

PCI three times for a LAD-CTO case

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Case information

- Male, 76 yrs
- Chief complaint: recurrent chest pain for 20 yrs, aggravated 2 weeks
- Risk factors: Hypertension for 20 yrs
- Lab test: LDL-C 3.60mmol/L, Cr 86 μ mol/L
- ECHO: LVDd 56mm, EF 42%

LCA baseline angiography

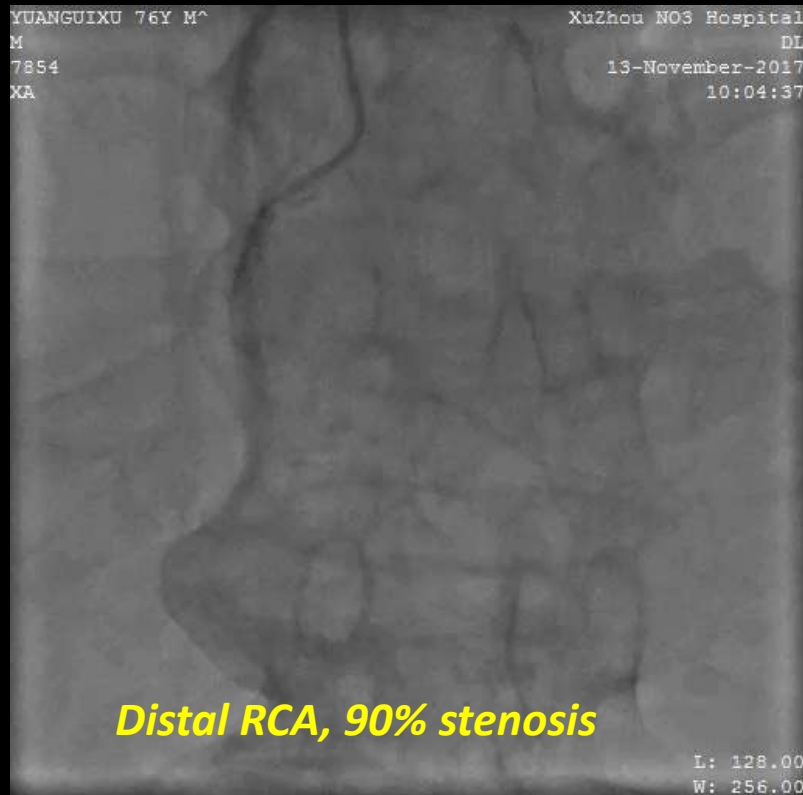
(1th Nov, 2017)



RCA baseline angiography



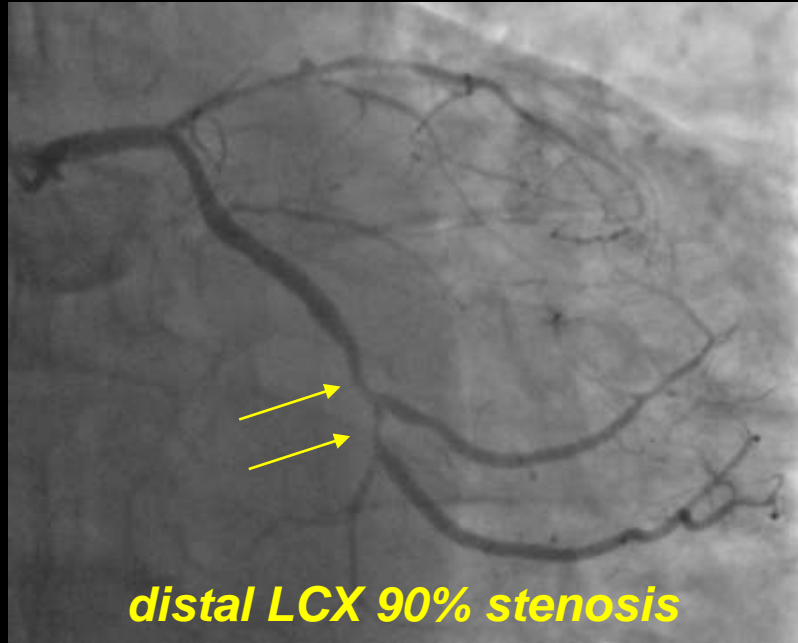
Proximal RCA 70% stenosis



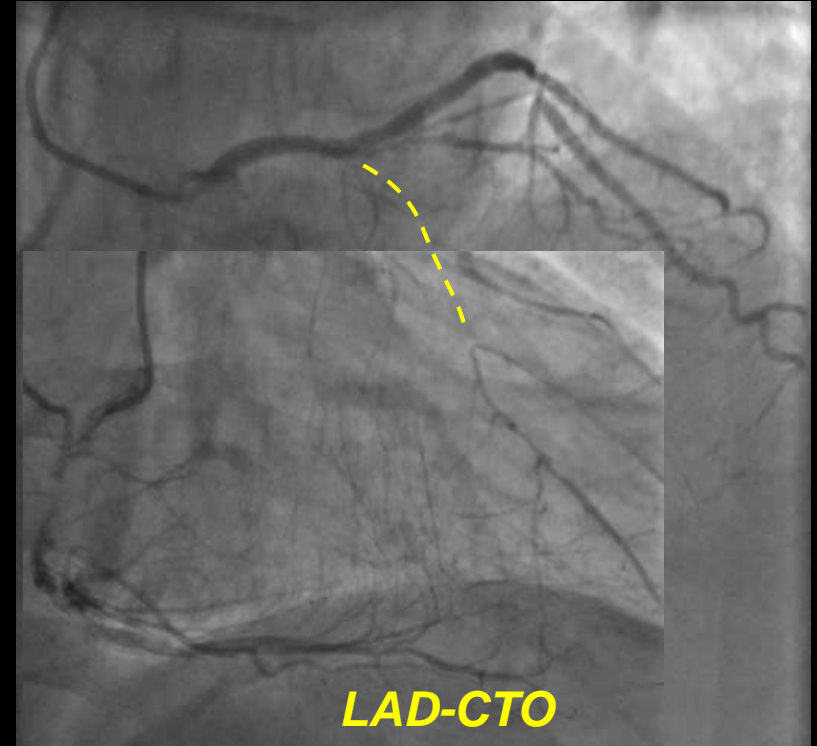
Distal RCA, 90% stenosis

LCA angiography

LAD-CTO, distal LCX 90% stenosis



distal LCX 90% stenosis



LAD-CTO

Strategies

- CABG, refused
- LCA-PCI or RCA-PCI first ?
- Circulatory support ?

RCA-post PCI

2.5*23mm、3.0*18mm (bailout) 、 3.5*38mm Firehawk DES



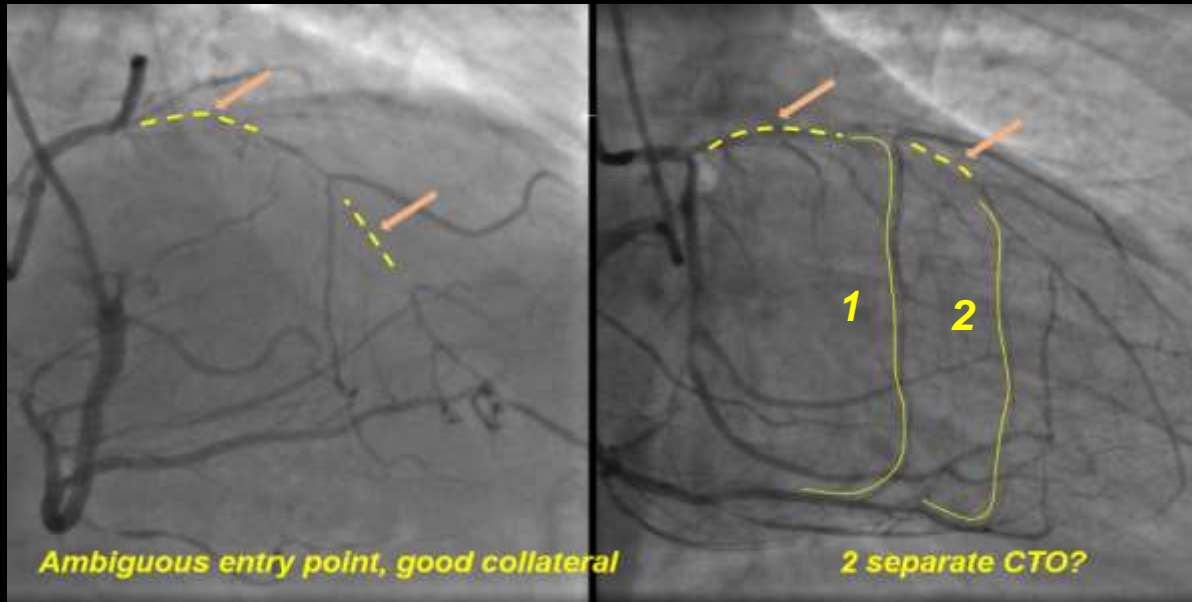
Bilateral angiography (19 days later)

7F AL 0.75, 6F EBU 3.75



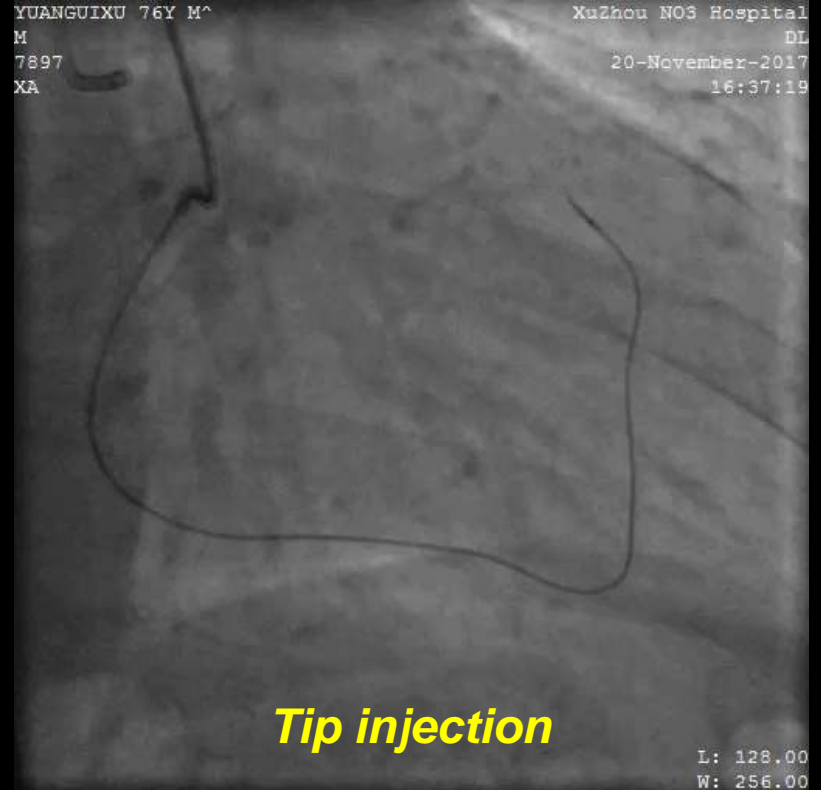
Strategies

- Two separate CTO or competitive blood flow ?
- Antegrade or Retrograde first ?
- If retrograde, septal collateral, which one ?



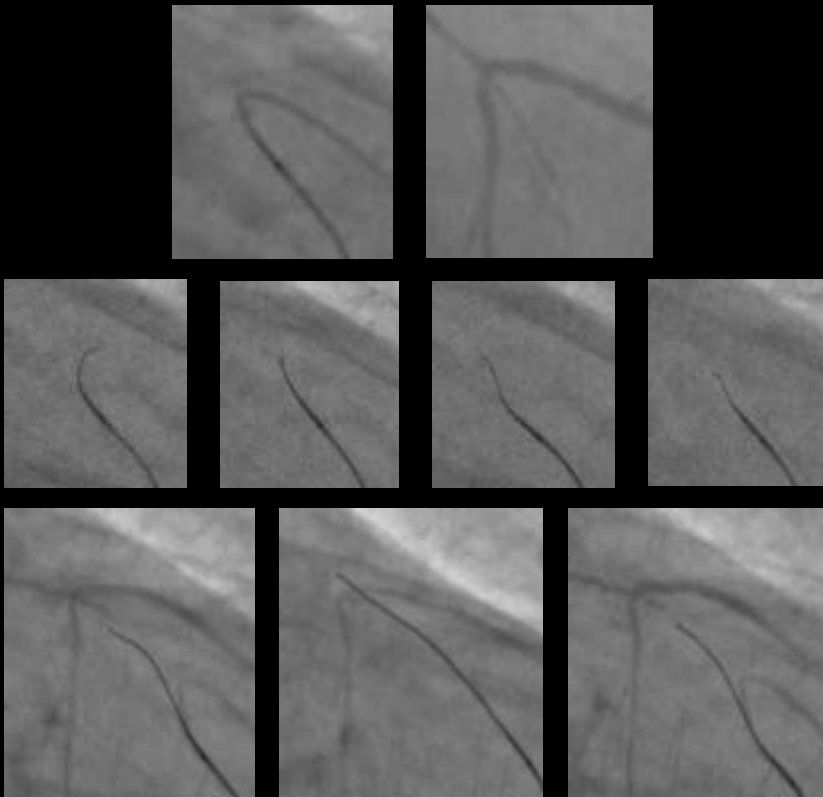
Sion via septal to distal LAD-CTO, tip injection

Corsair 150mm, Sion, bifurcation at distal entry point



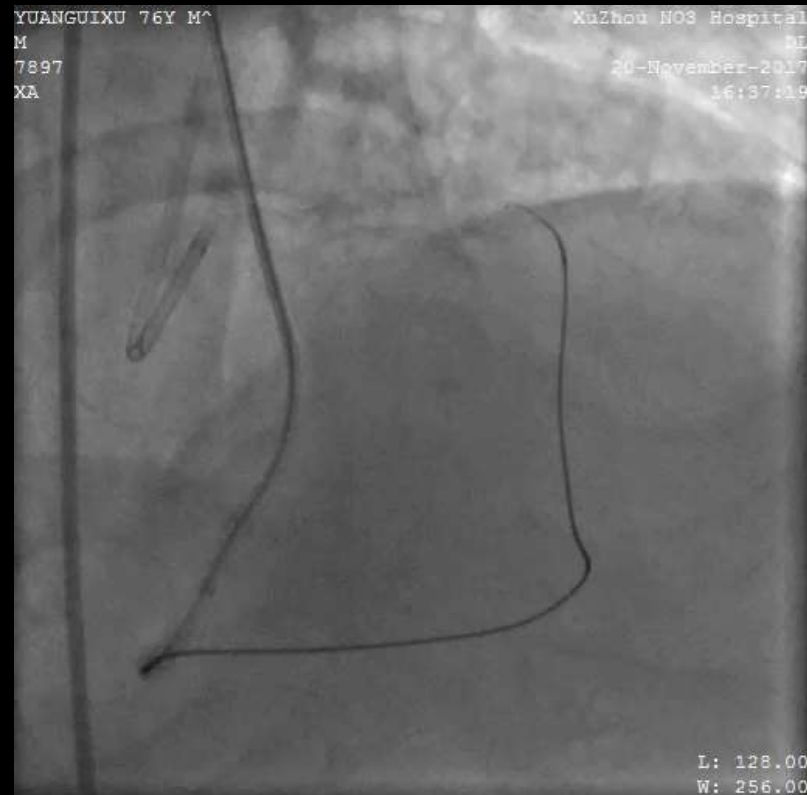
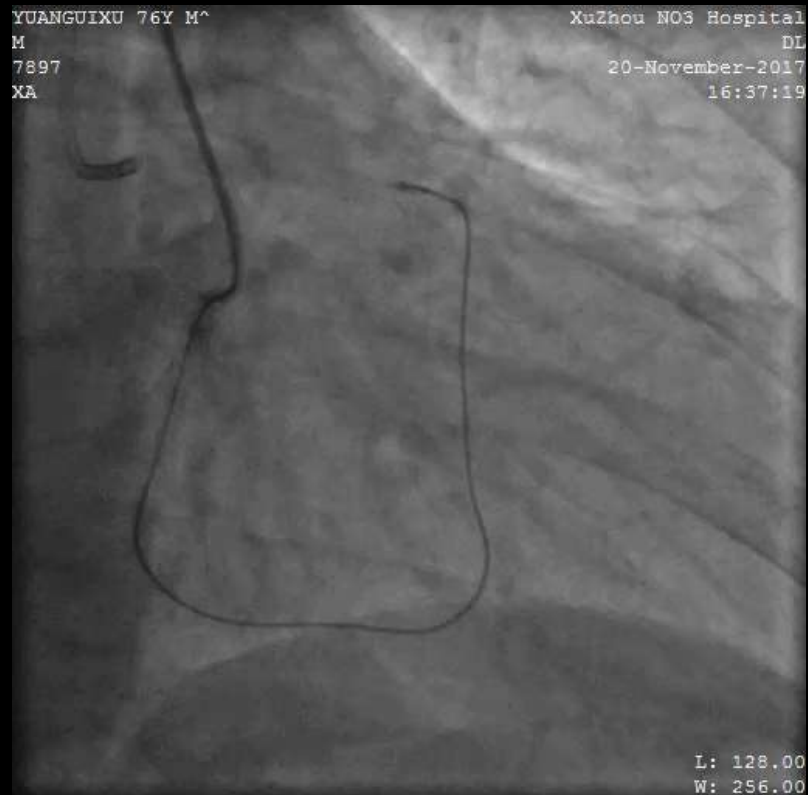
Failed to mid-LAD true lumen

Gaia First, Gaia Second, Pilot 150



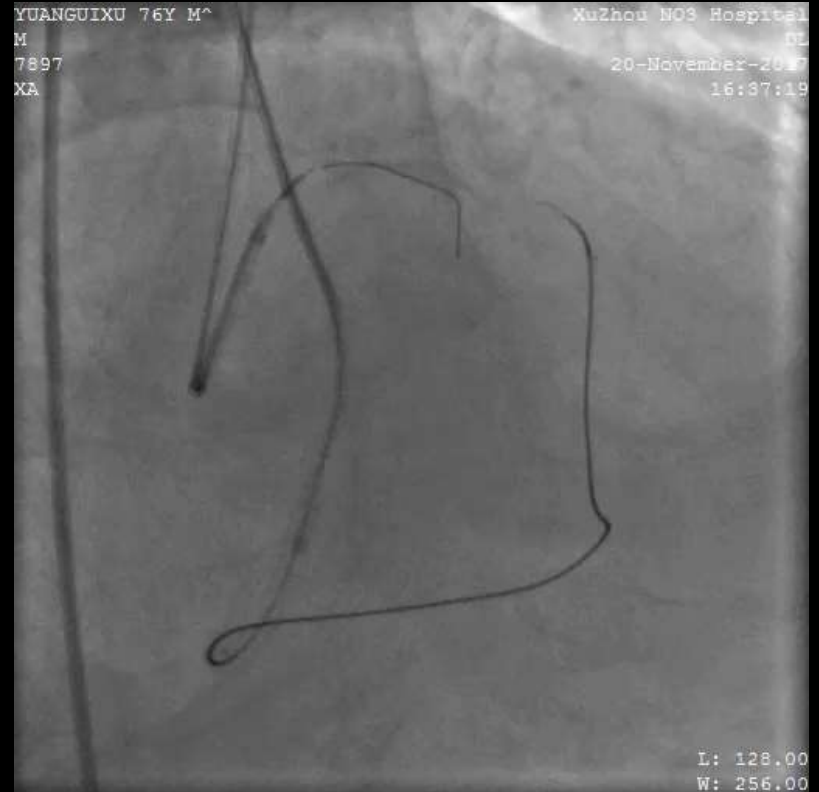
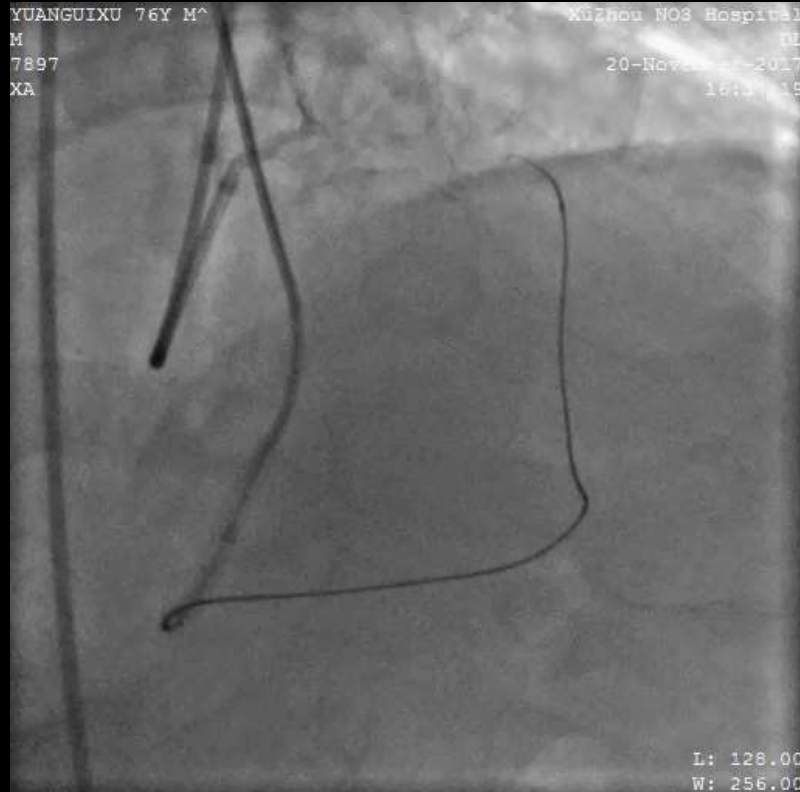
Retrograde access to Proximal LAD-CTO

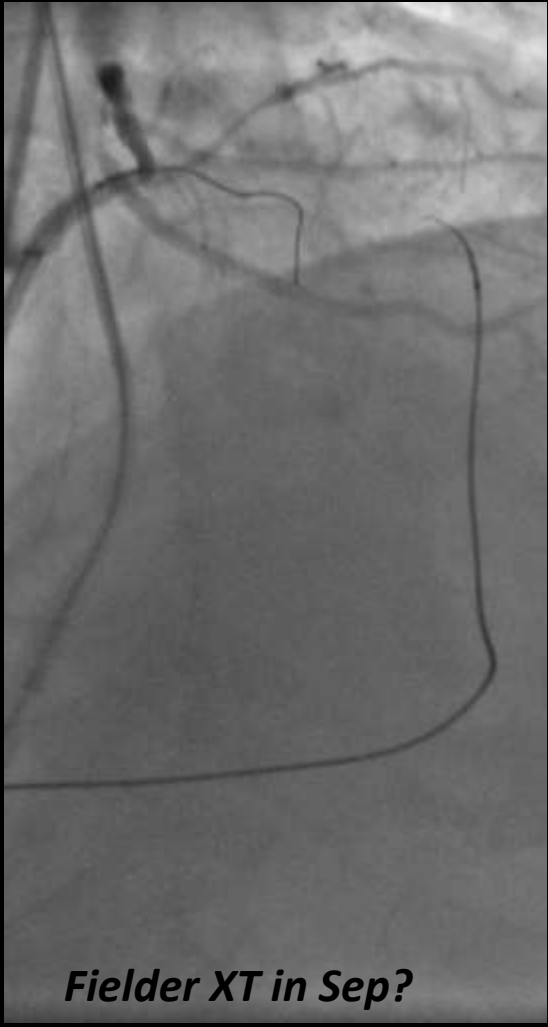
Fielder XT, Gaia first



Antegrade preparation

Fielder XT (ante), Gaia third, Conquest Pro (retro)

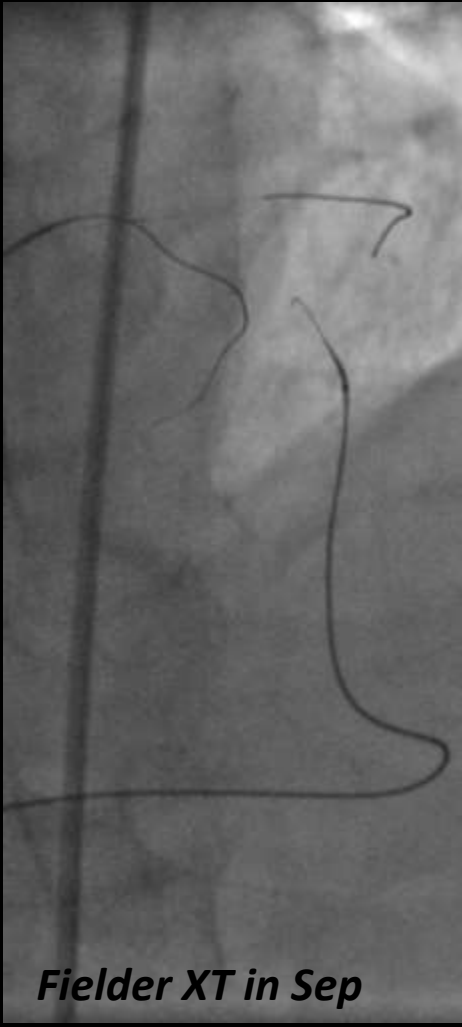




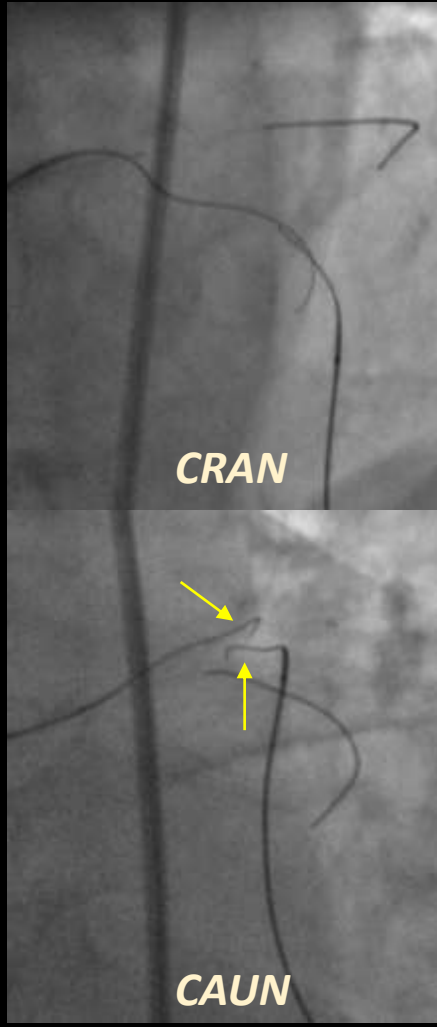
Fielder XT in Sep?



Retry



Fielder XT in Sep

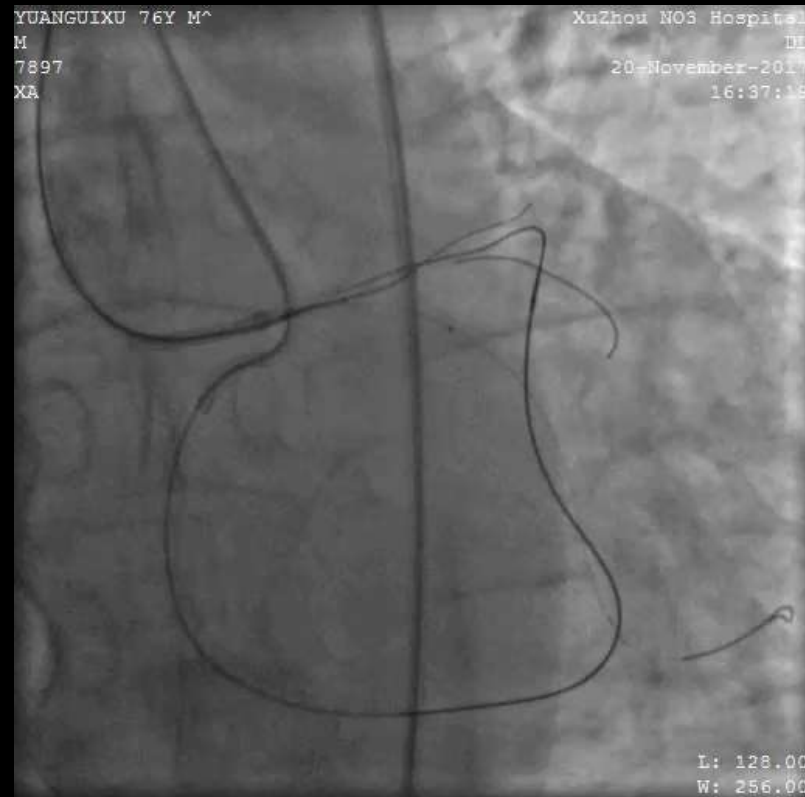
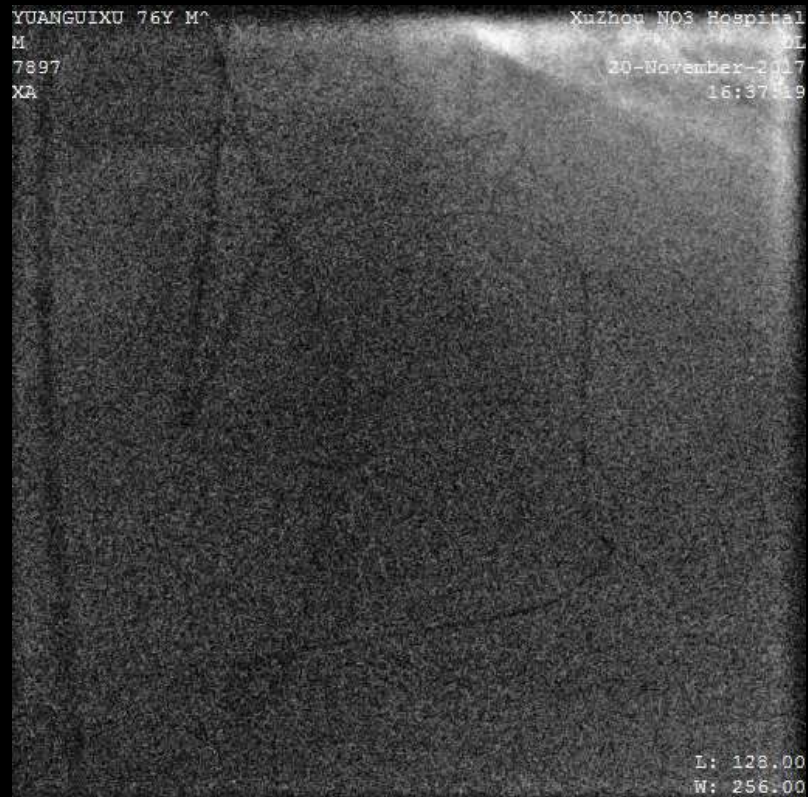


CRAN

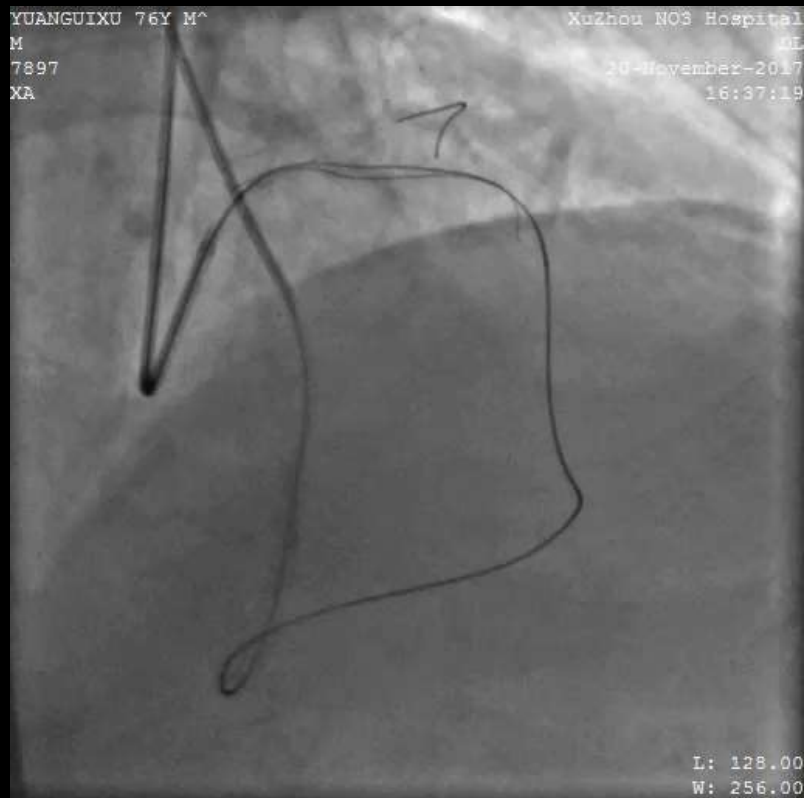
CAUN

Reverse kissing technique

Conquest Pro went into LM

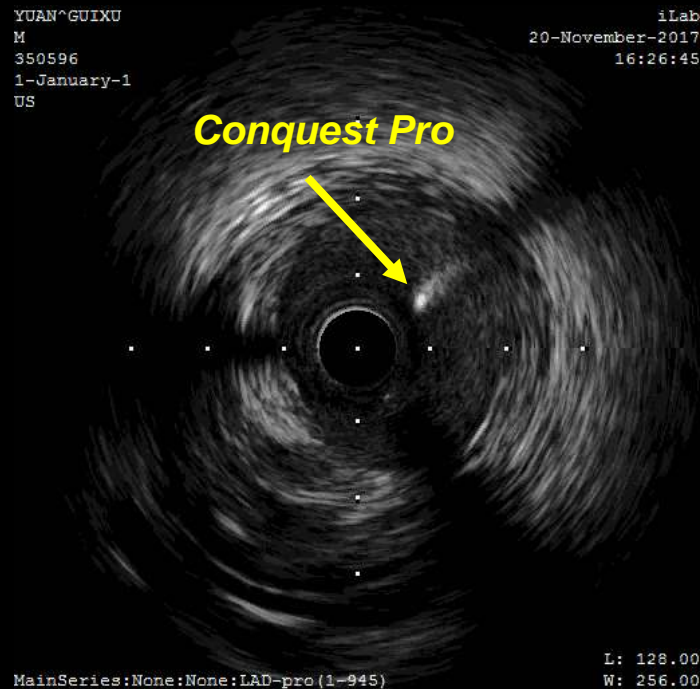


IVUS confirmed the CP in LM true lumen



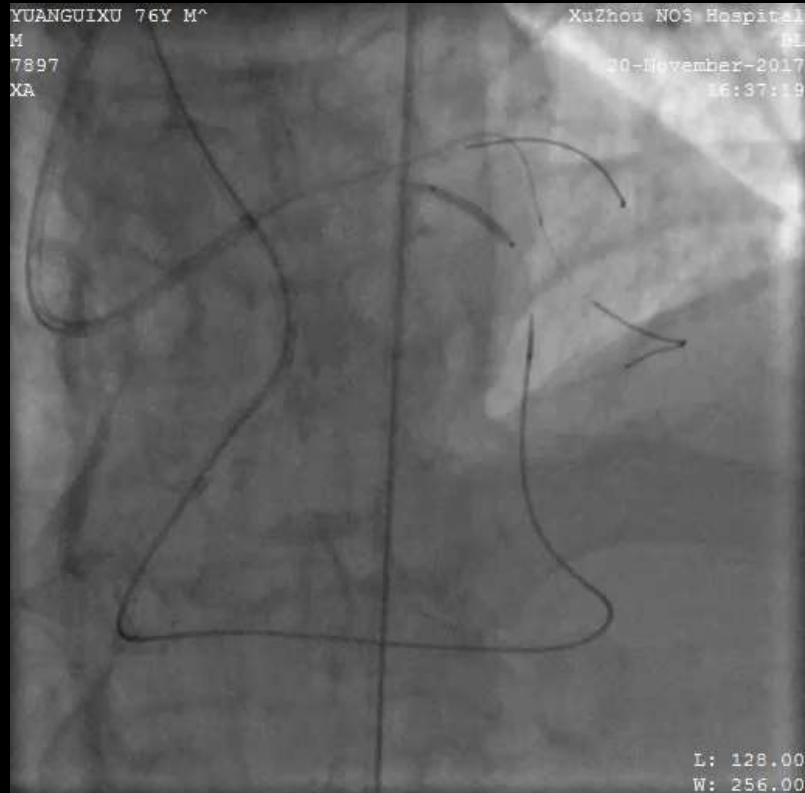
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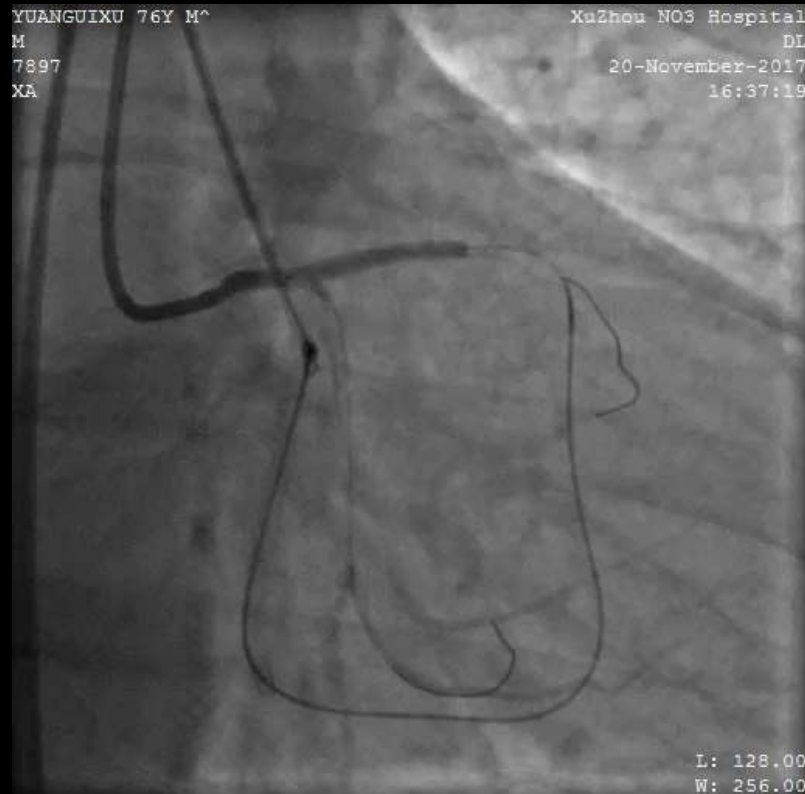
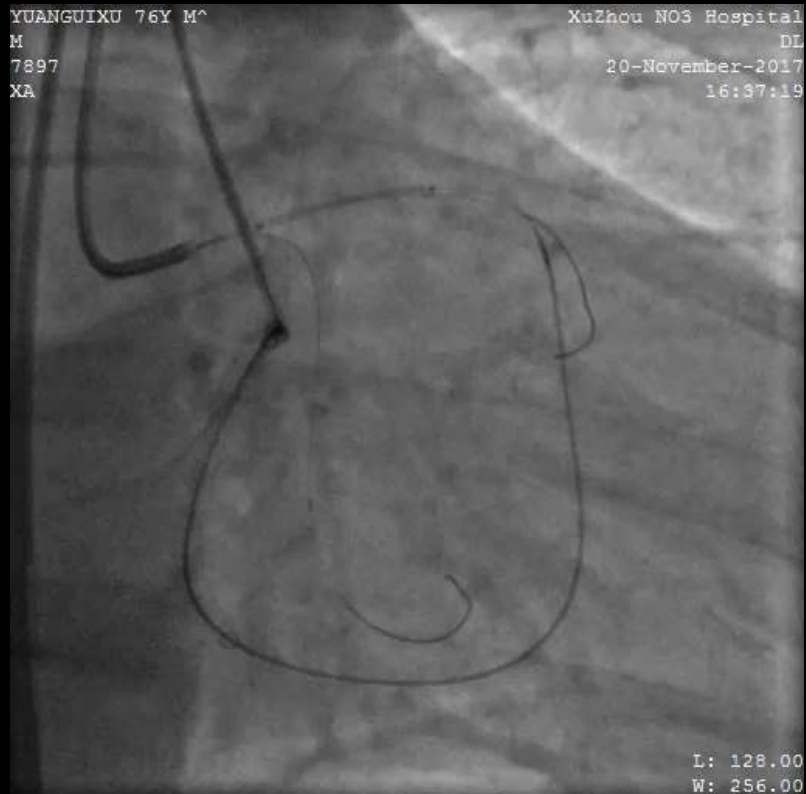
Externalization, Predilation

RG3



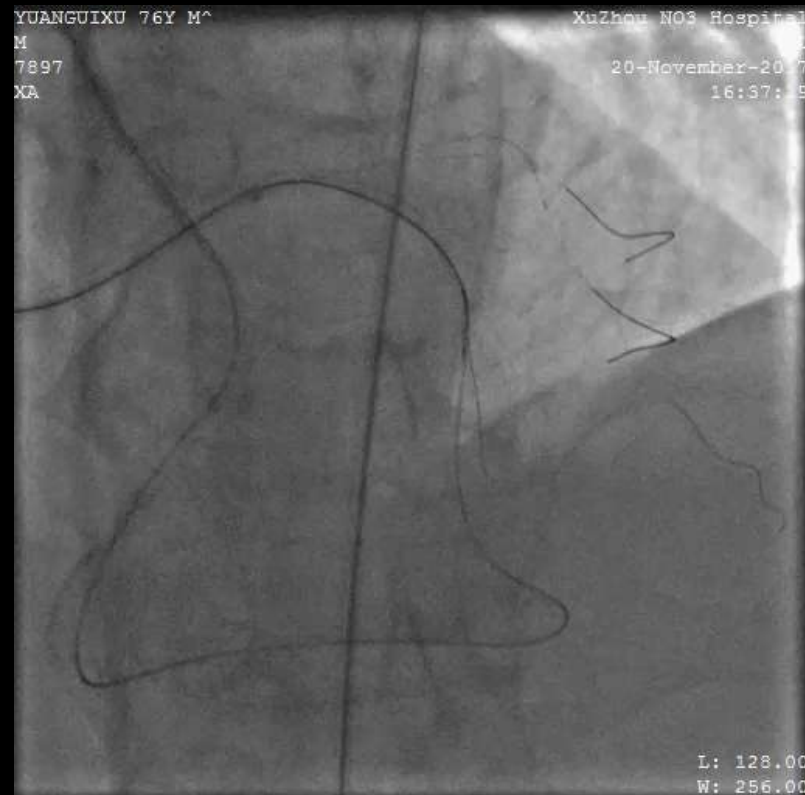
PCI for proximal LAD

3.0*23mm Firehawk DES



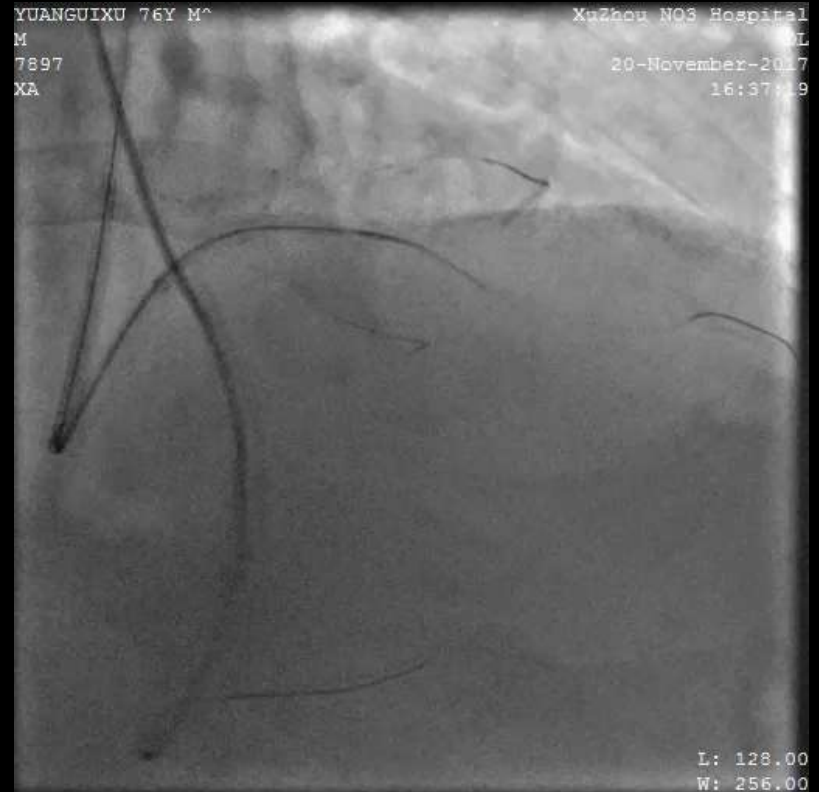
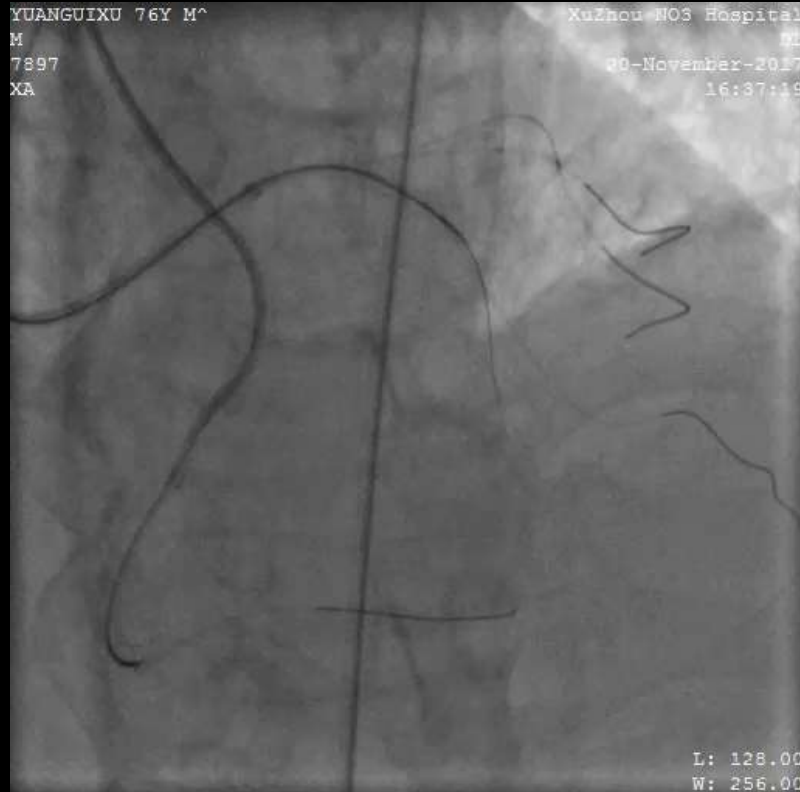
Ante-PCI for mid LAD-CTO

Antegrade Fielder XT



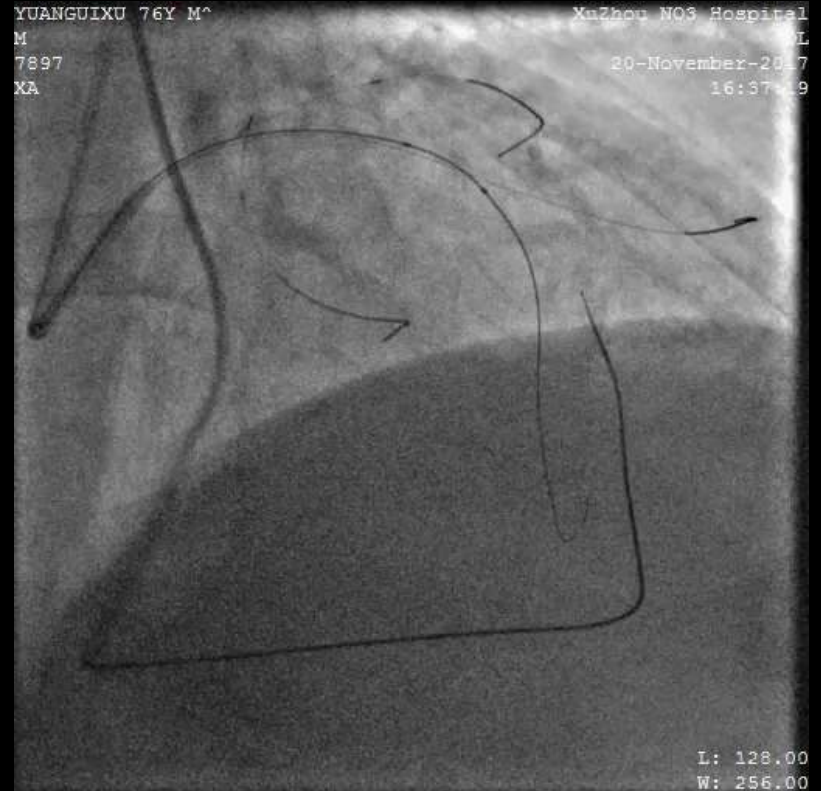
Antegrade for mid LAD-CTO

Wire escalation: Gaia First, Second, Third, Pilot 150 failed to distal true lumen



Retrograde for distal LAD-CTO

Gaia third

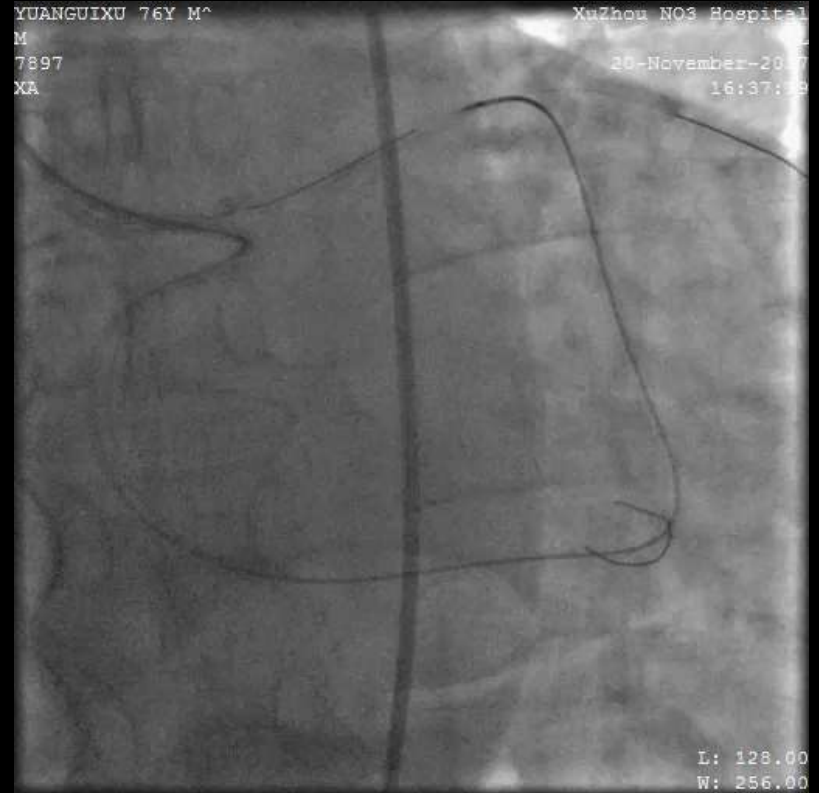
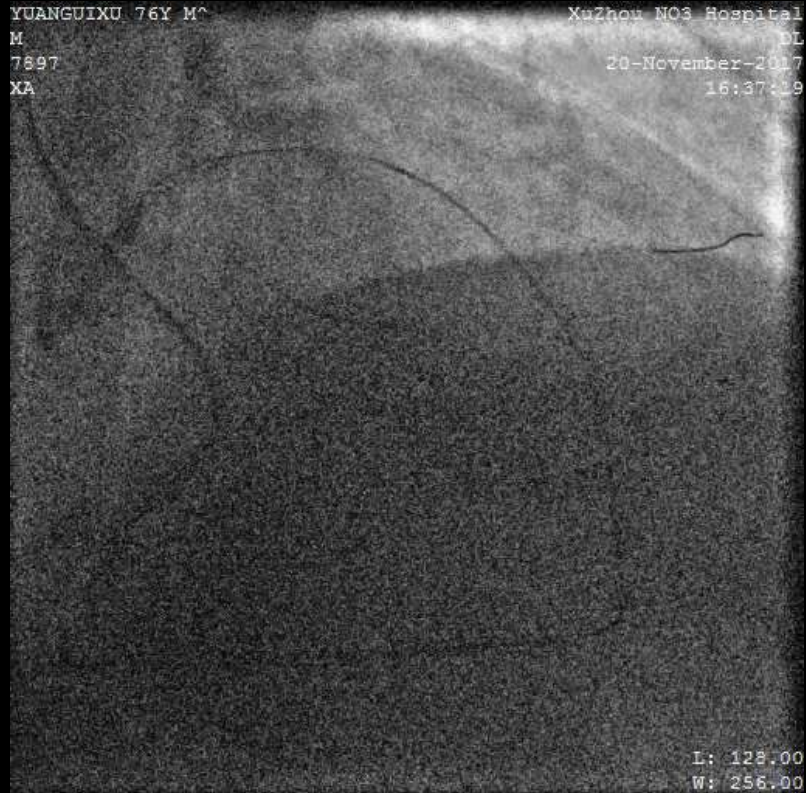


Reverse wire escalation

Conquest pro



Externalization



BMW wire in LAD

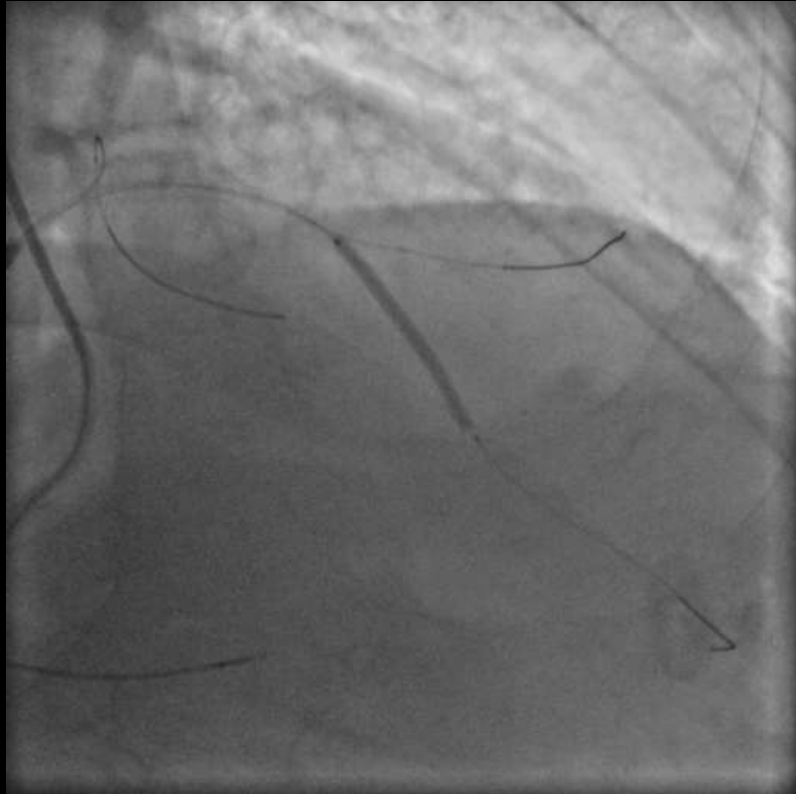


Pre-dilatation, gentle angiography



PCI for distal to mid-LAD

2.5*33mm、3.0*23mm Firehawk DESs



LCX-PCI

Predilation with 2.0*20mm balloon, 2.5*29mm Firehawk DES



Final angiography



Summary

- Treat culprit lesion first, provides more opportunity for CTO lesion;
- Retrograde PCI helps to increase CTO-PCI success rate;
- Reverse wire escalation, reverse kissing wire are pivotal retrograde PCI technique;
- Secure diagonal branch, is extremely important for LAD-CTO;
- IVUS examination is useful for complex lesions;
- Successful CTO-PCI and complete revascularization improve long-term clinical outcomes for CHIP patients.
- High risk, complex PCI indicated (CHIP) patients deserve proper treatment.