

Left Main and Quadrifurcation Lesions : Dilemma of Revascularization



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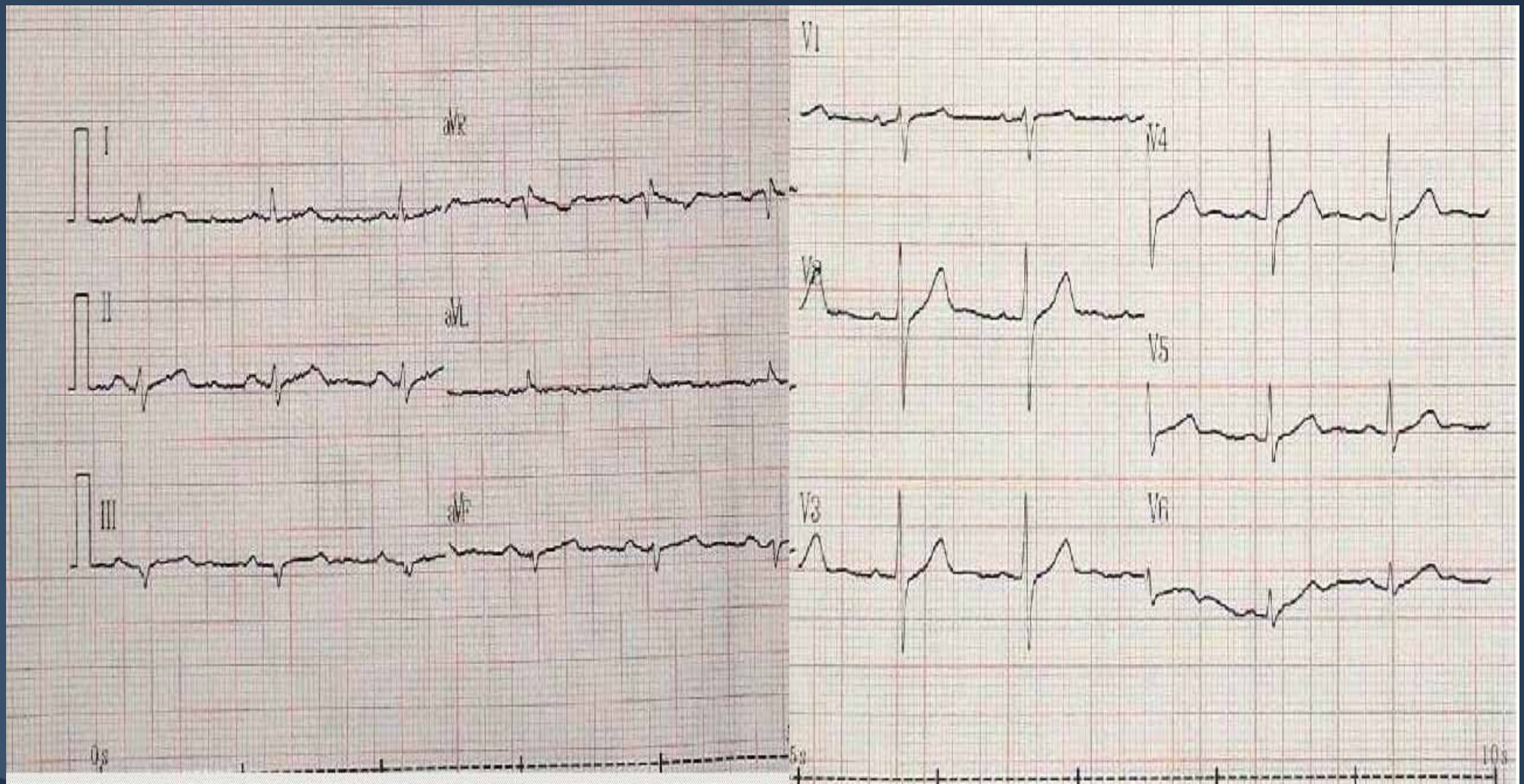


Medical History and Physical, laboratory examination

- Male, 58yr; “Chest pain for 2 months”.
- **Risk factors** : Hypertension 10years, Current smoking.
- **BP**: 130/80mmHg; **HR**: 72 beats/min; Murmur(-).
- **Blood routine examination**: WBC $5.55 \times 10^9/\text{l}$, HGB 137.0g/l, PLT $154.0 \times 10^{12}/\text{l}$.
- **Biochemical analysis**: ALT 20u/ml, AST 21u/ml, Cre 82 $\mu\text{mol/l}$, CHO 3.22mmol/l, LDL 2.25mmol/l, HDL 0.57mmol/l, Glu 4.49 mmol/l.
- **Myocardial injury biomarkers**: CK-MB 0.9ng/ml, MYO 16.3ng/ml, TnI 0.026ng/ml.
- **Echocardiography**: Ventricular wall motion normal ; LVEF=78%.



ECG with no symptom



Diagnosis

■ *Coronary artery disease*

Stable Angina Pectoris

Heart border normal

Sinus rhythm

Cardiac function I grade

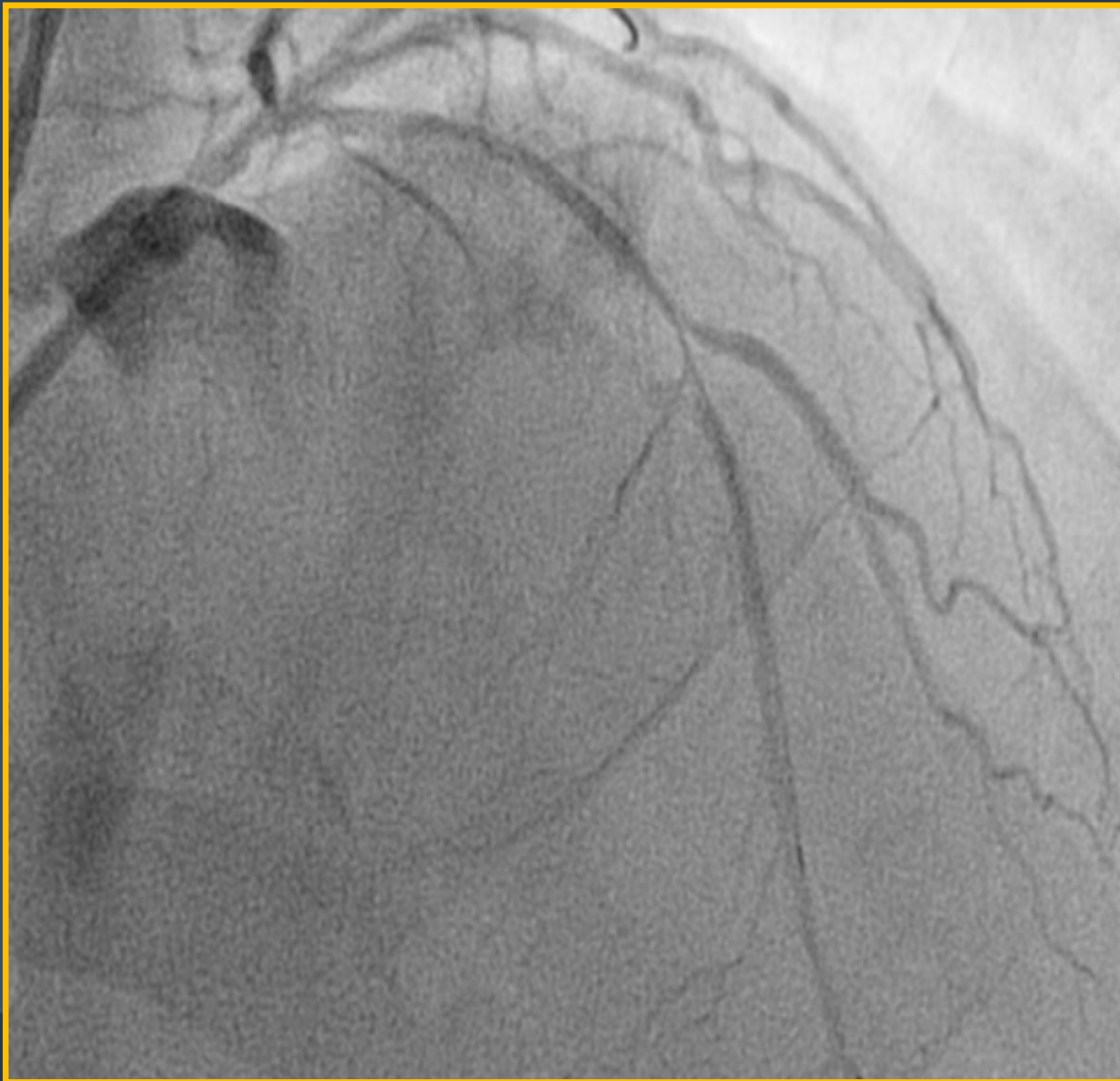
■ *Hypertension*



Left Artery Angiography



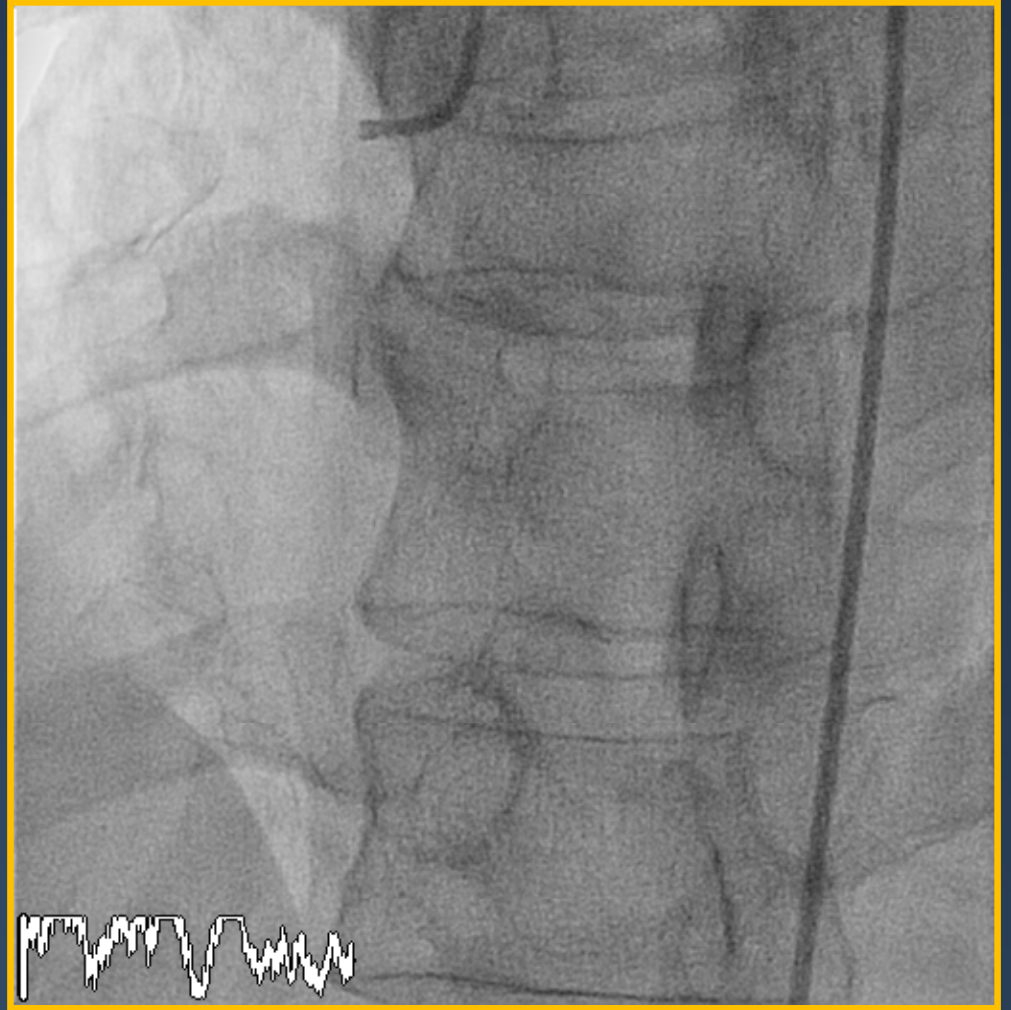
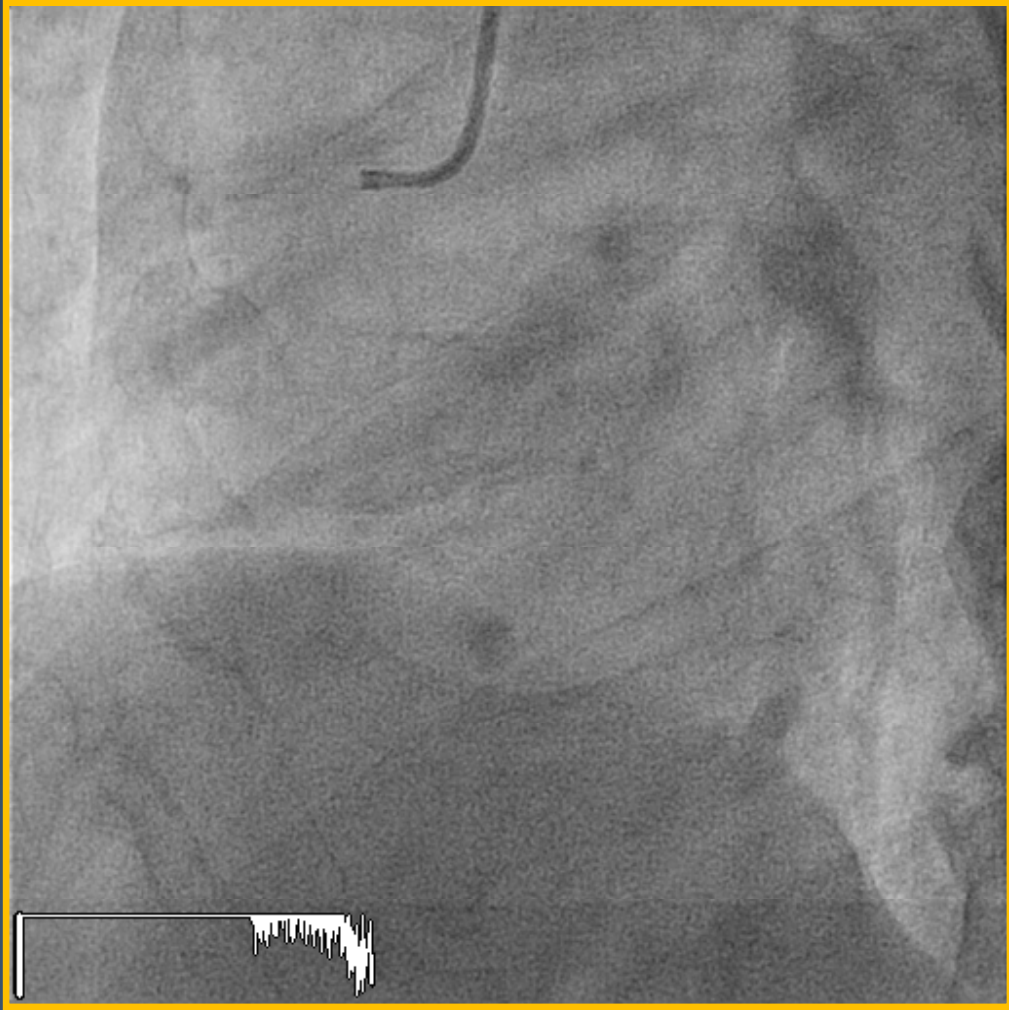
Left Artery Angiography



Left Artery Angiography : Spider View

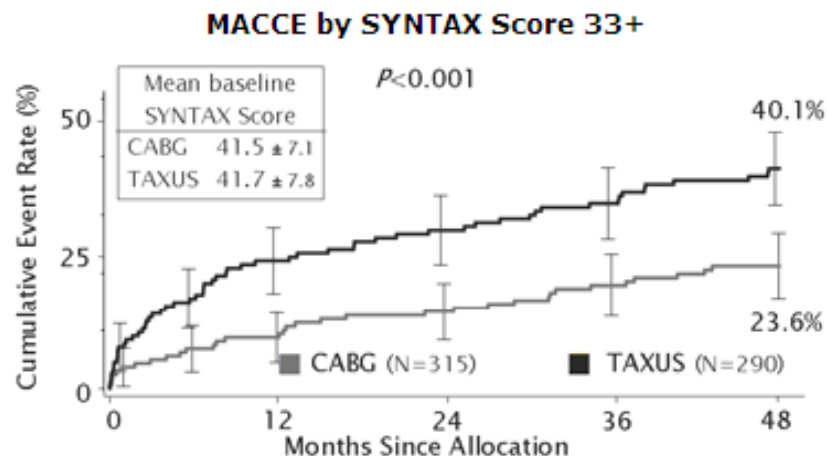


Right Artery Angiography



Risk Score Calculation

■ **Syntax Risk Score= 39 (High risk)**



The cumulative MACCE rate is displayed for the SYNTAX Trial group this score corresponds to.

Summary

Lesion 1

(segment 4): 1x2=	2
(segment 5): 5x2=	10
(segment 6): 3.5x2=	7
(segment 7): 2.5x2=	5
(segment 11): 1.5x2=	3
(segment 12): 1x2=	2
(segment 12a): 1x2=	2
Trifurcation 4 diseased segment(s) involved	6
Aorto Ostial lesion	1
Length >20 mm	1
Sub total lesion 1	39

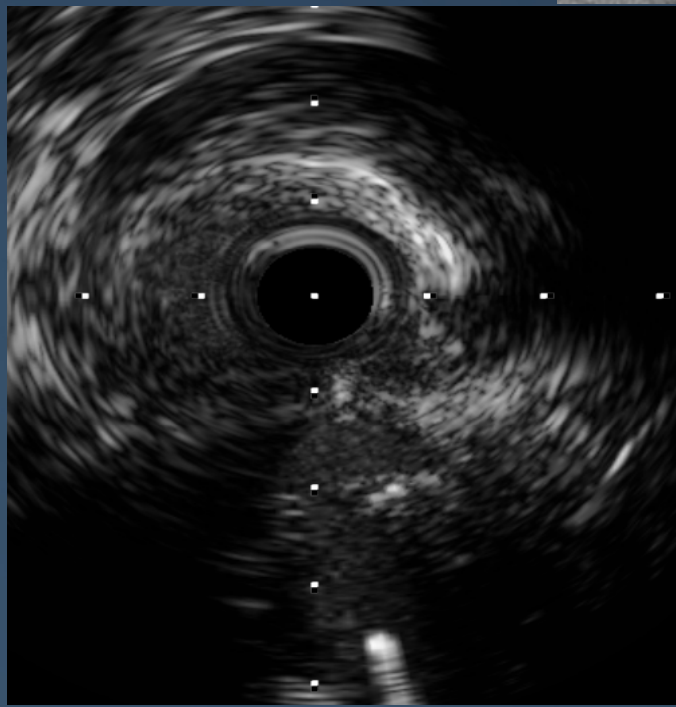
TOTAL: 39



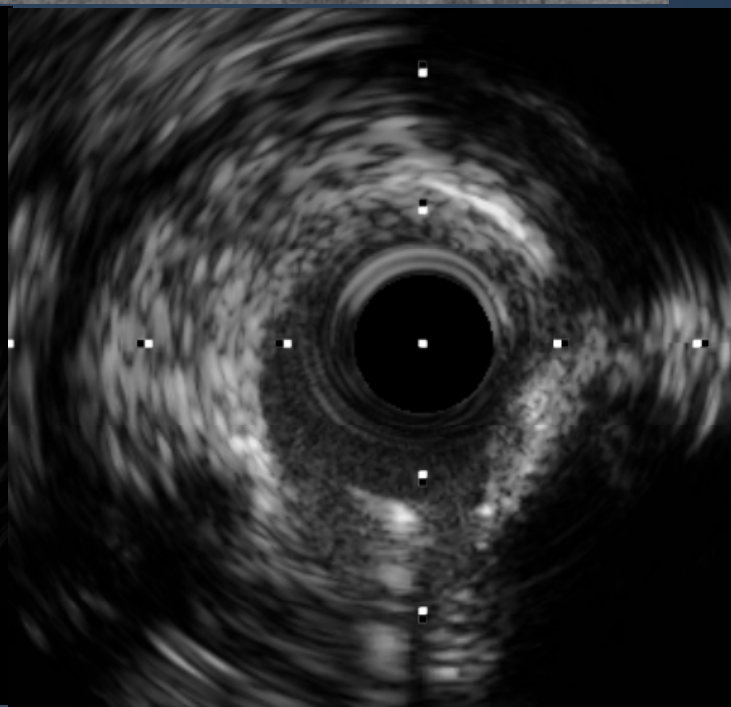
What Should We do next ?

- Ask consultation of cardiac surgeon, but, patient refuse to receive surgery even with minimally cardiac surgery.
- IVUS to identify the Left Main and quadrifurcation lesion, particularly the ostium of LCX.

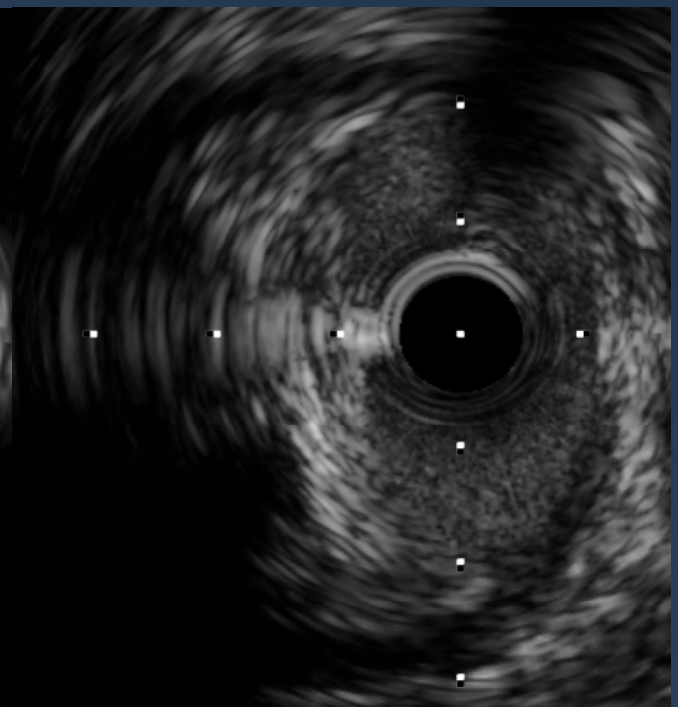




**LAD Ostial : $MLA=3.03mm^2$
PB=76%**

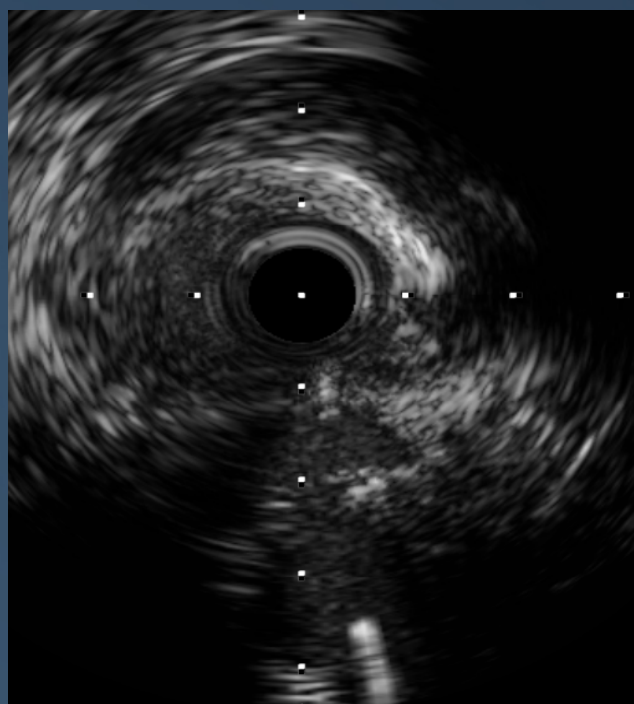
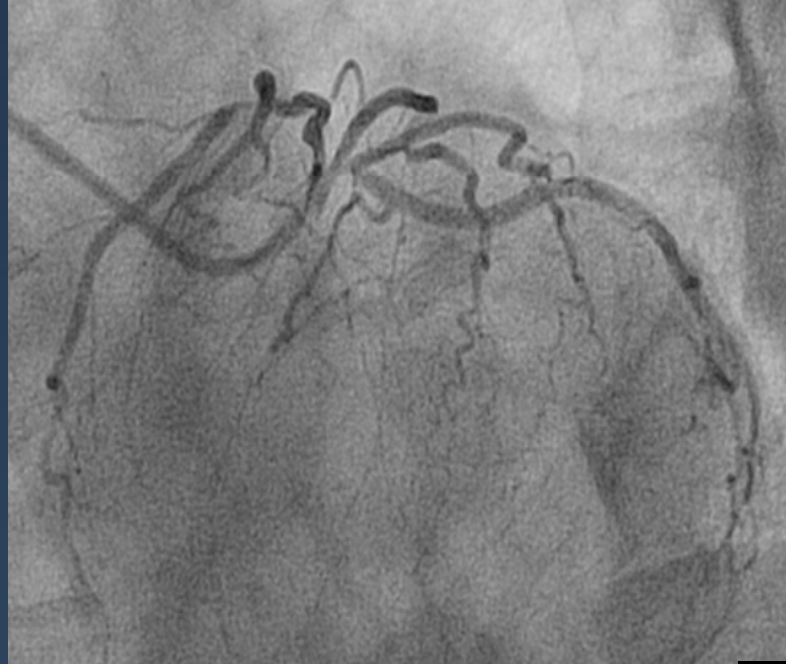


**LM Shuft: $MLA=3.49mm^2$
MLD=1.78mm**

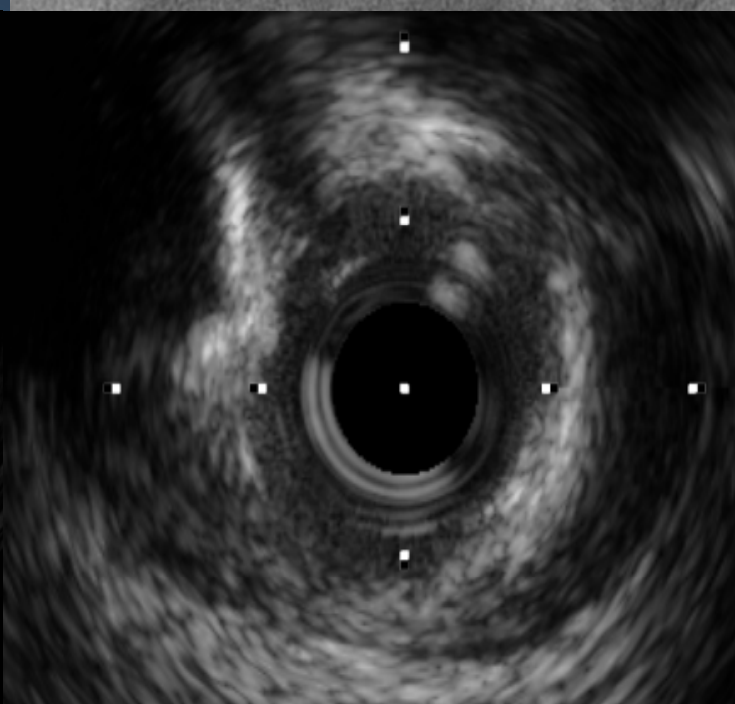


**LM Ostial: $MLA=6.53mm^2$
MLD=2.22mm**

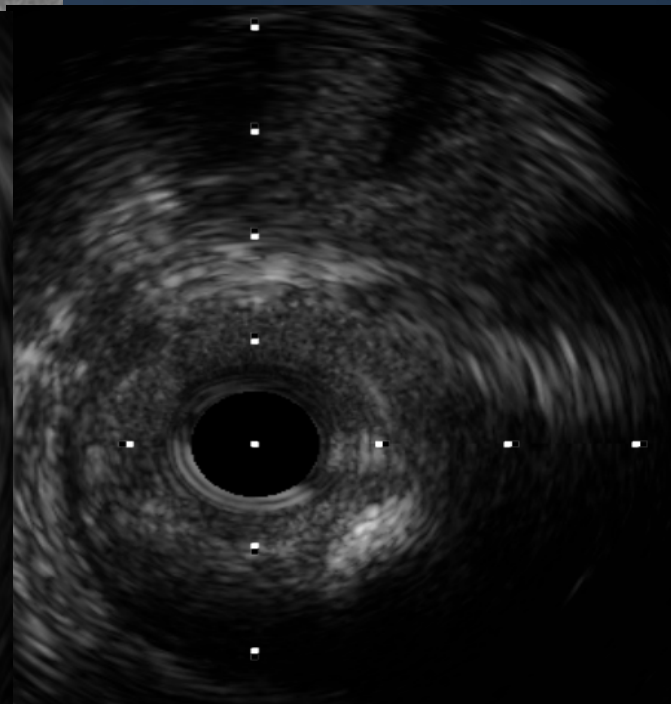




LAD Ostial : $MLA=3.03\text{mm}^2$
PB=76%



LM: $MLA=3.49\text{mm}^2$
MLD=1.78mm



LCX Ostial : $MLA=4.33\text{mm}^2$
PB=71%

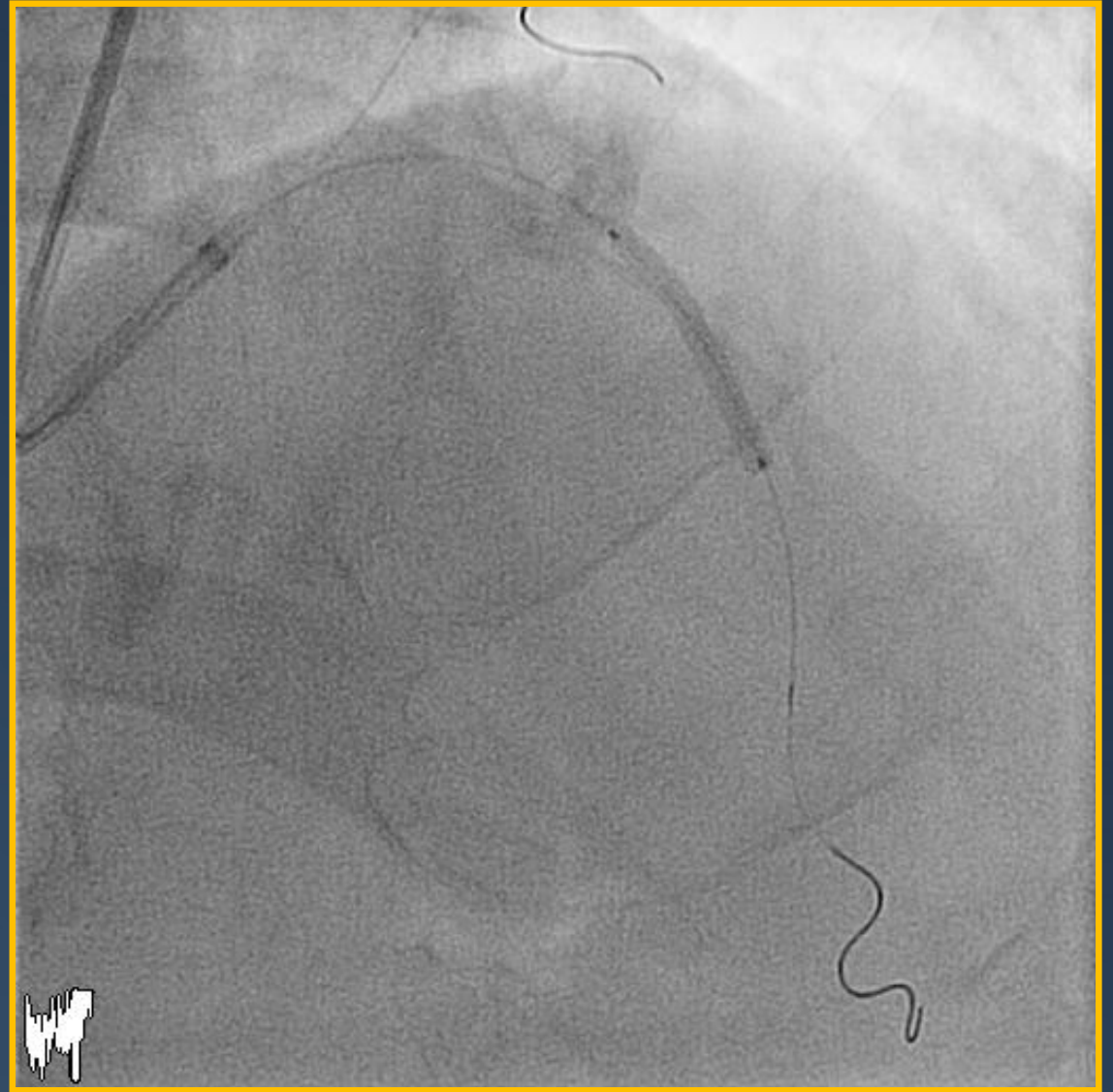
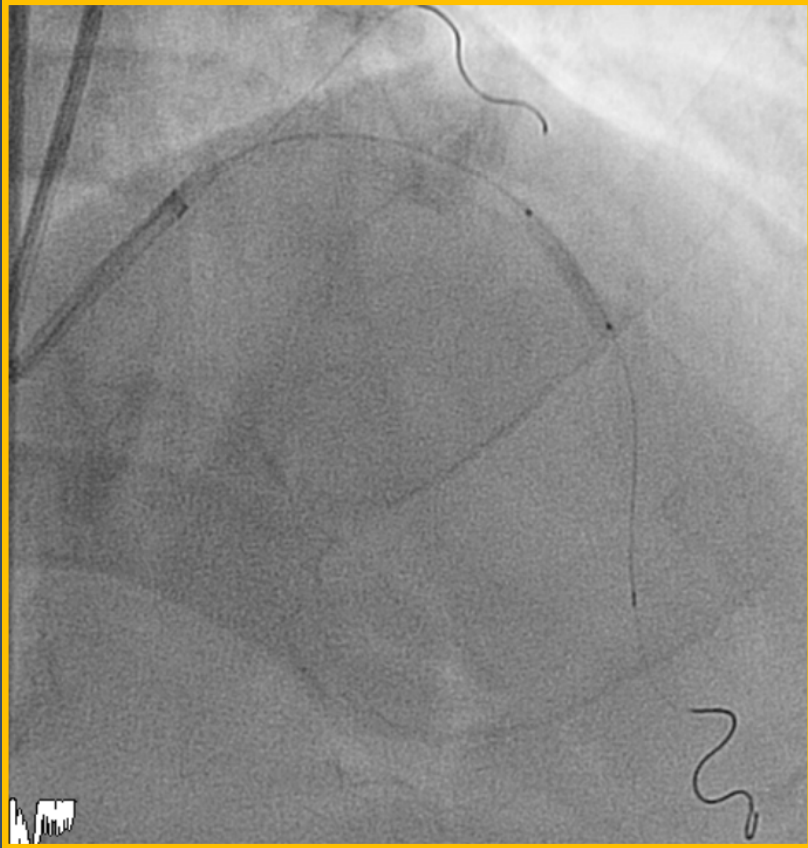




Transfemoral approach; **GC**: 7F EBU3.5
GW: BMW (LAD) ; Rinato (LCX)

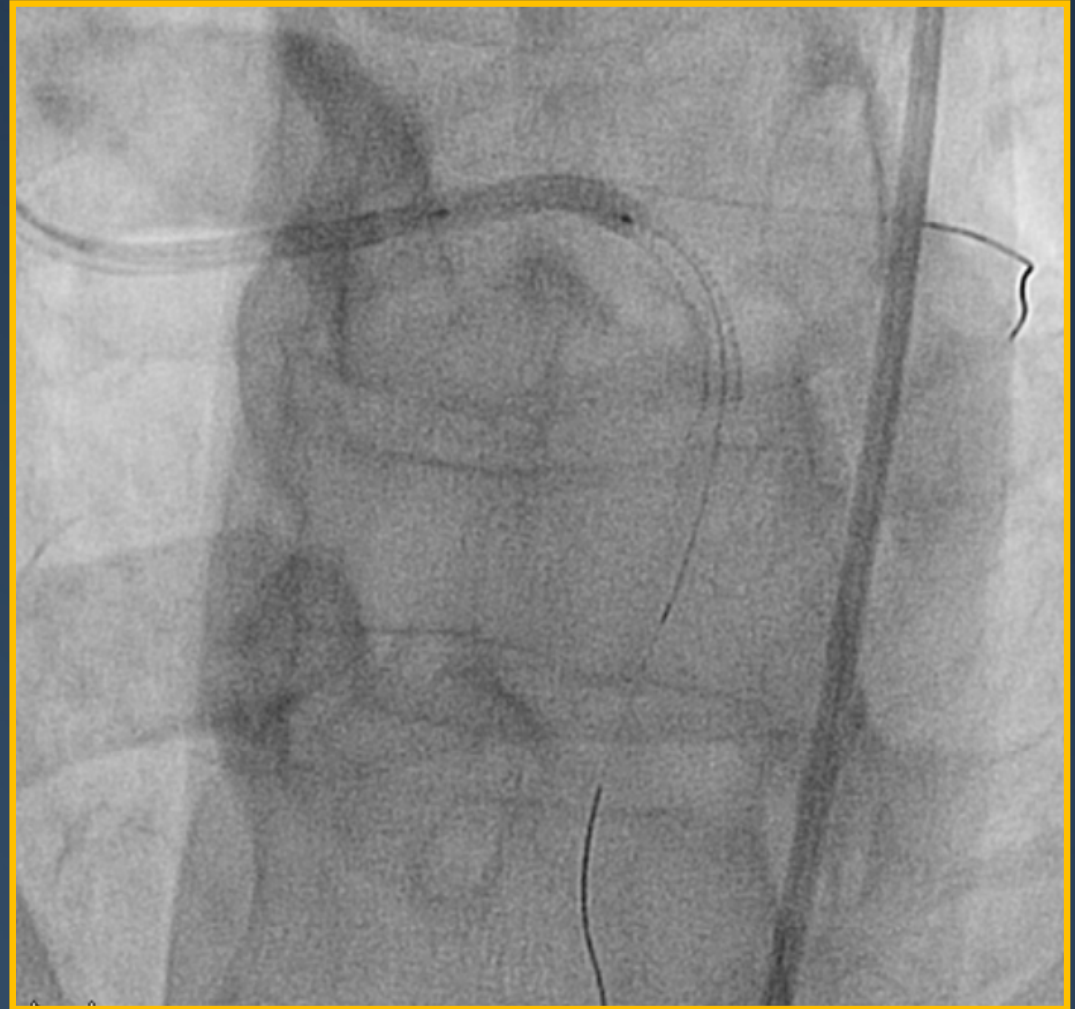
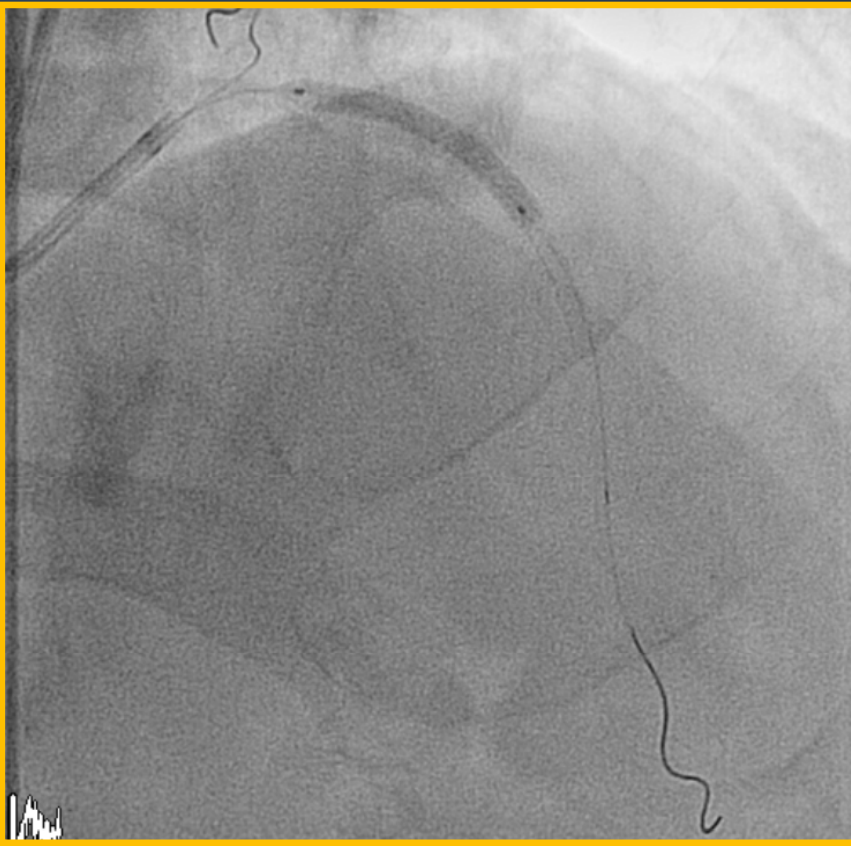


PCI



Pre dilation Balloon: Voyager 2.5 × 15mm; **DES** XIENCE V 2.5x23mm





DES: XIENCE V 3.0x28mm; XIENCE V 3.0x18mm



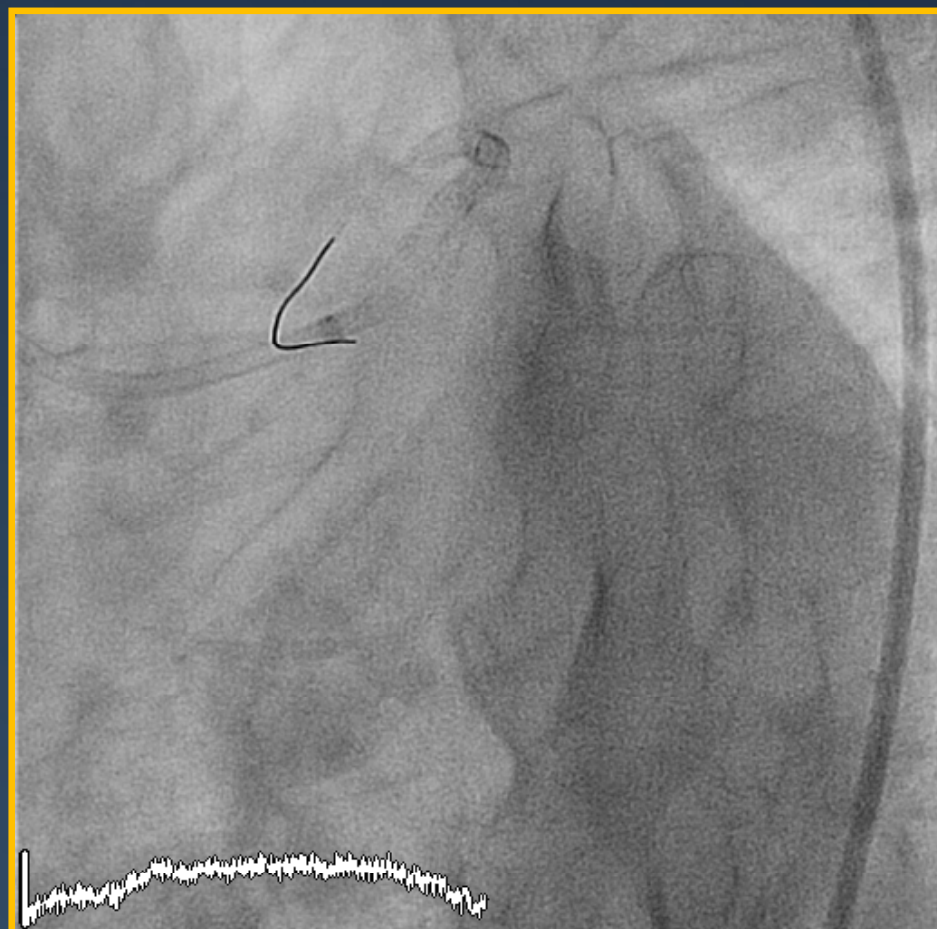
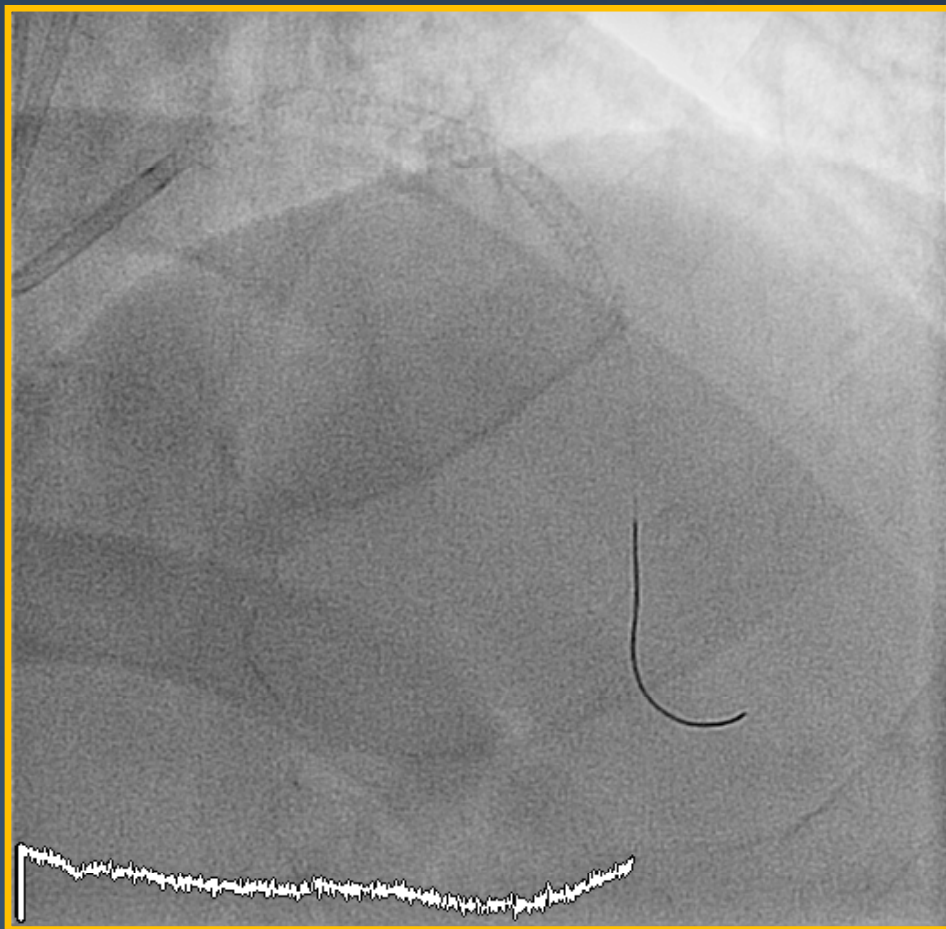
Postdilation

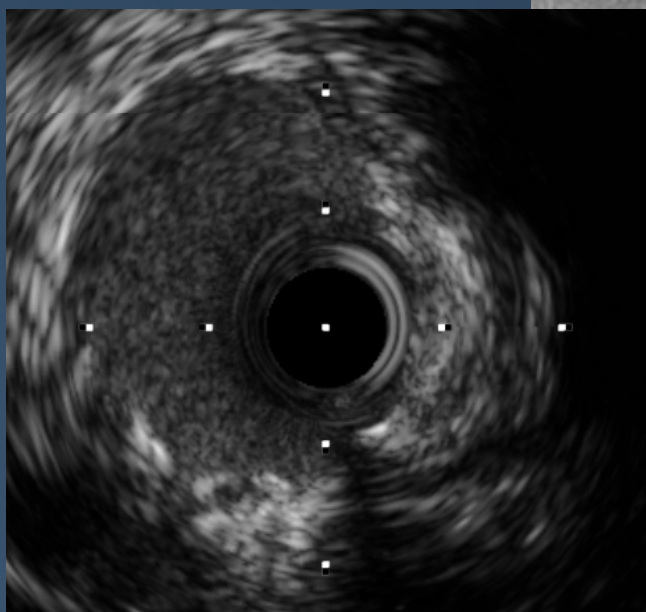


Post-dilation Balloon: NC Voyager 3.5 × 15mm

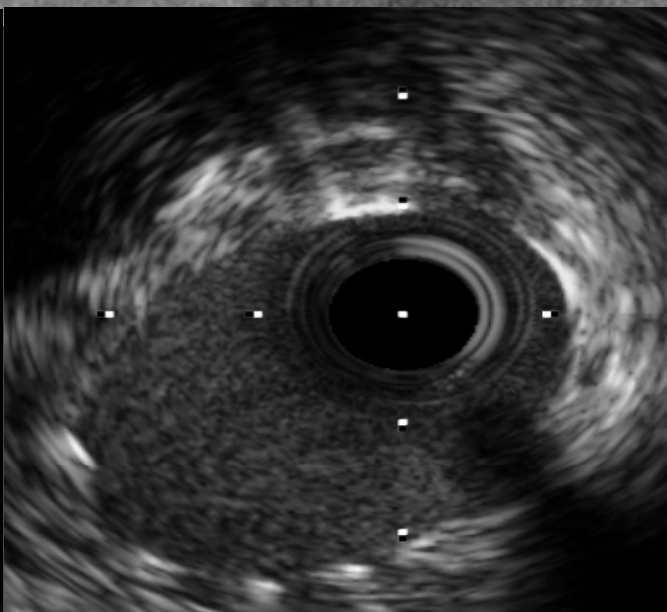


What should we do next ?

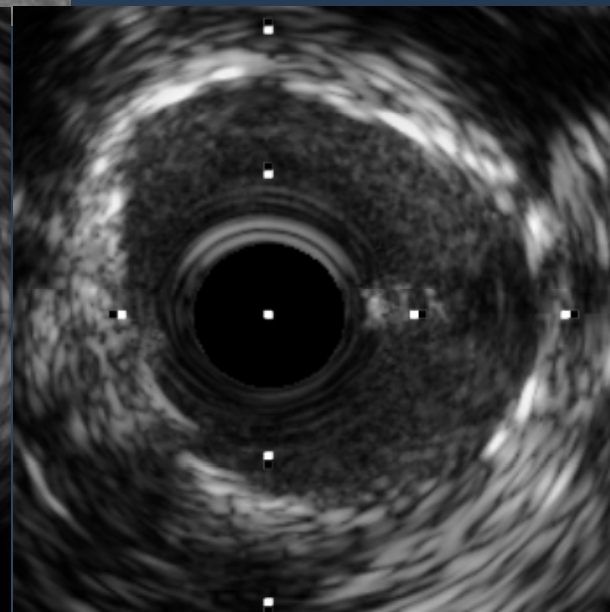




LAD Ostial MSA: 7.90mm^2

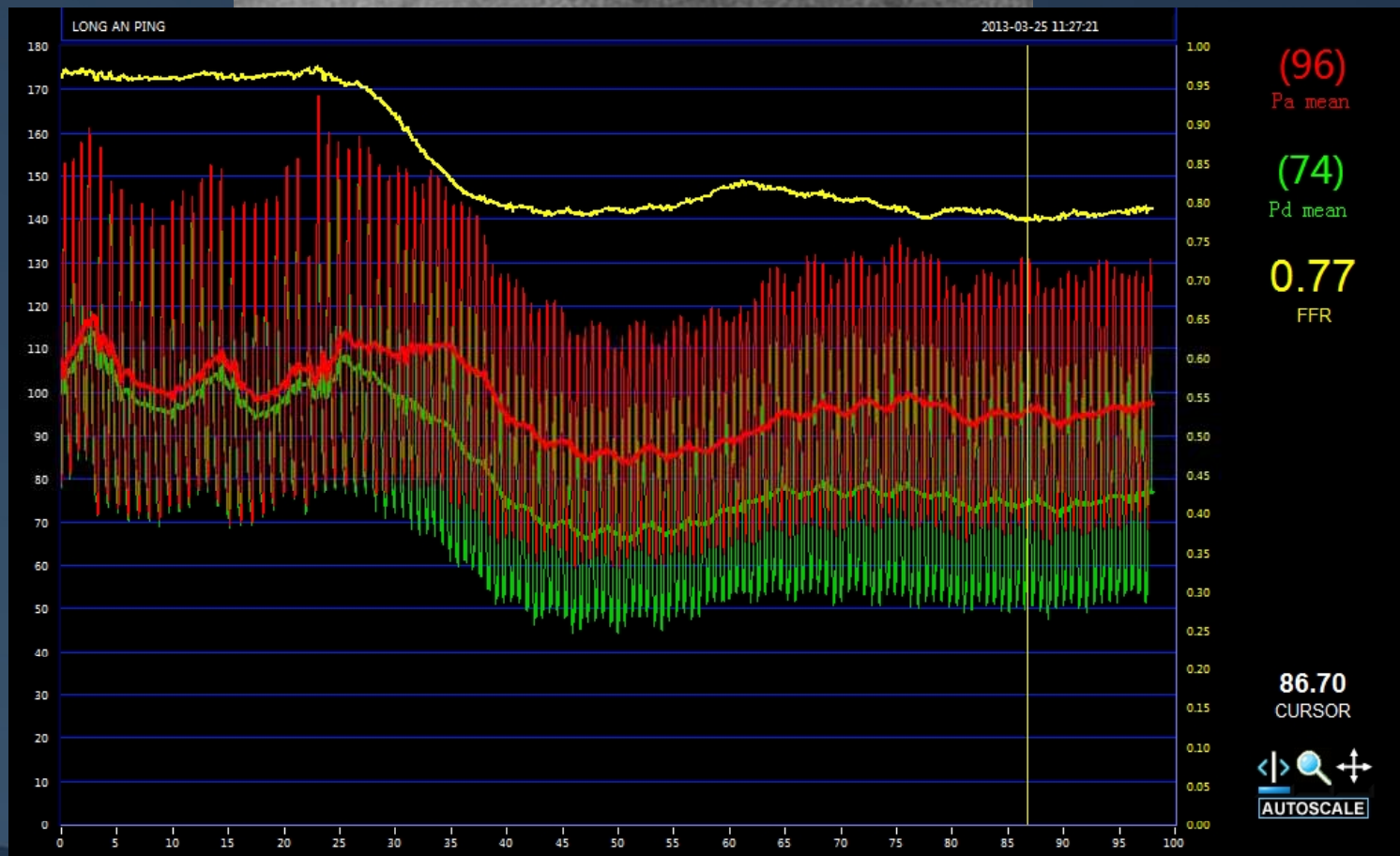


LM MSA: 8.72mm^2



LAD Distal MSA: 6.48mm^2

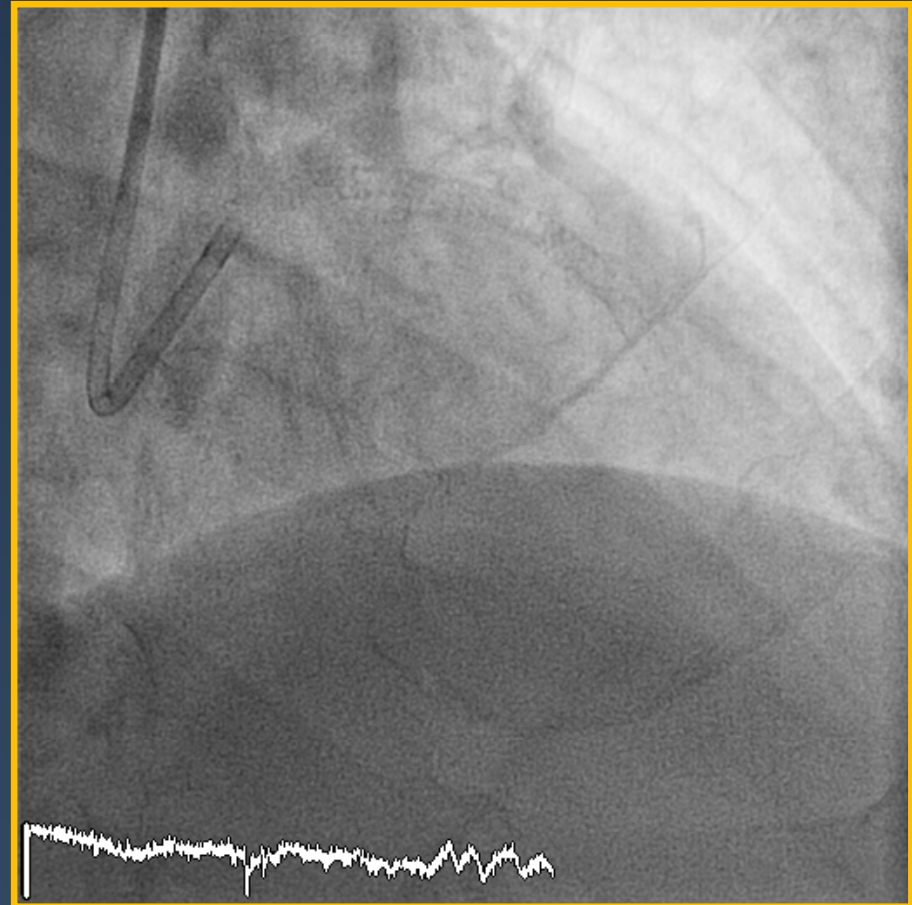




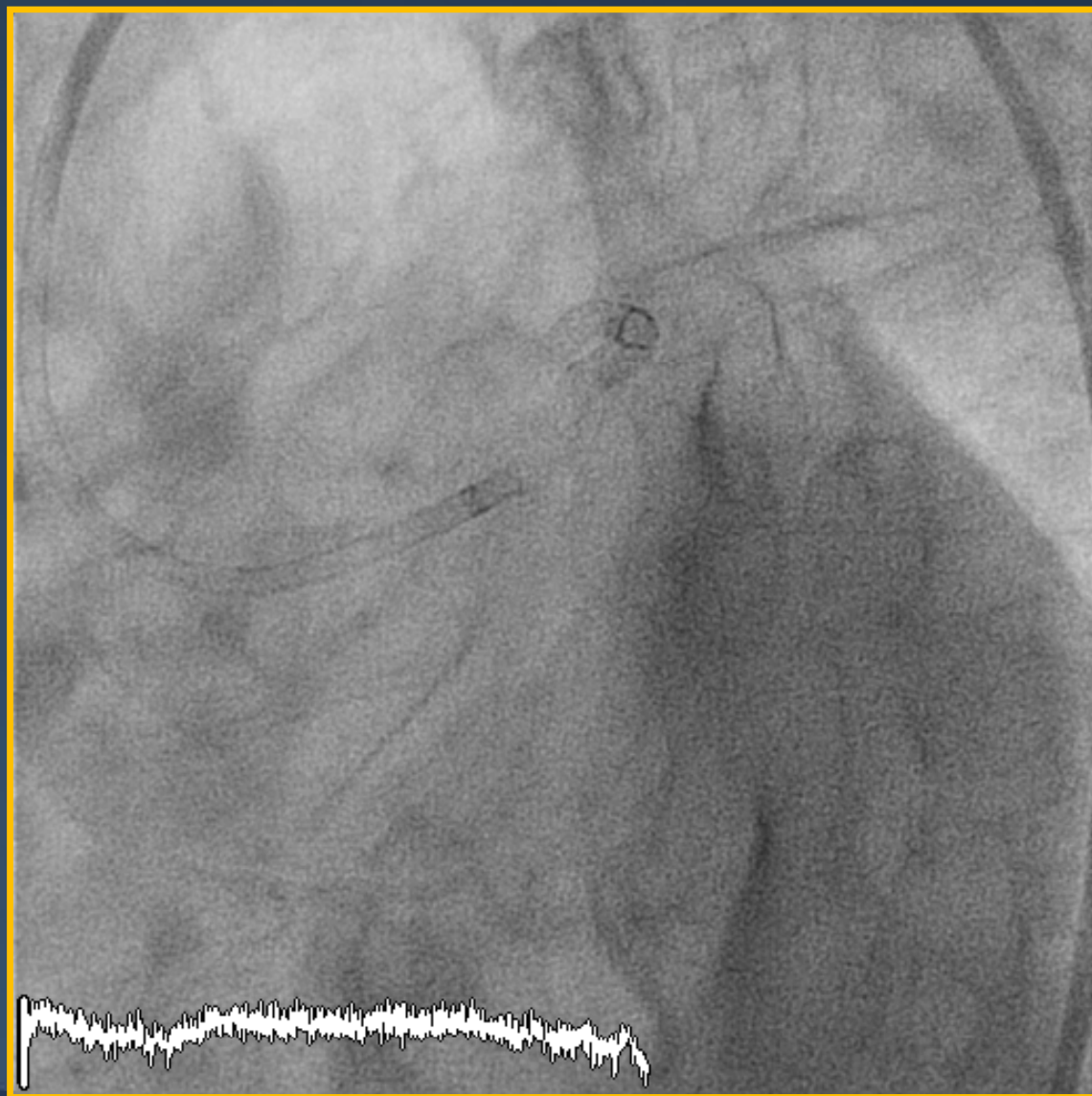
ATP 140ug/kg/min IV



Final Angiography



Final Angiography



***12 months later, Patient came to
recheck angiogram with no symptom***





Take Home Messages

- *Optimal revascularization strategy to Left main and quadrifurcation lesions sometimes difficult to decide.*
- *Keep the procedure simple !*
- *IVUS plays an critical role in direct PCI to Left main and bifurcation lesions.*
- *FFR 0.75 seems to be an appropriate criteria for jailed SB intervention considering the clinical relevance of SB and complexity of procedures.*

