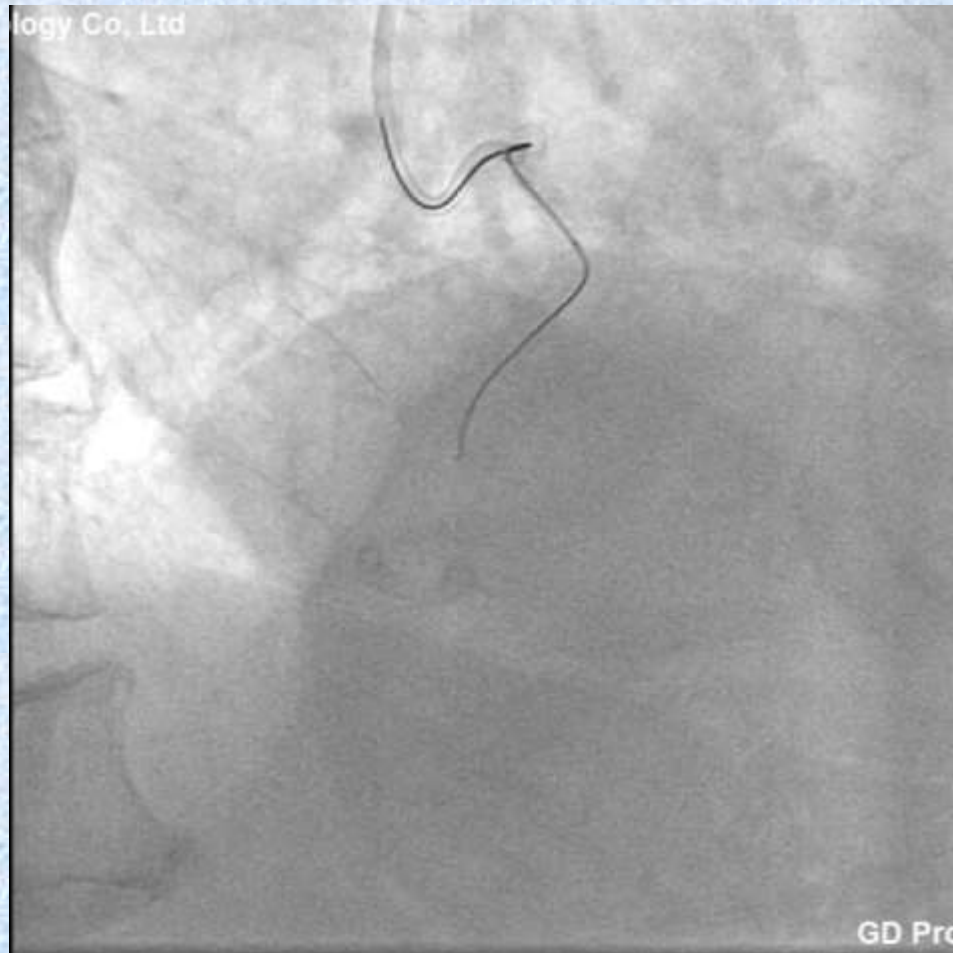
Ante Wire in Subintimal



Ante Wire unable to forward



Ante Wire unable to go into next stent



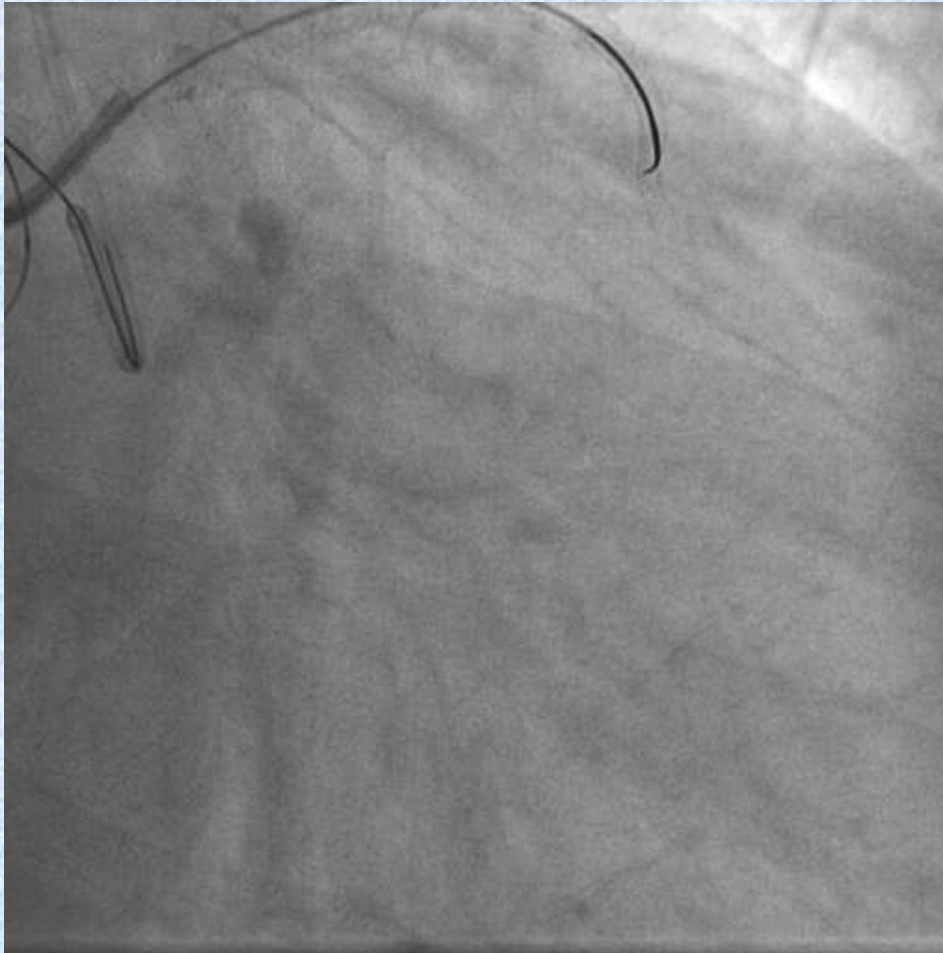
Retrograde PCI

Transfemoral

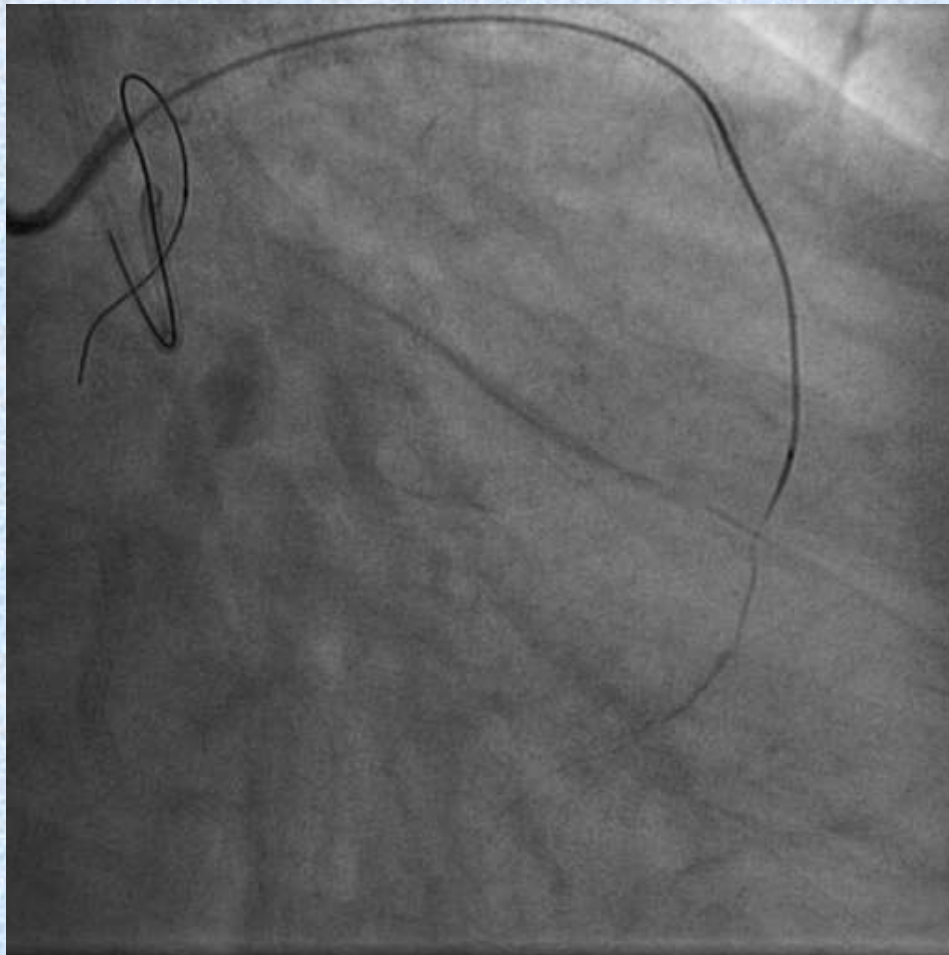
7F XB 3.5

Corsair

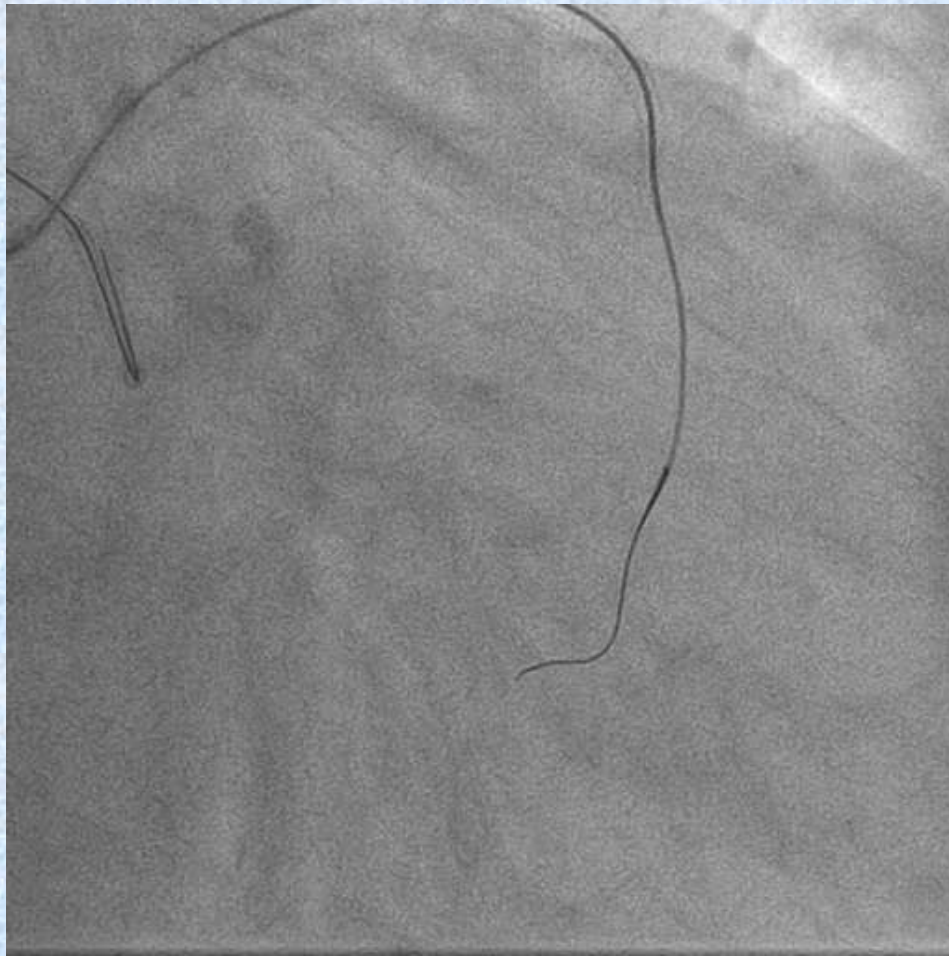
Sion



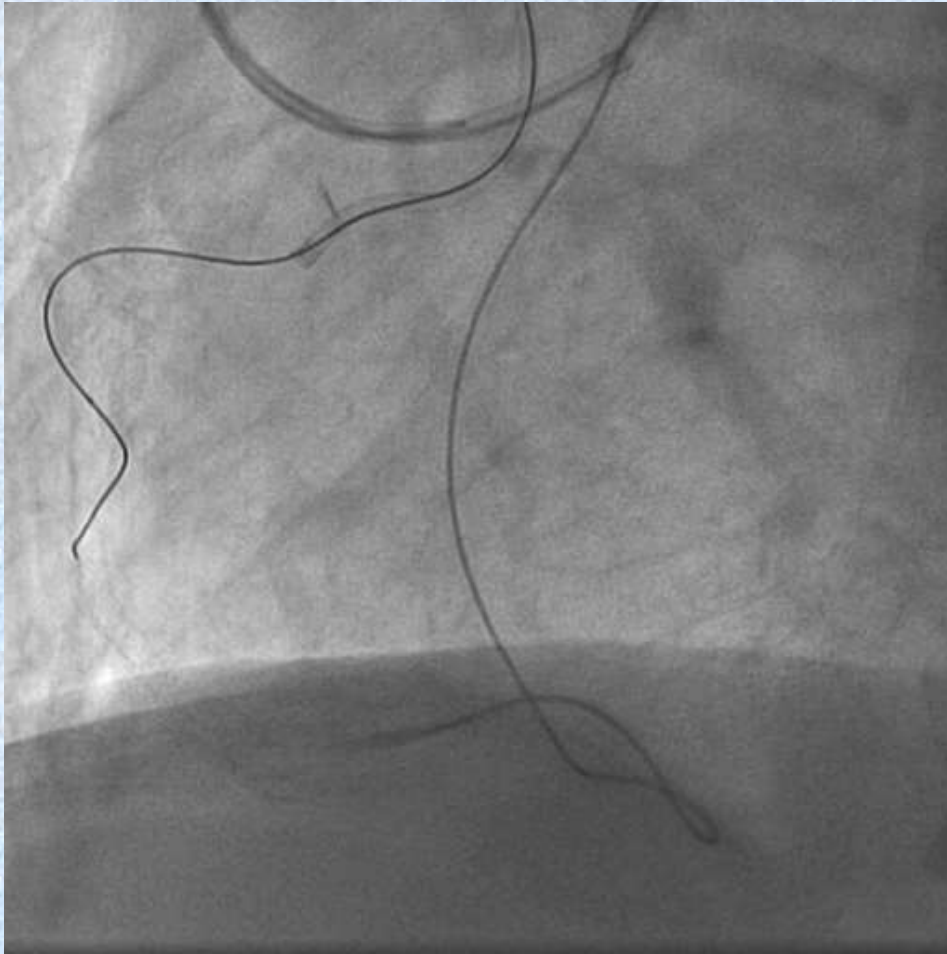
Tip injection



Transseptal

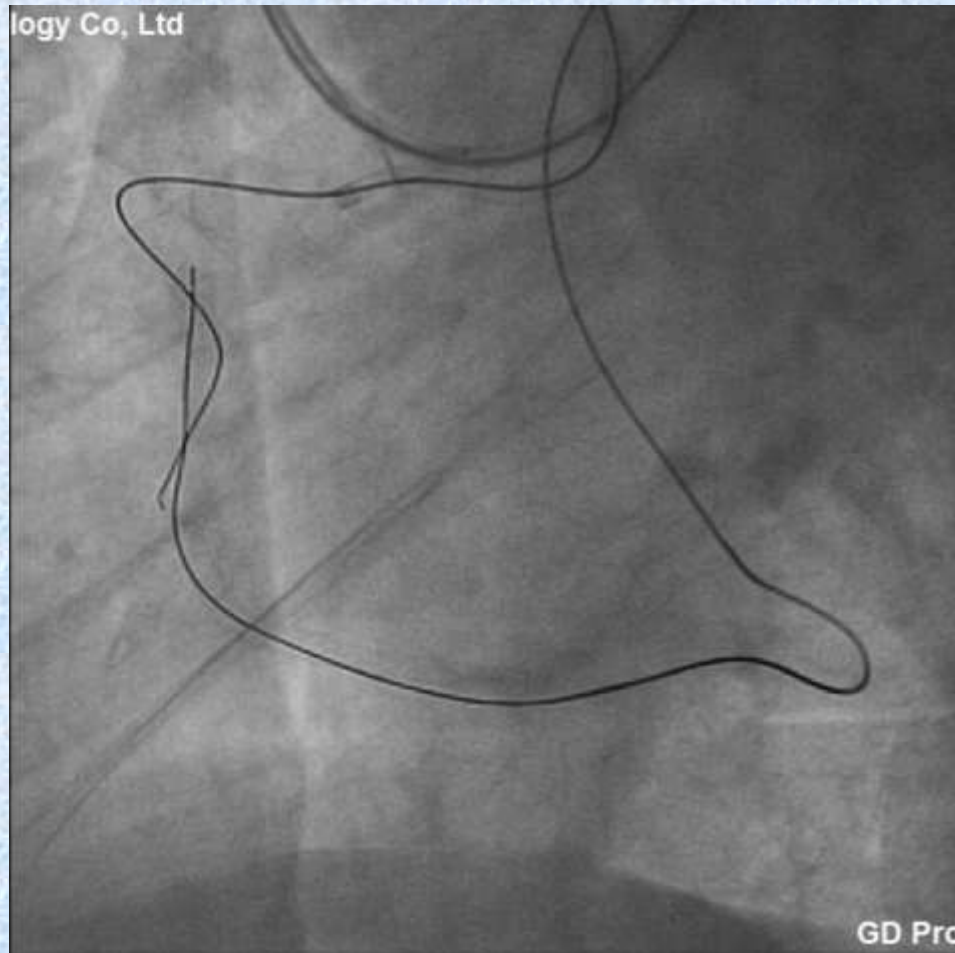


Tip injection to confirm

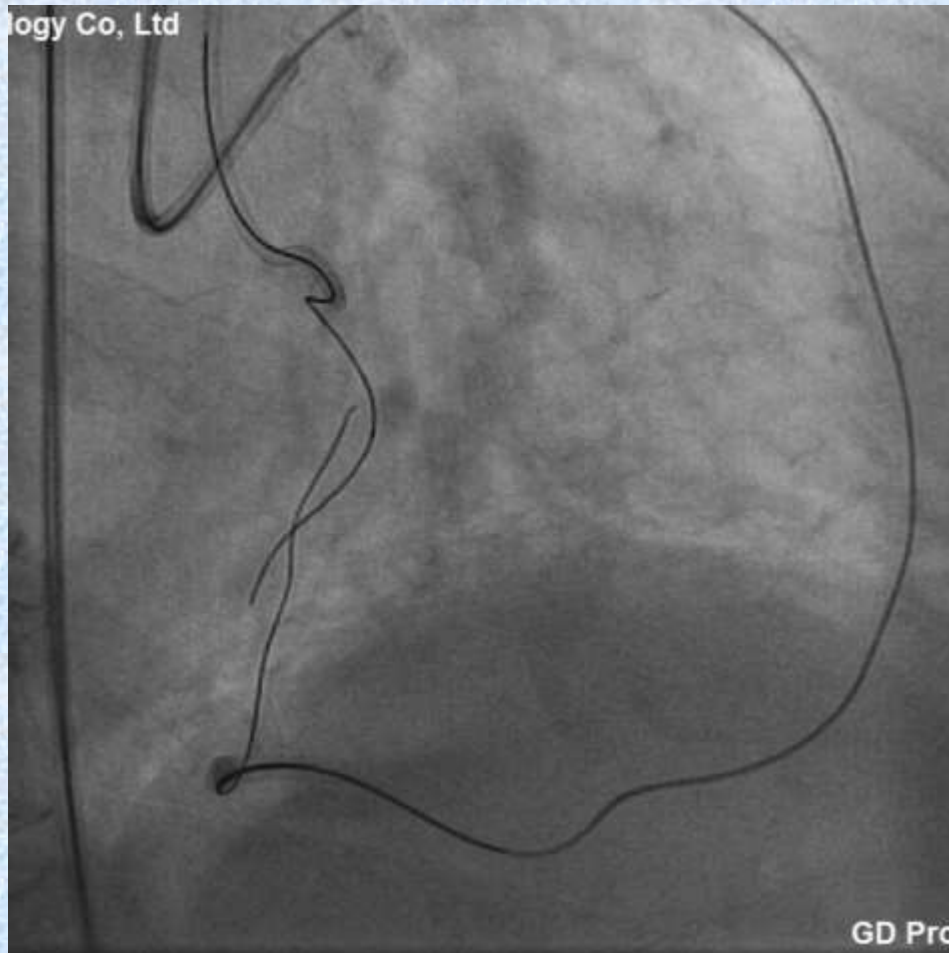


Ante and Retro Unable to Meet

Ultimate
bros 3
Retrograde
wire

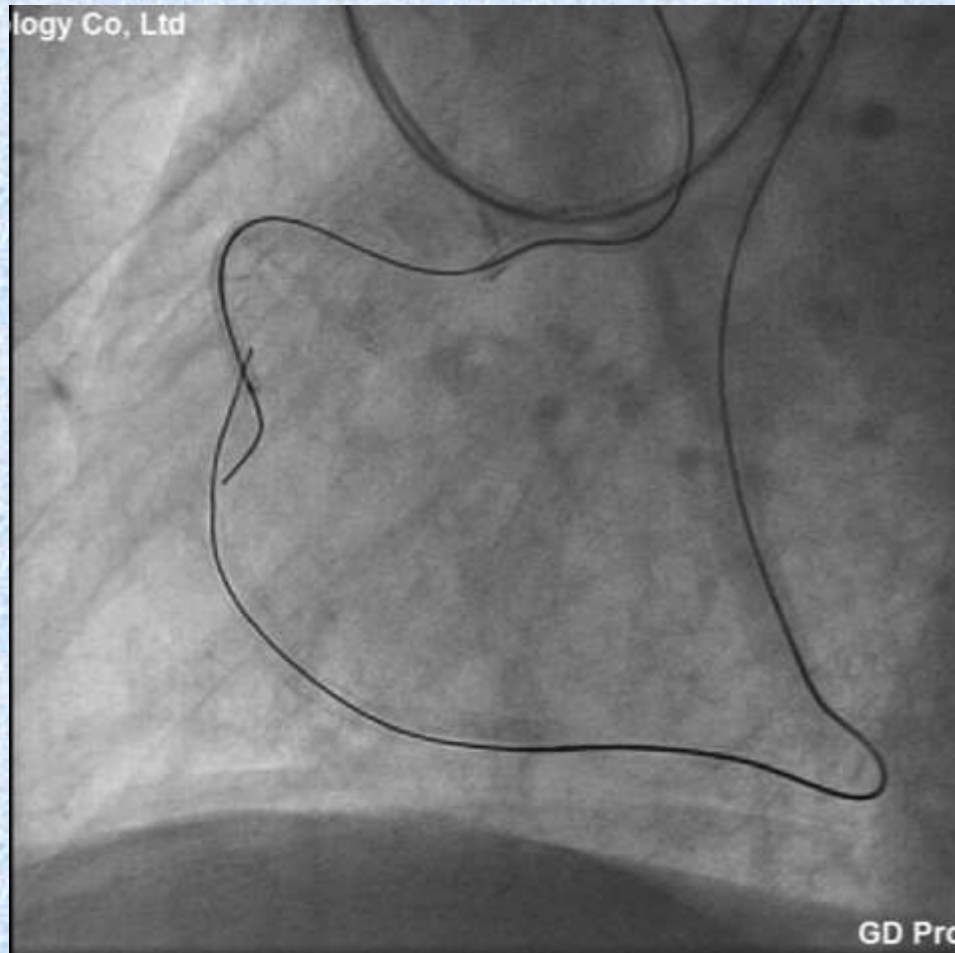


Ante and Retro Unable to Meet

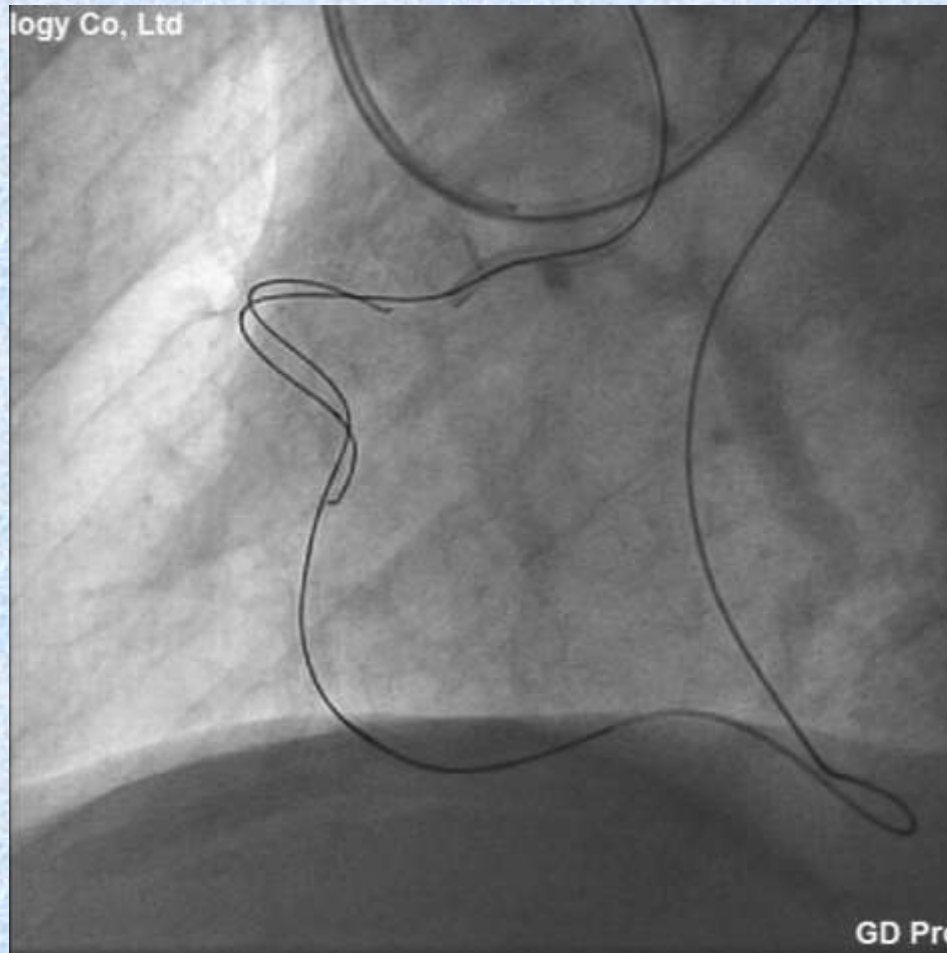


Reverse CART

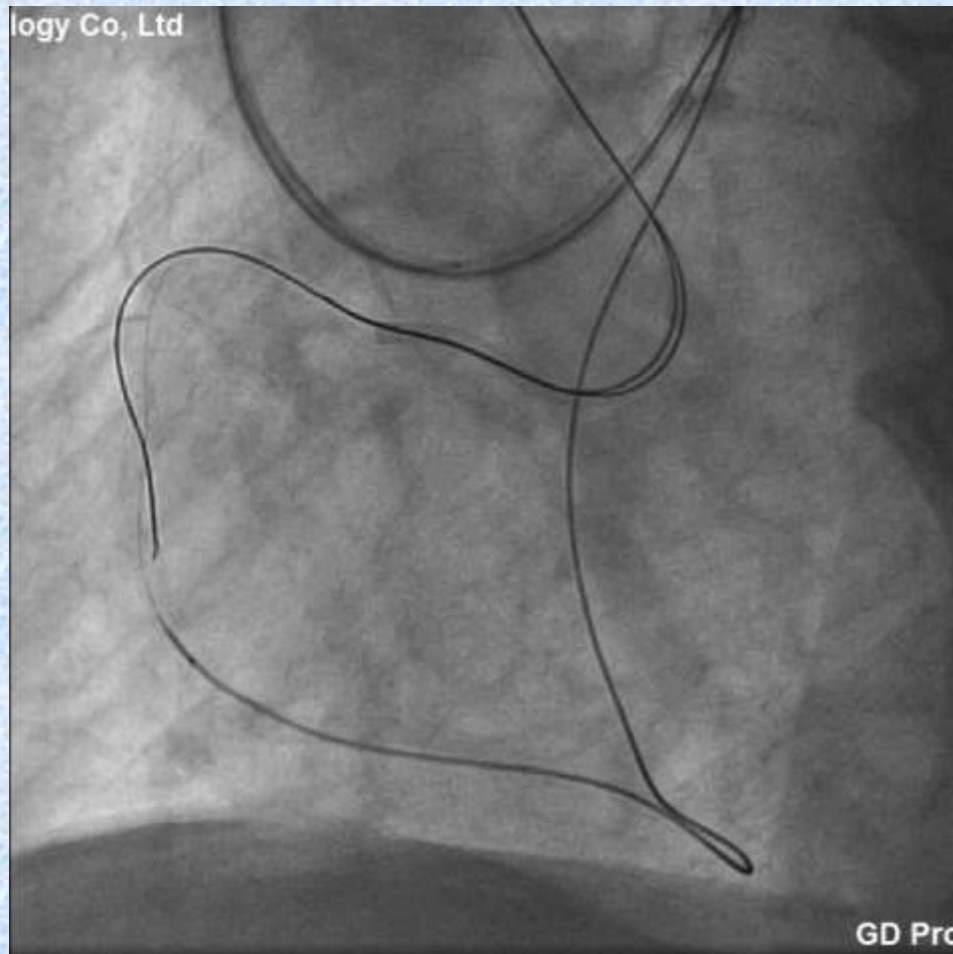
2.0mm Balloon



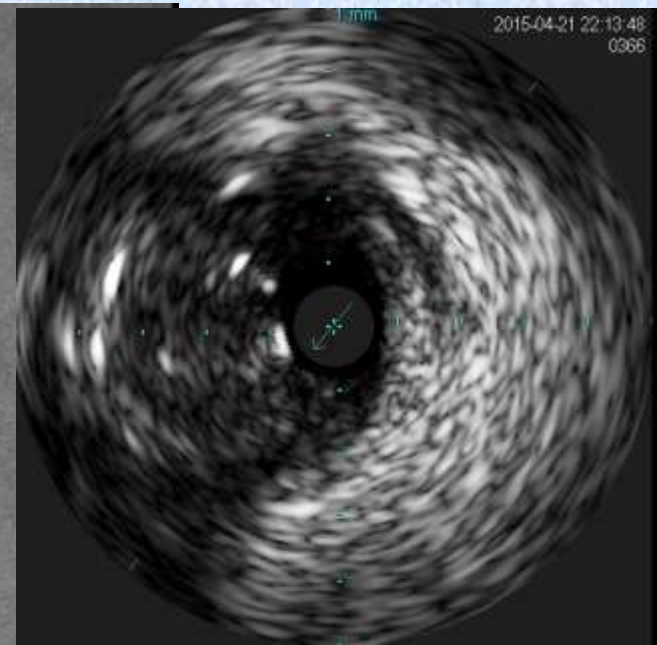
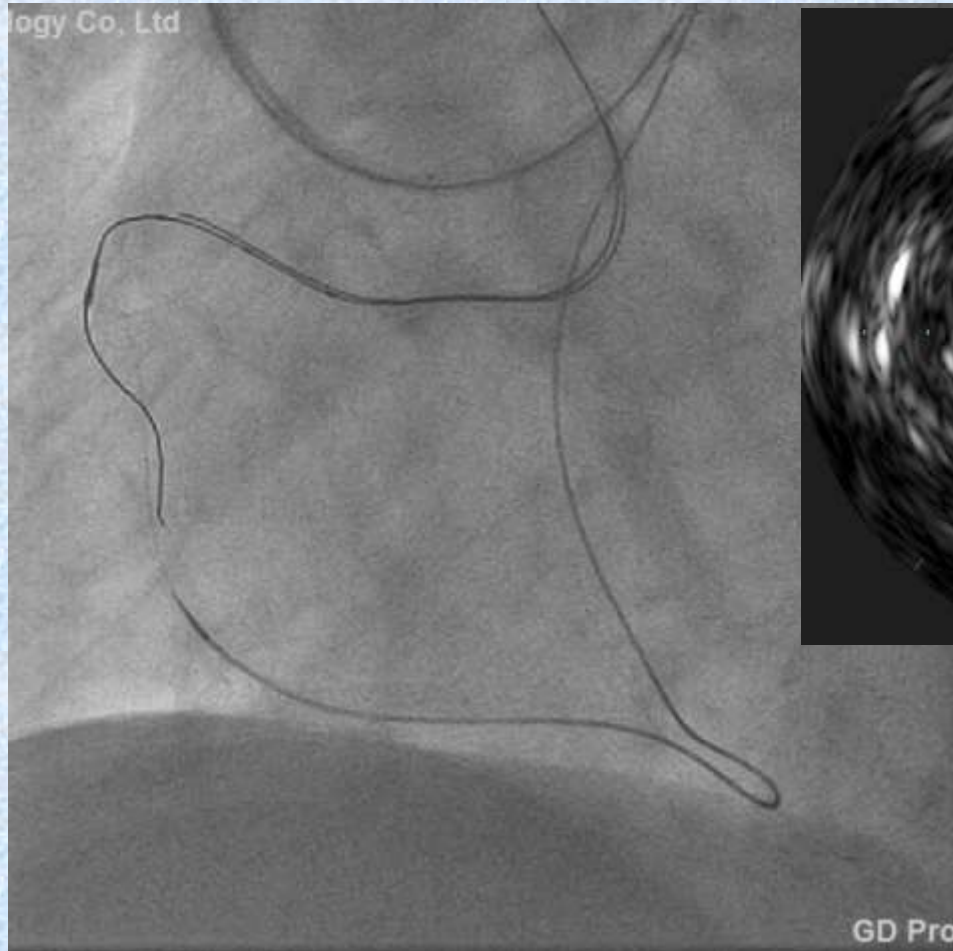
Take efforts to let Retro wire in Ante GC



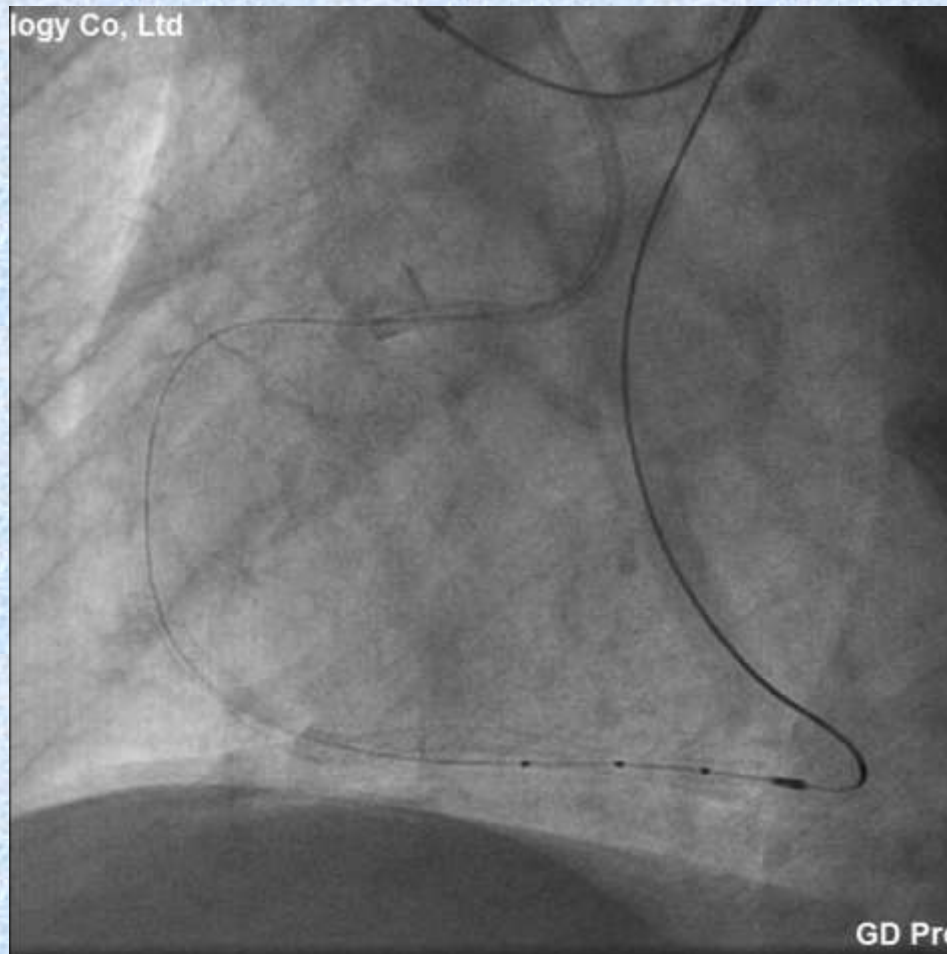
A 300cm-length wire RG 3



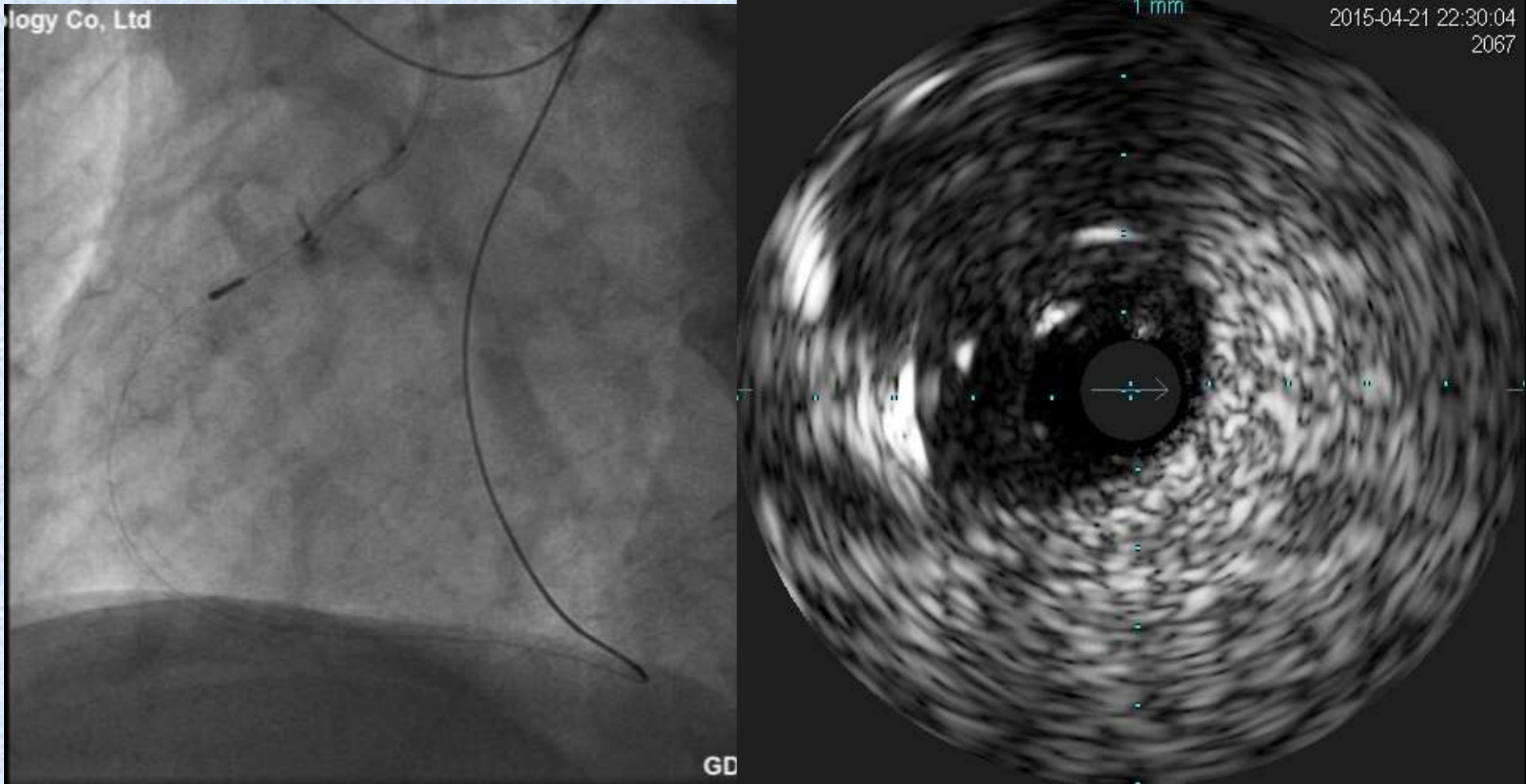
IVUS Found Ante Wire in Subintimal



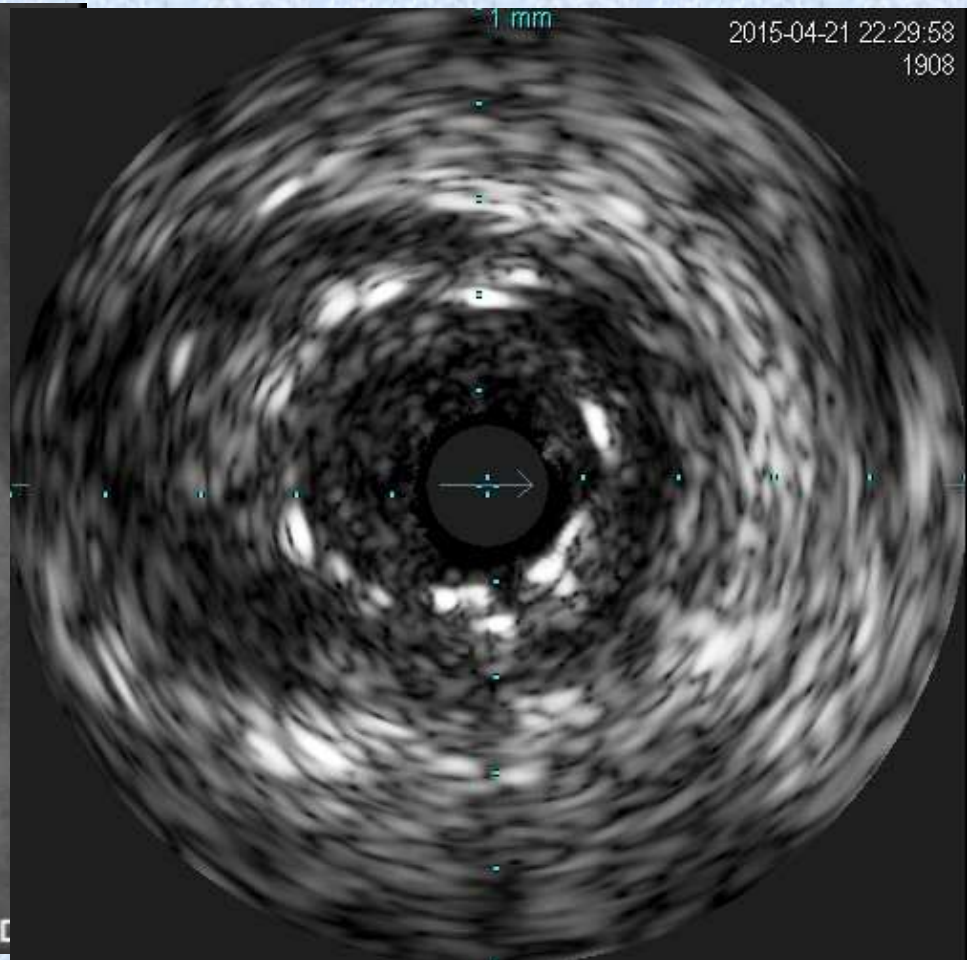
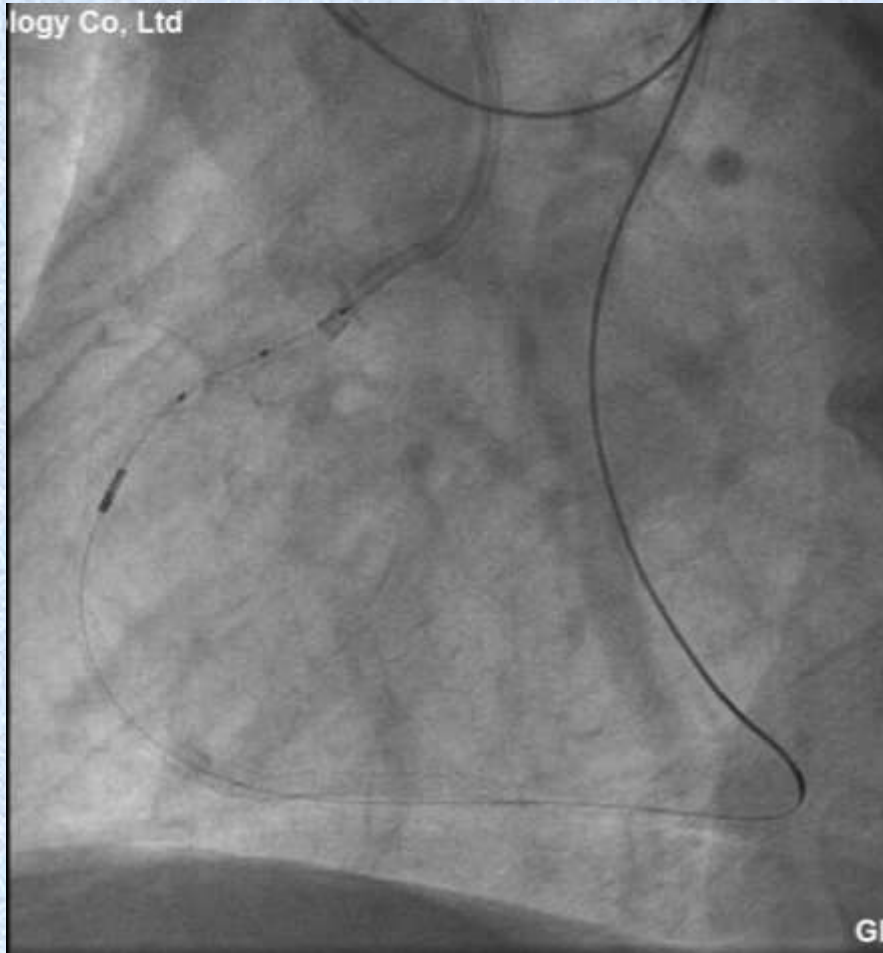
IVUS along the RG3 Wire



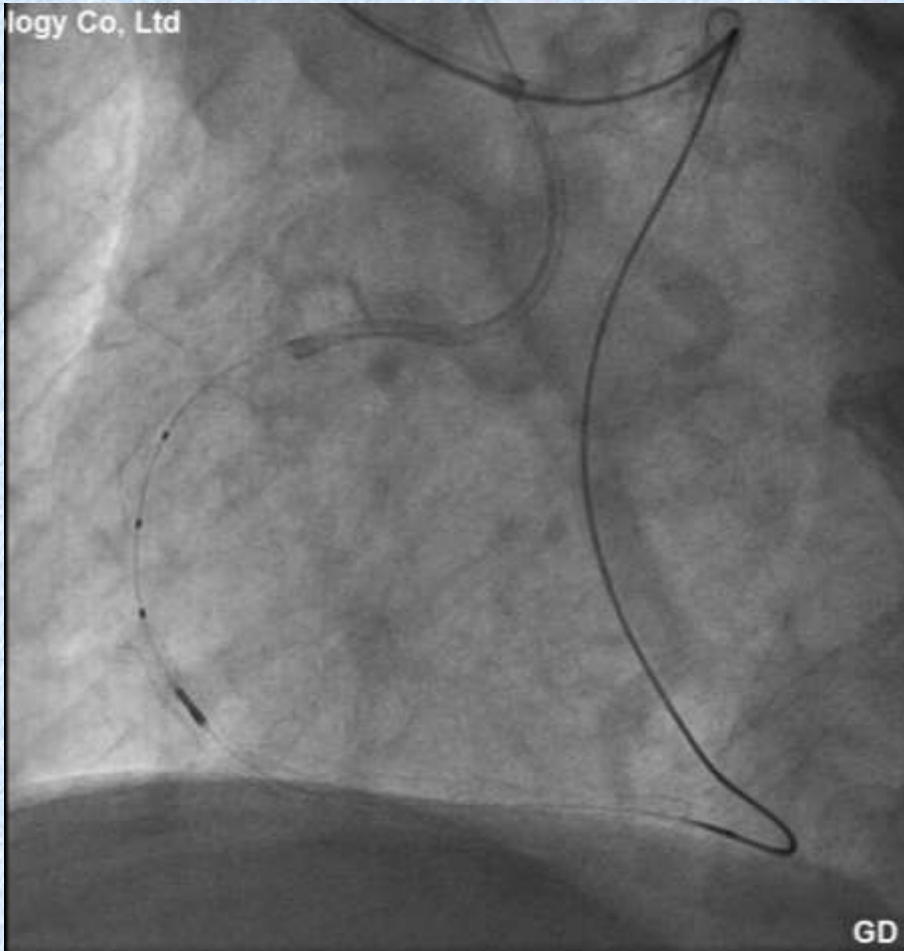
IVUS Results



IVUS Results



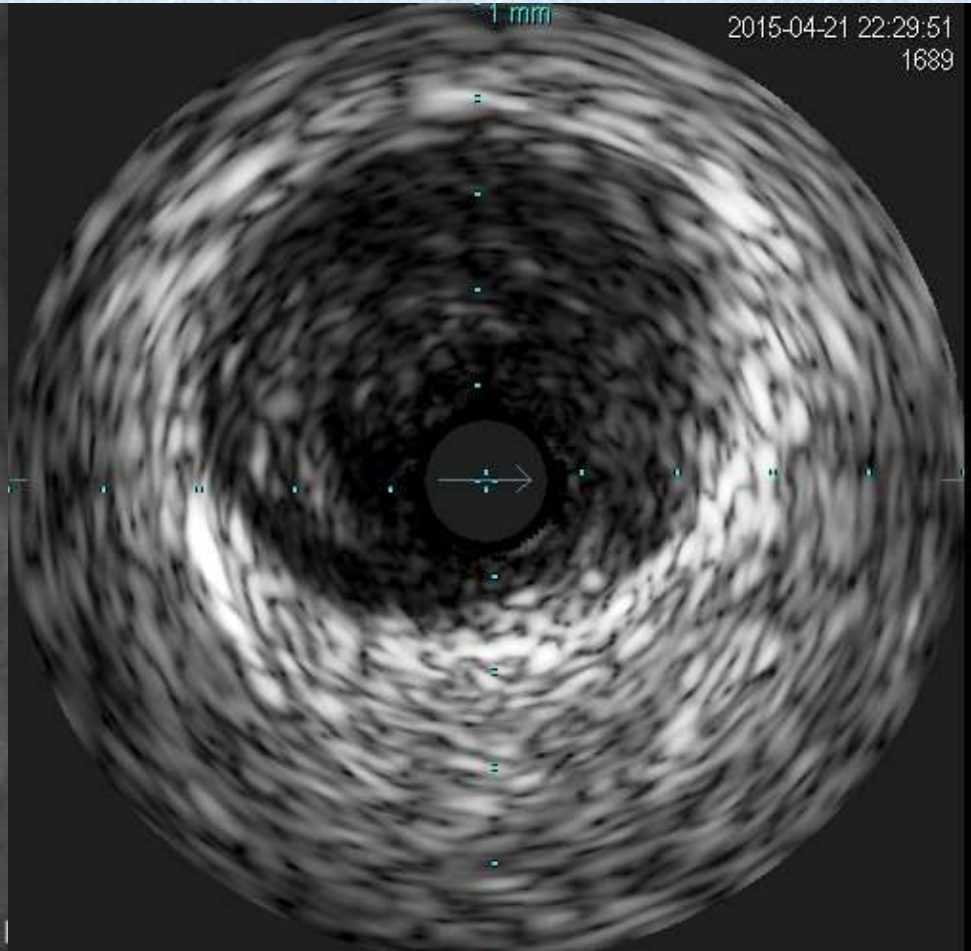
logy Co, Ltd



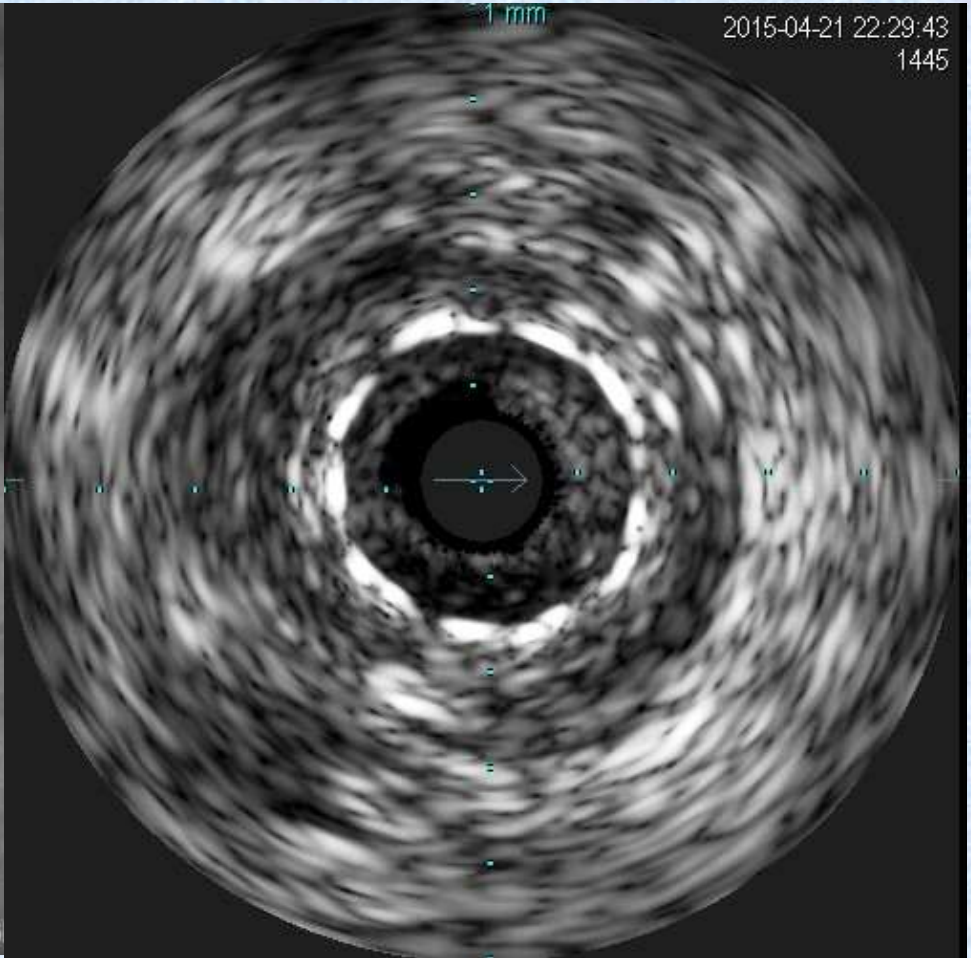
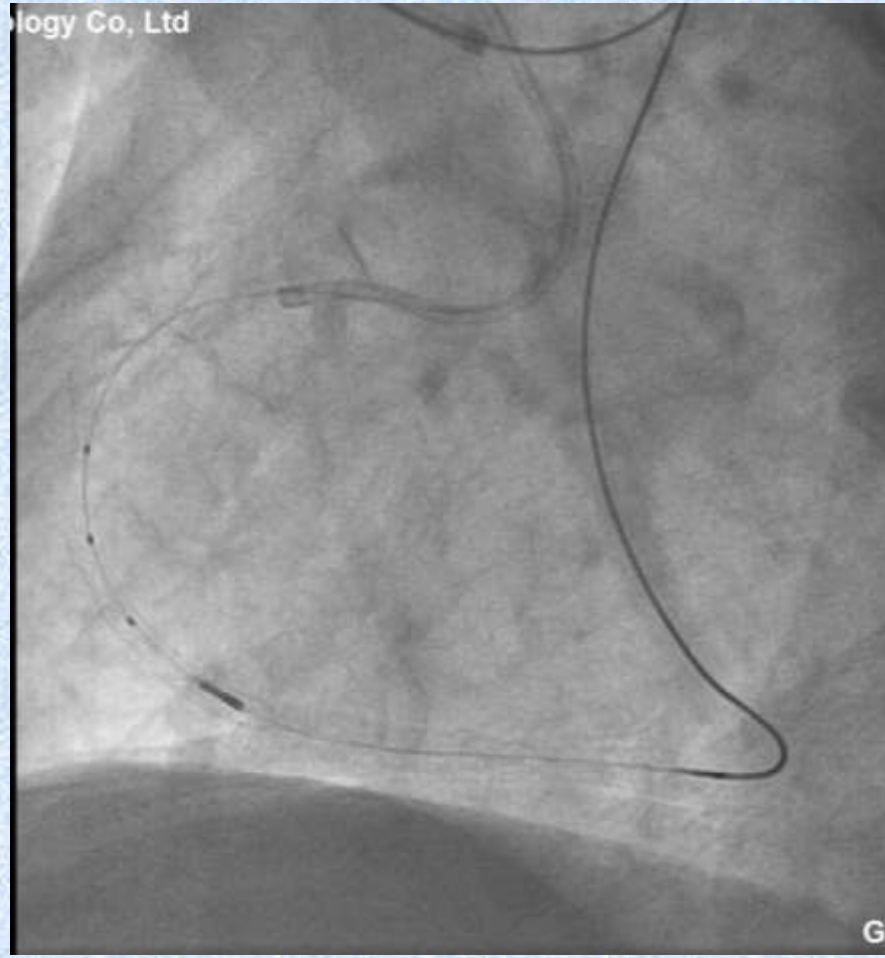
GD

1 mm

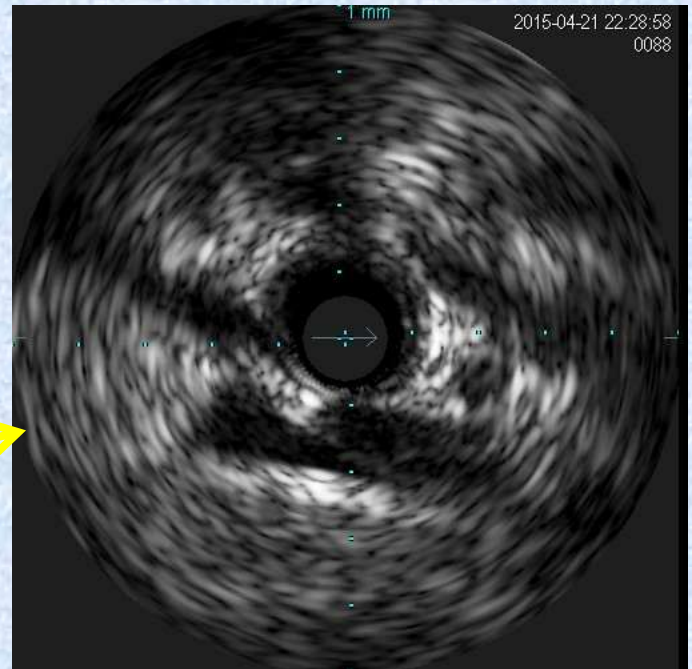
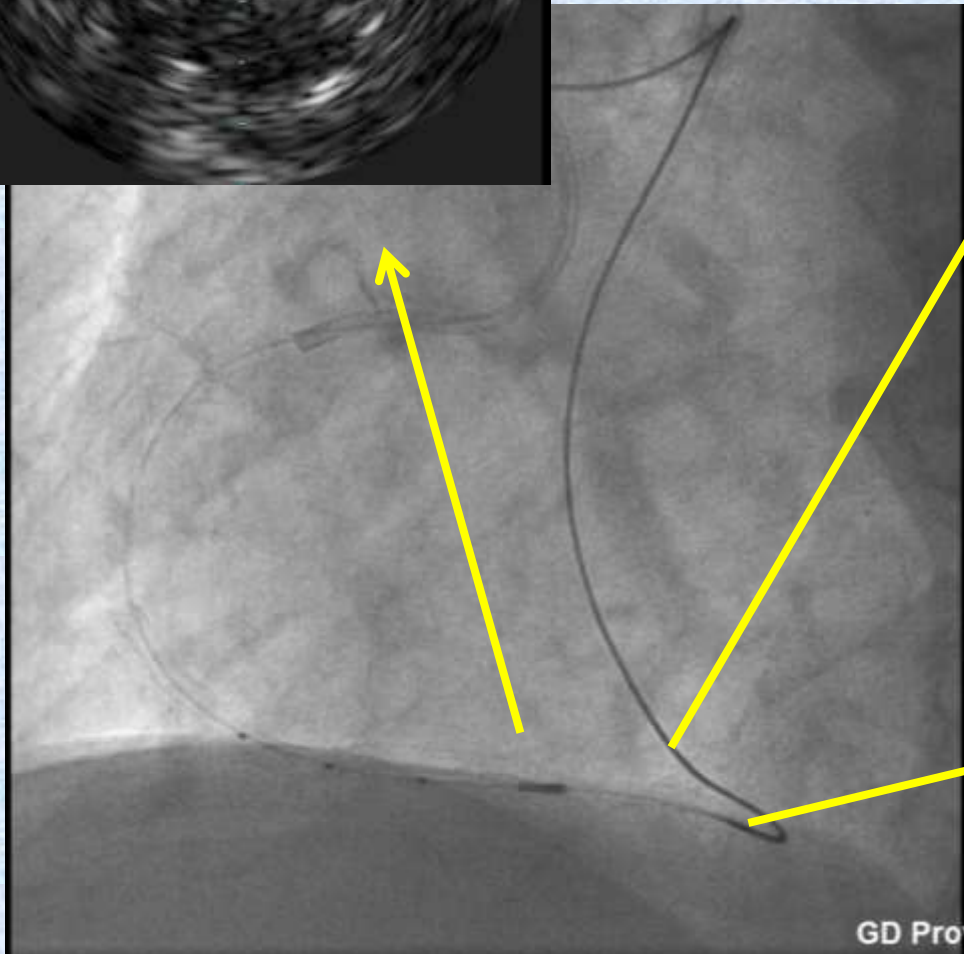
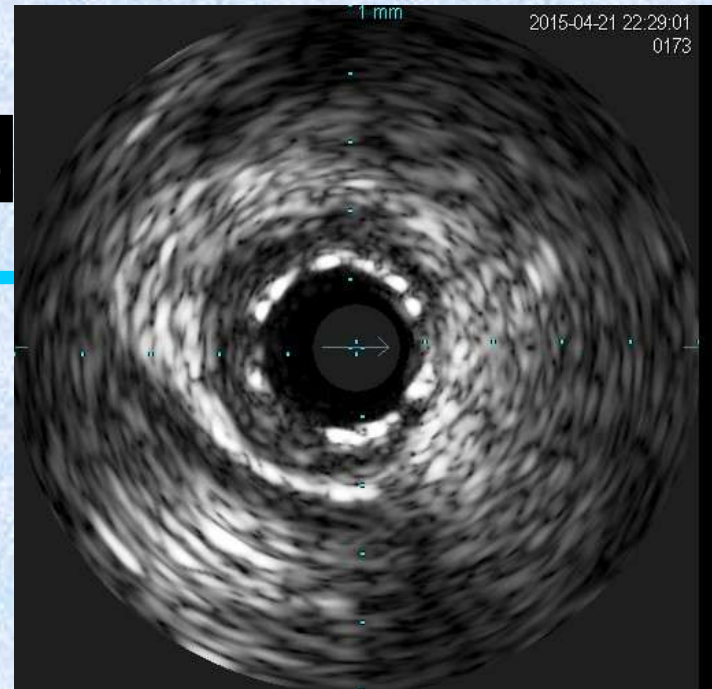
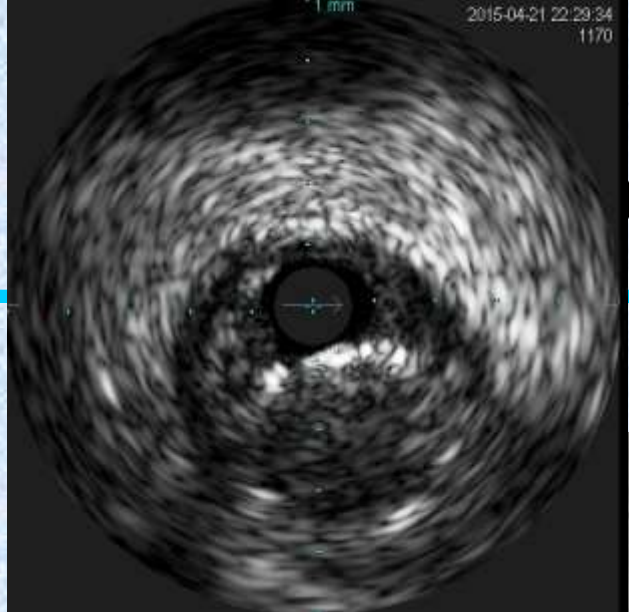
2015-04-21 22:29:51
1689



IVUS Study in Middle Segment



VUS Stud

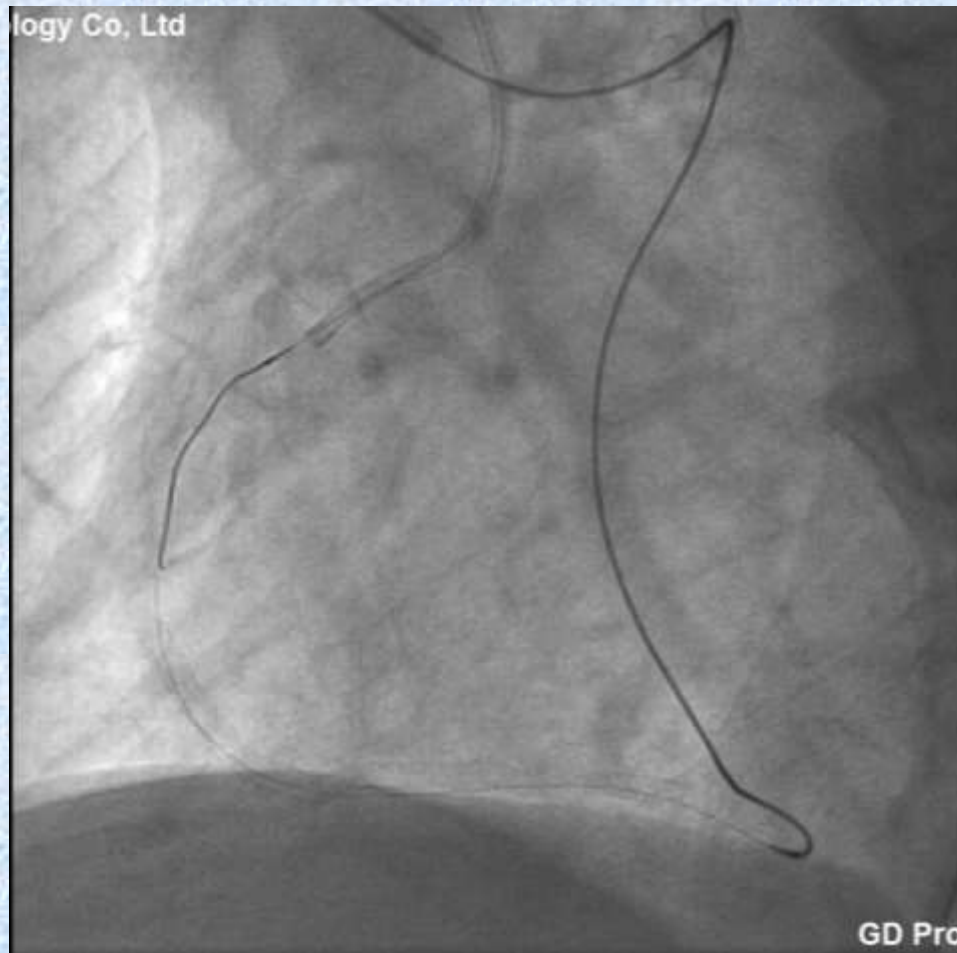


Thrombus Aspiration catheter

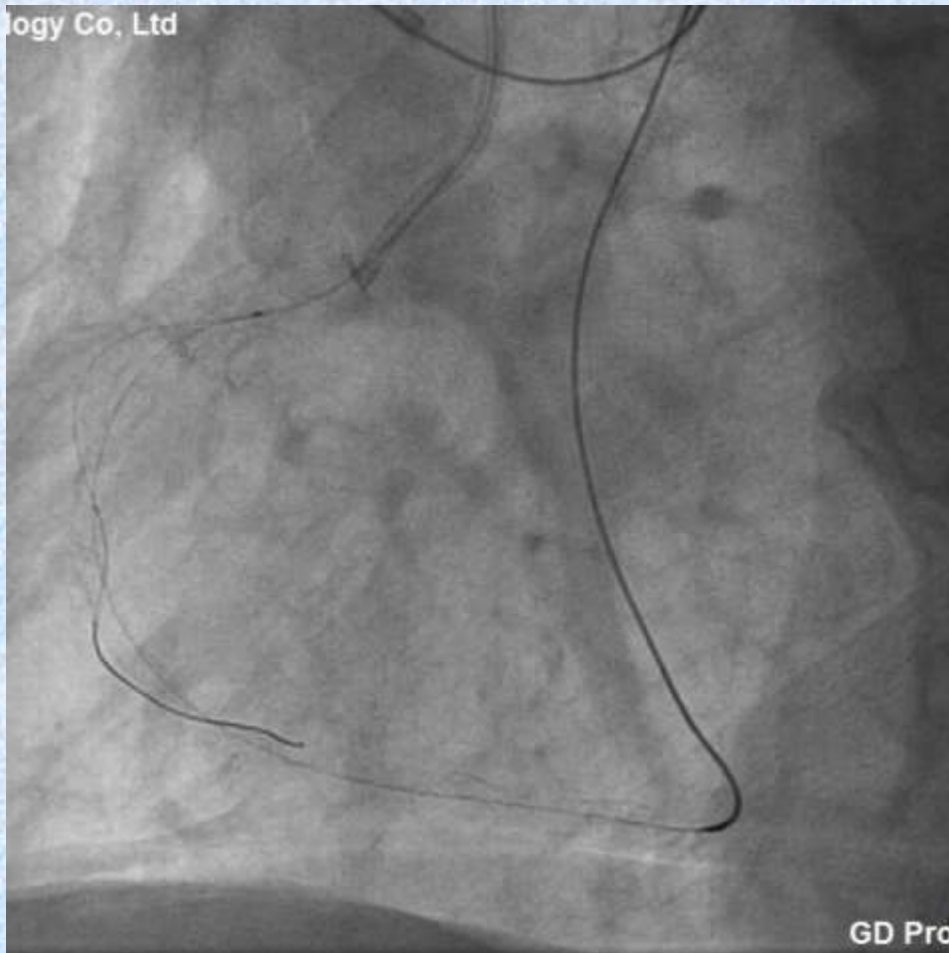


Thrombus Aspiration catheter

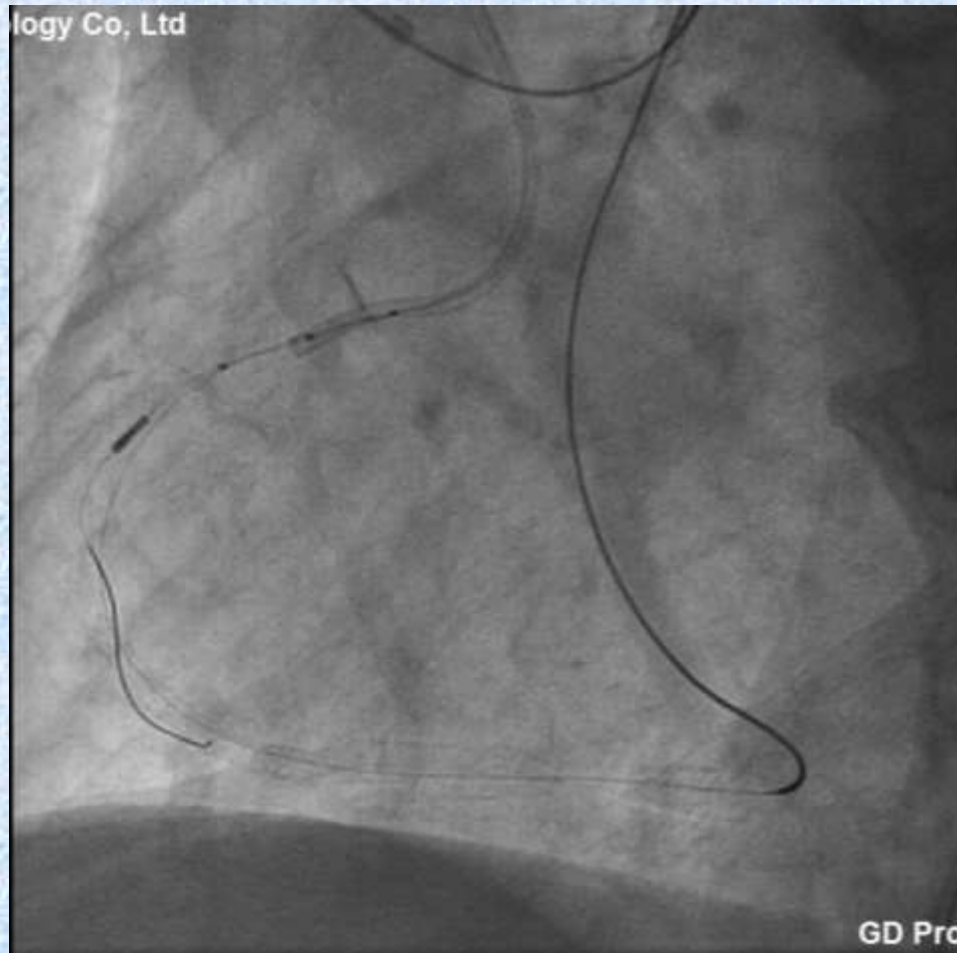
Aspiration
catheter
along RG 3
wire;
Pilot 150
navigate



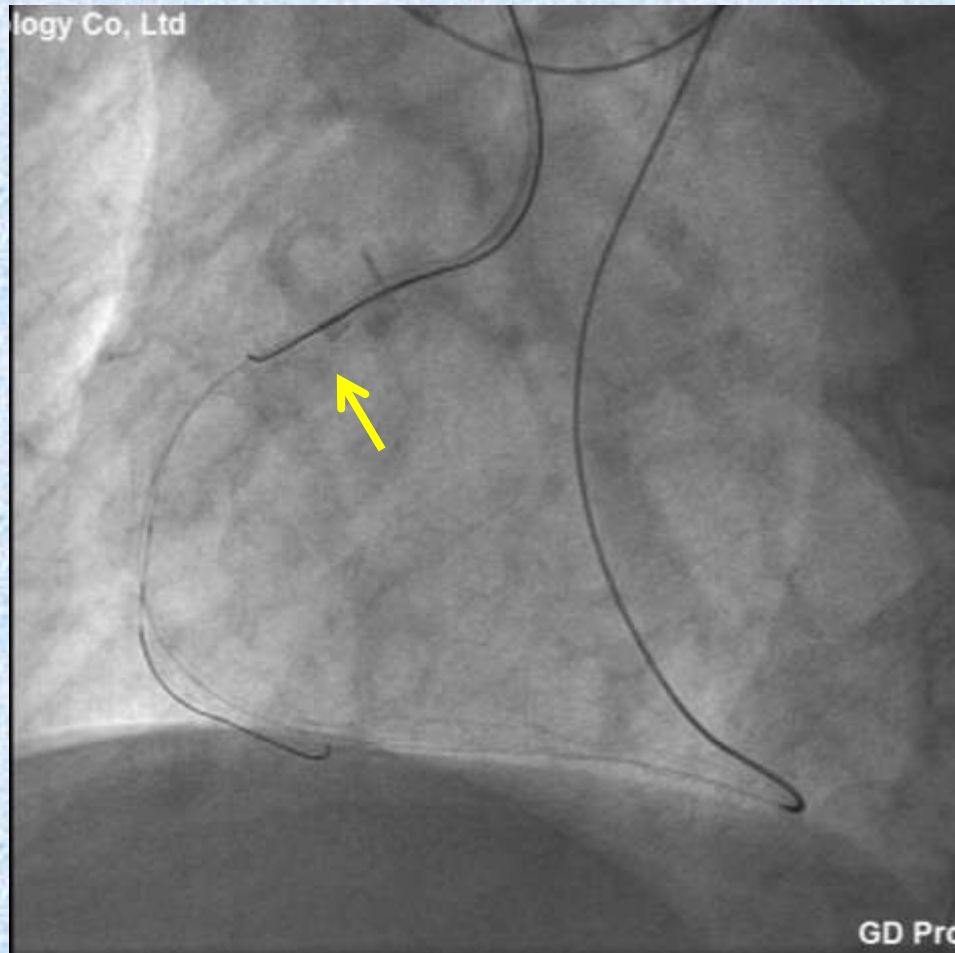
Pilot 150
navigate in
false lumen



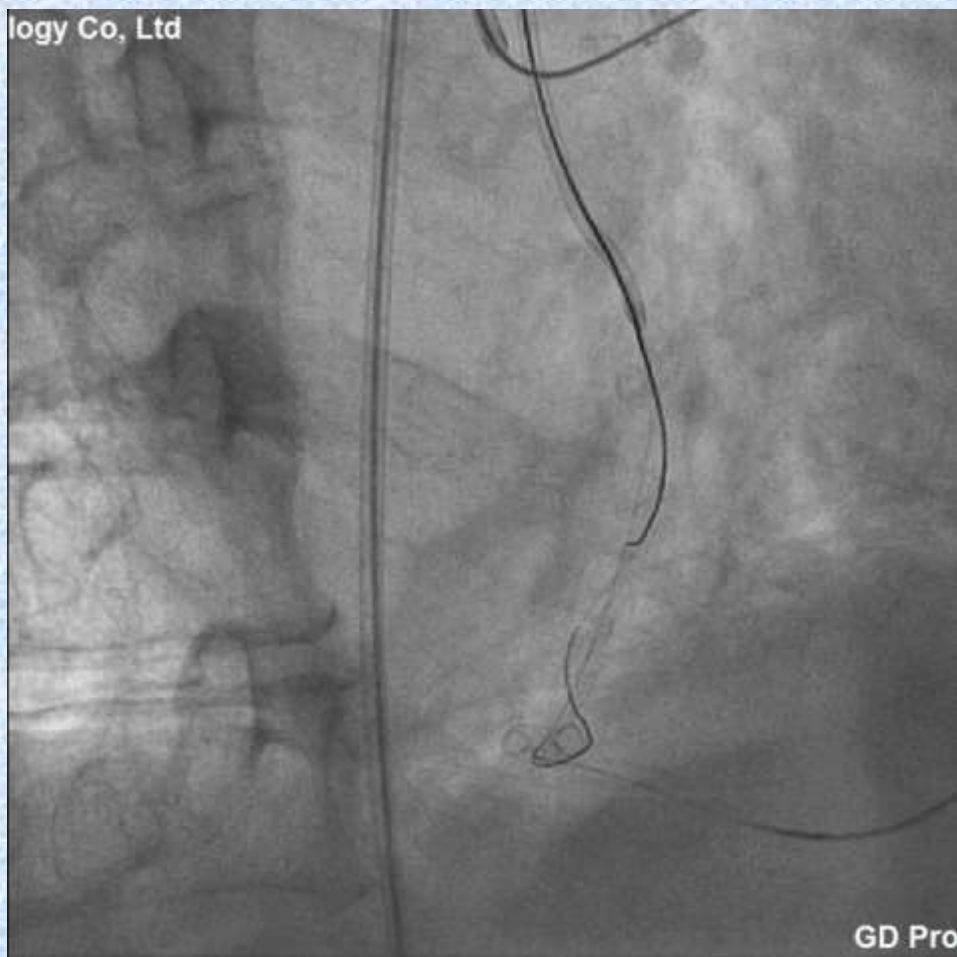
IVUS Testify



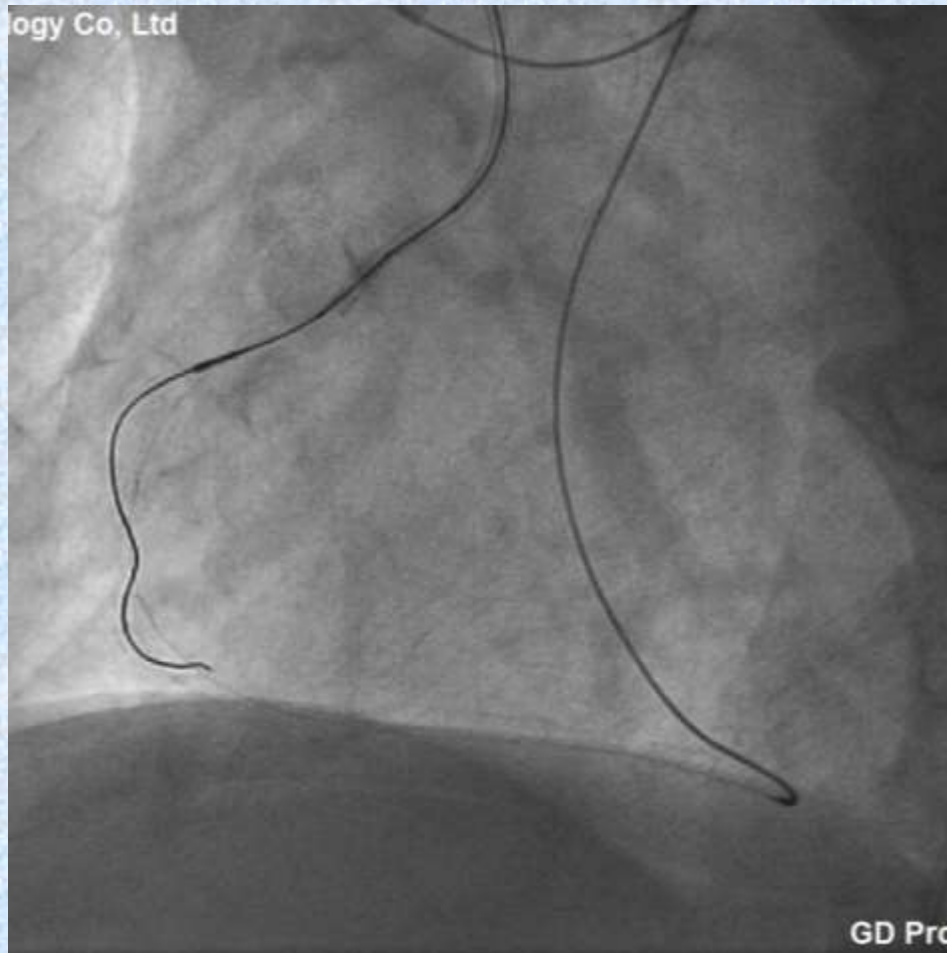
Another Ultimate Bros 3



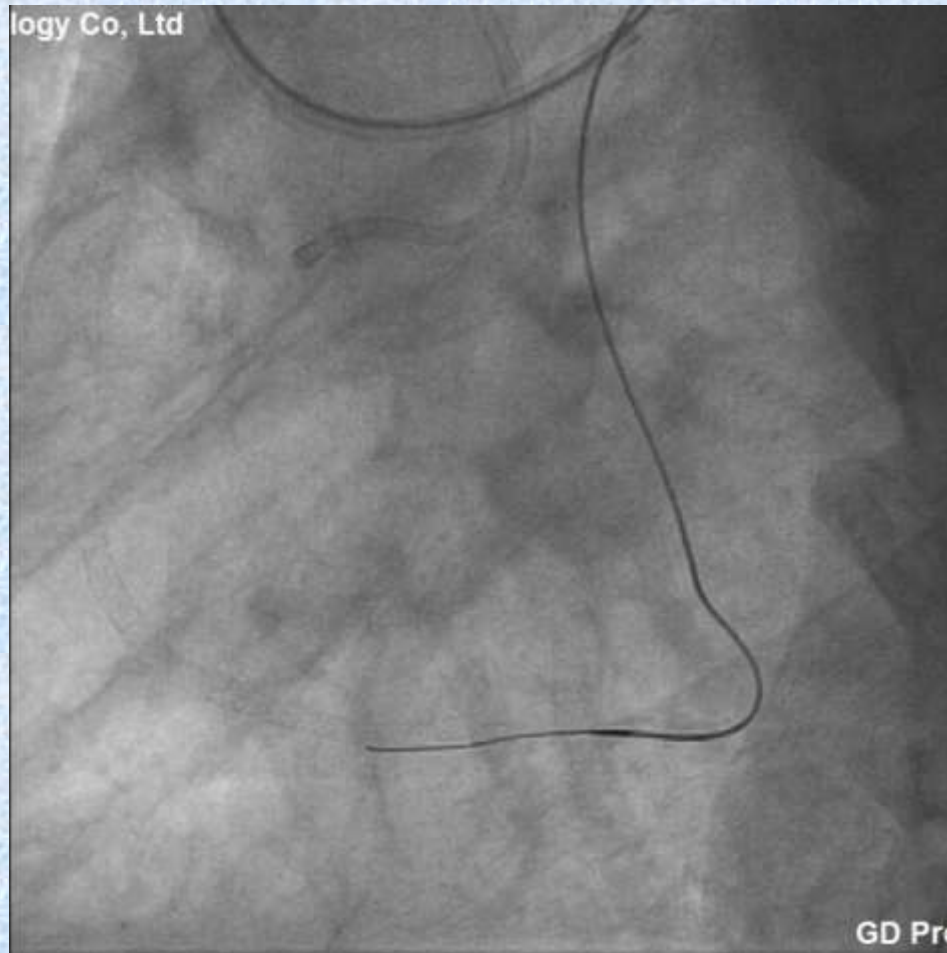
Unable into true lumen

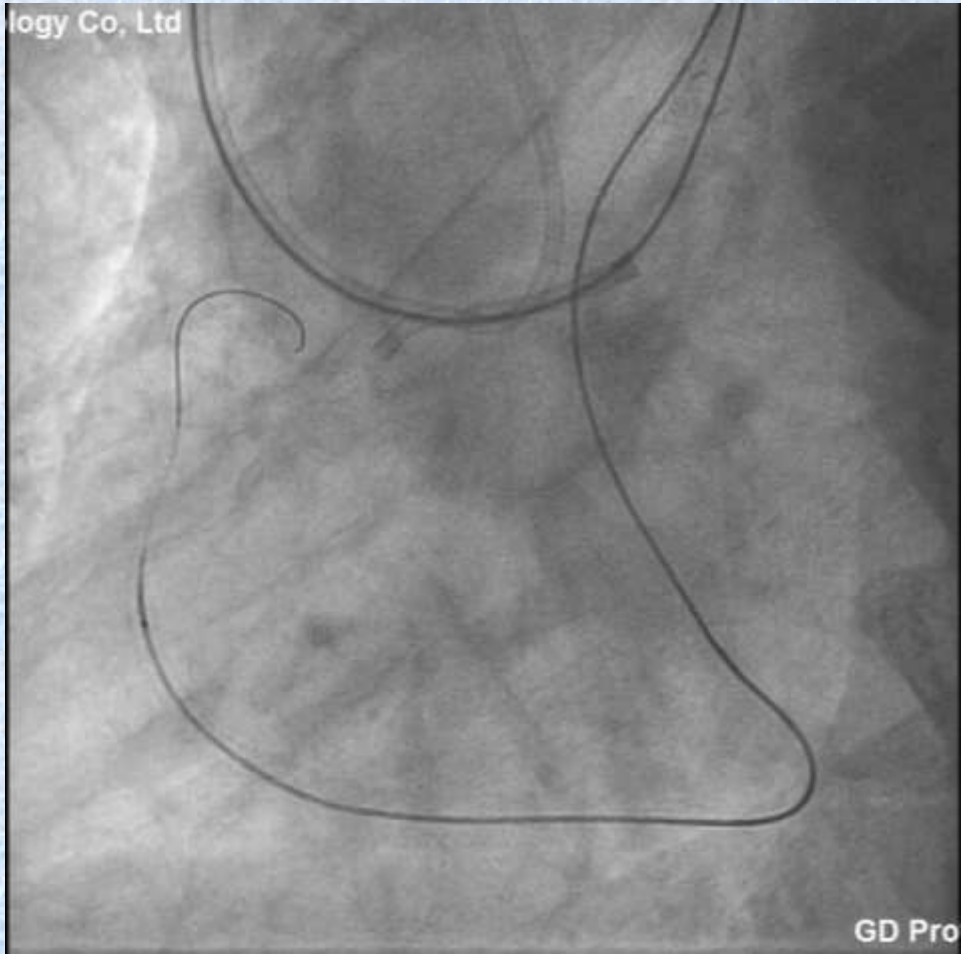


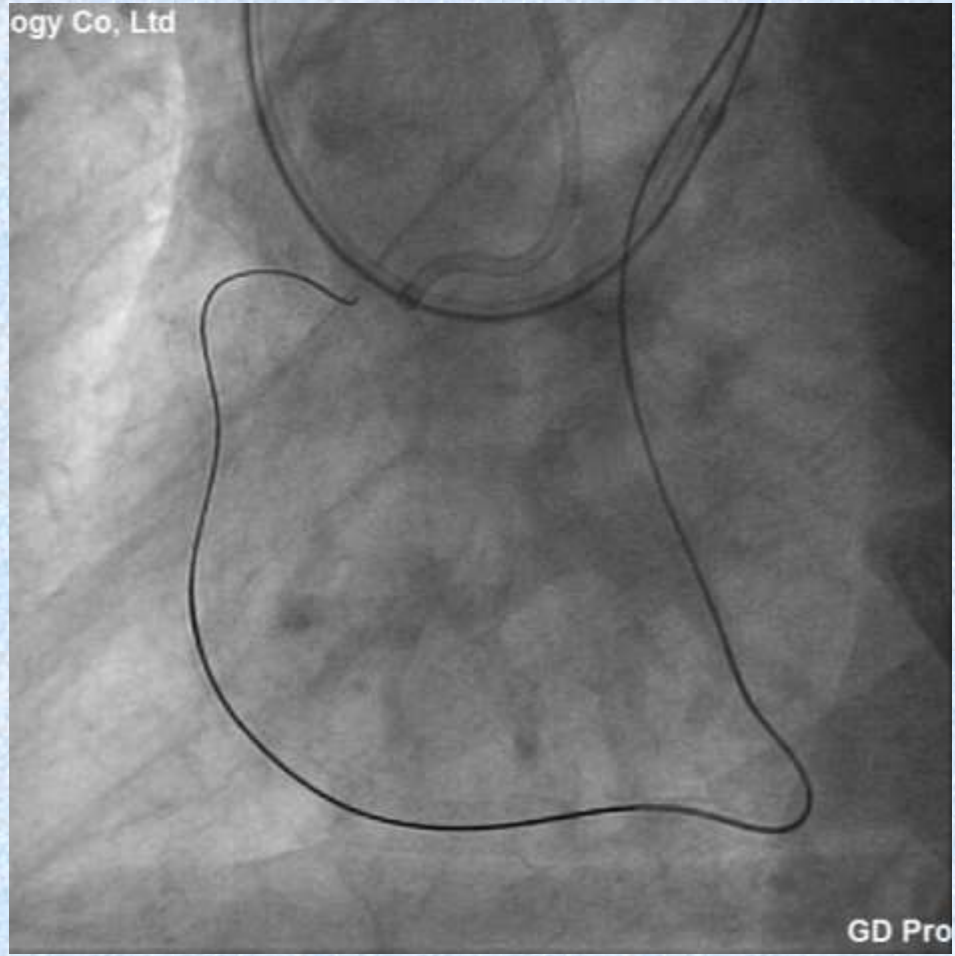
IVUS Again Reveal in False Lumen



Start Re-retro-approach

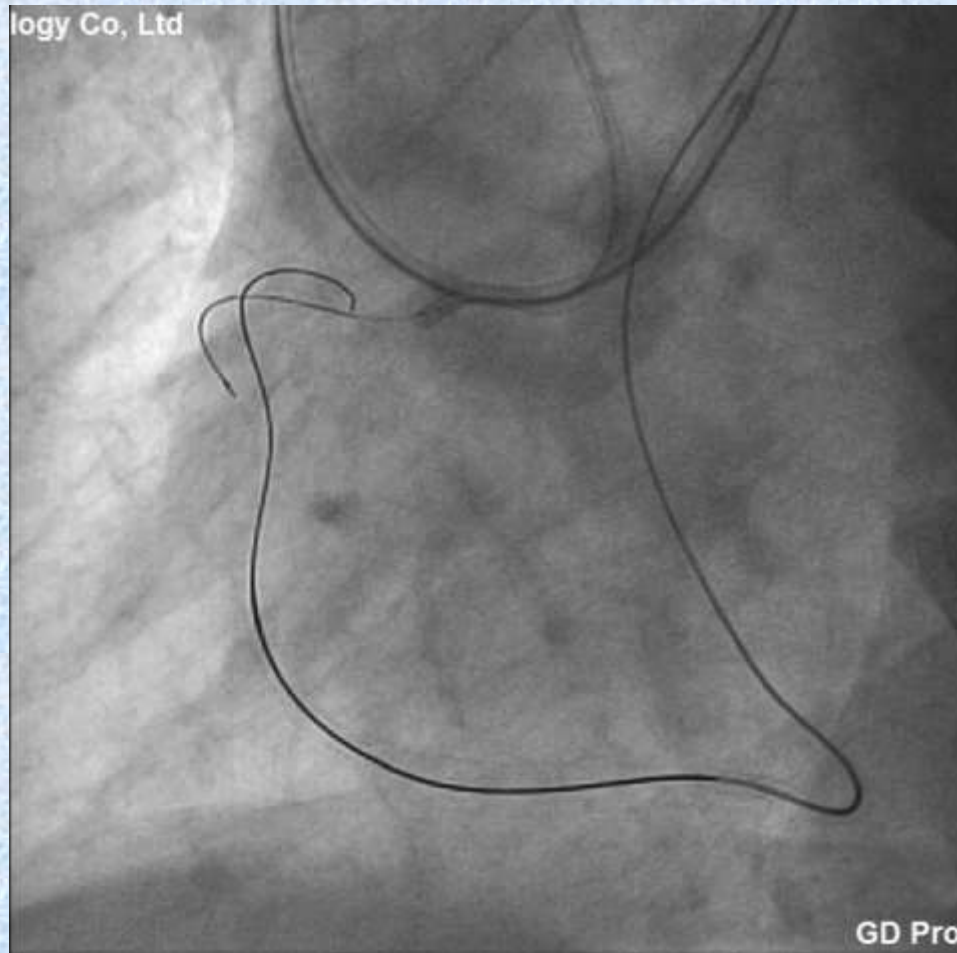






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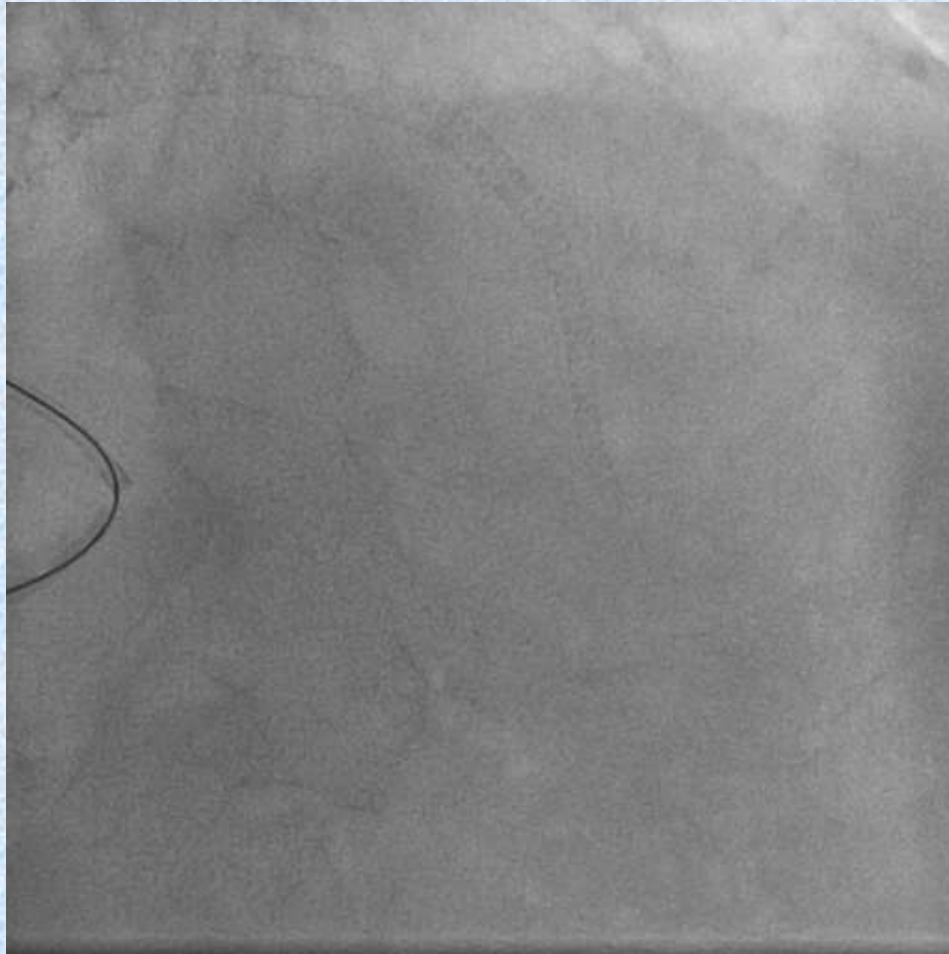
GD Pro



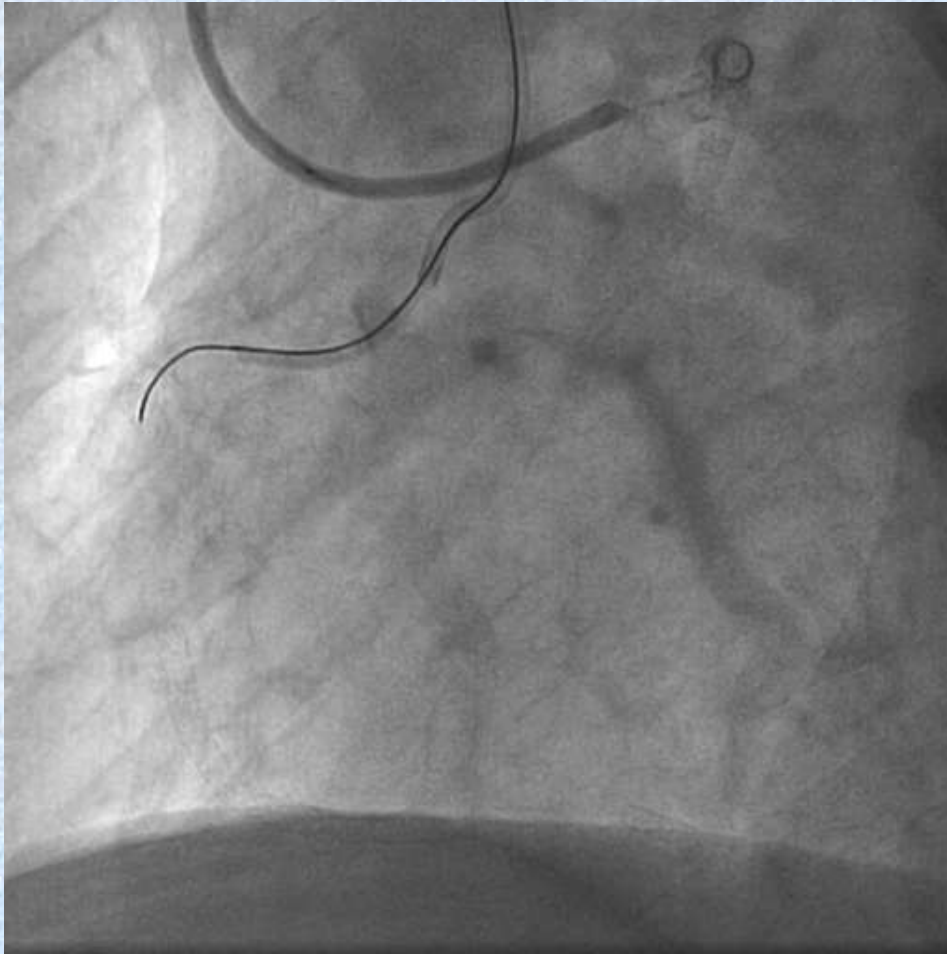
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GD Pro

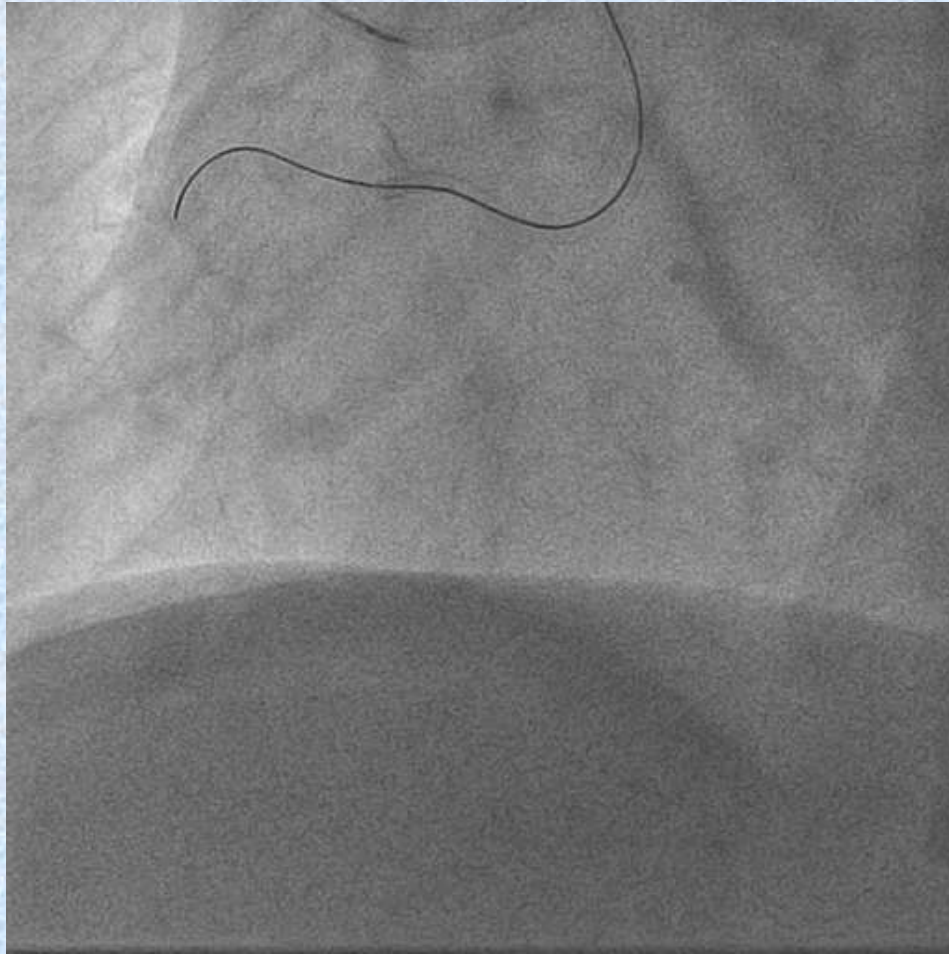
Final Results



Final Results



Final Results



Take Home Messages

- ✓ **Coronary Rotablation is feasible to use in CTO.**
- ✓ **IVUS is mandatory in PCI to left main, and stent should be fully expanded**
- ✓ **Large peripheral balloon can help stent postdilatation**
- ✓ **Retrograde PCI can enhance the CTO-PCI successful rate, but it is not always workful**

Thank you !

