

A typical complex bifurcation lesion

Nanjing, China

Nanjing First Hospital

Operator: Shao-Liang Chen
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Case Summary

Patient Demographic

- Age, 58 yrs.
- Gender, Male

Risk factors

- EH
- Diabetes
- Smoking

Diagnosis

- Unstable Angina
- Old myocardial infarction

Clinical History

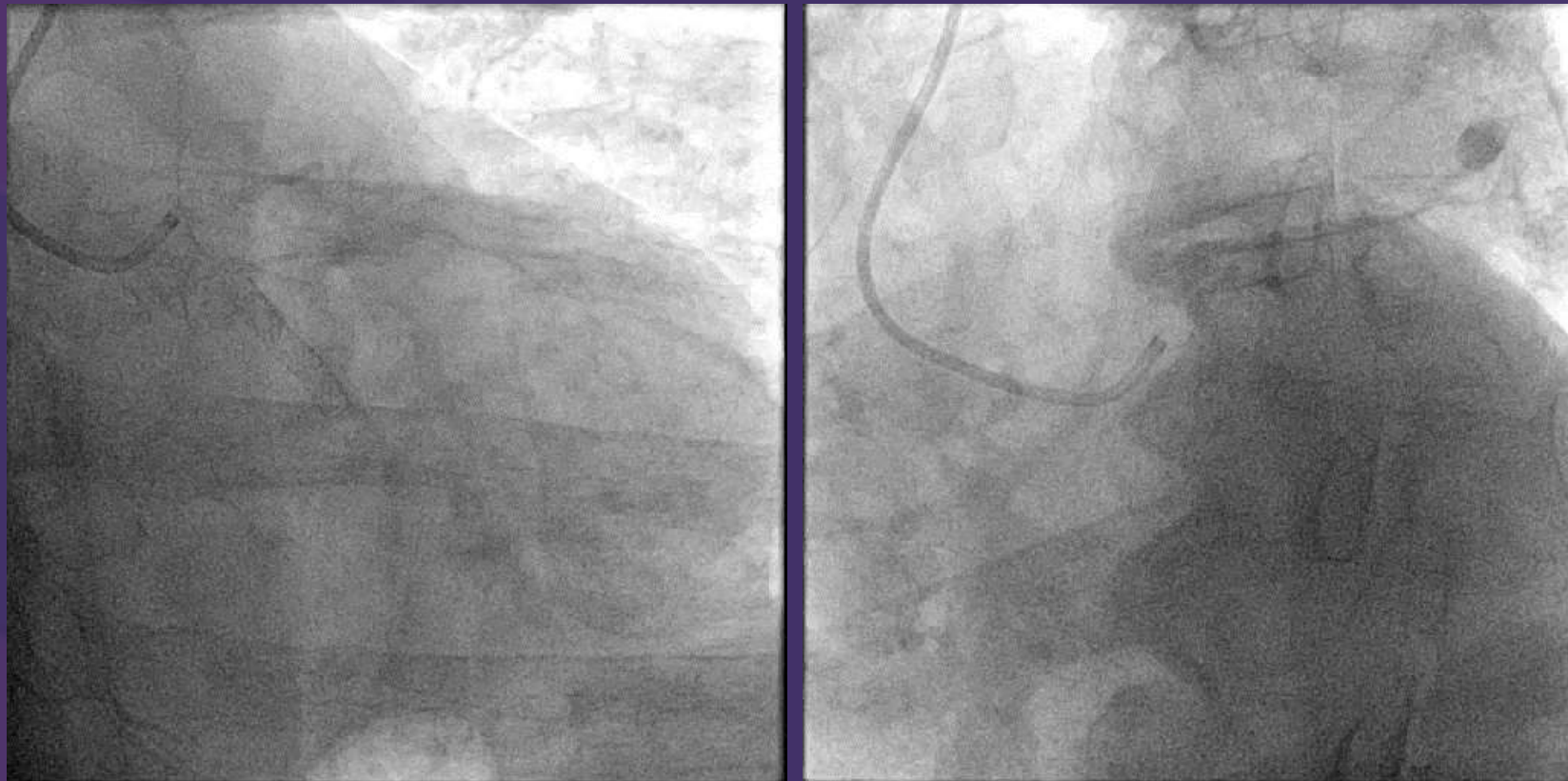
- Exertional chest pain for 13 years, aggravated for 2 weeks
- Previous PCI: a stent in Prox-LCX for AMI in Jul. 15th 2008

Lab examination

- Cardiac markers : negative
- SCr: eGFR: 96.58 mL/min/1.73m²
- NT-BNP: 328.58 pg/ml
- ECG: normal
- LVEF: 64%

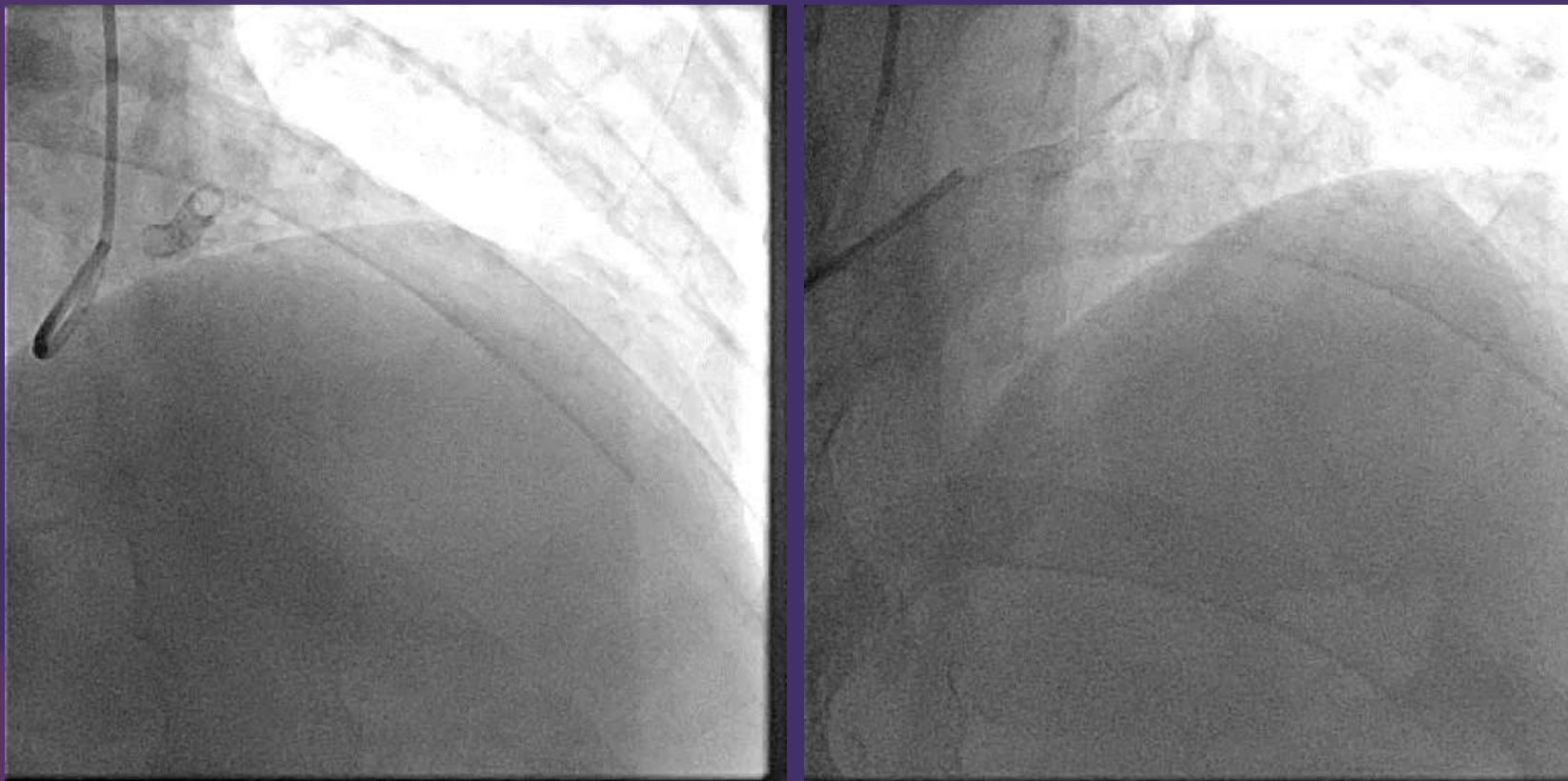
Baseline angiography

(2021/09/14)



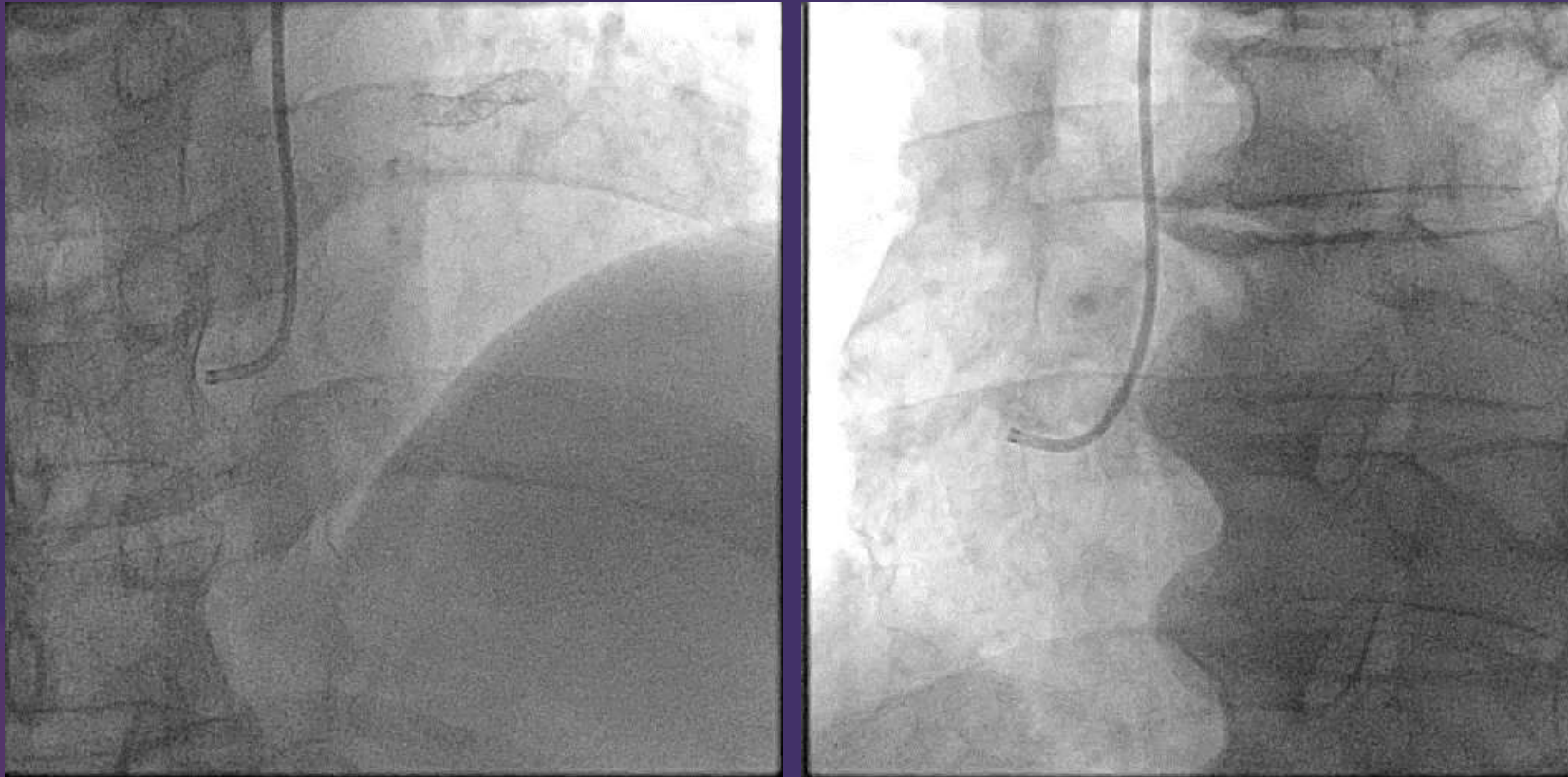
Baseline angiography

(2021/09/14)



Baseline angiography

(2021/09/14)



Risk Stratification

- **SYNTAX score: 27**
- **SYNTAX II**
 - **PCI 23.1, 4 year mortality 4.2%**
 - **CABG 21.7, 4 year mortality 3.9%**

RCA was treated with 3 stents

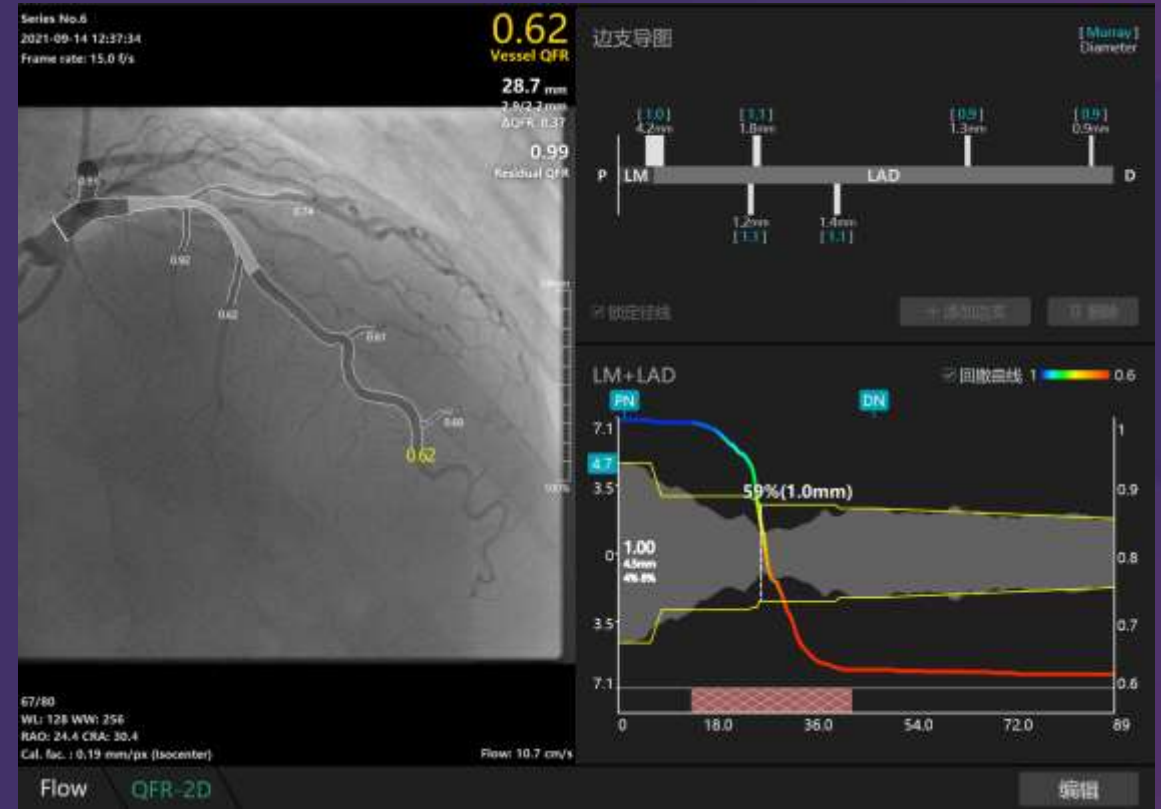
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Target vessel QFR

Target vessel: LAD/D1

QFR: LAD = 0.62; D1 = 0.74

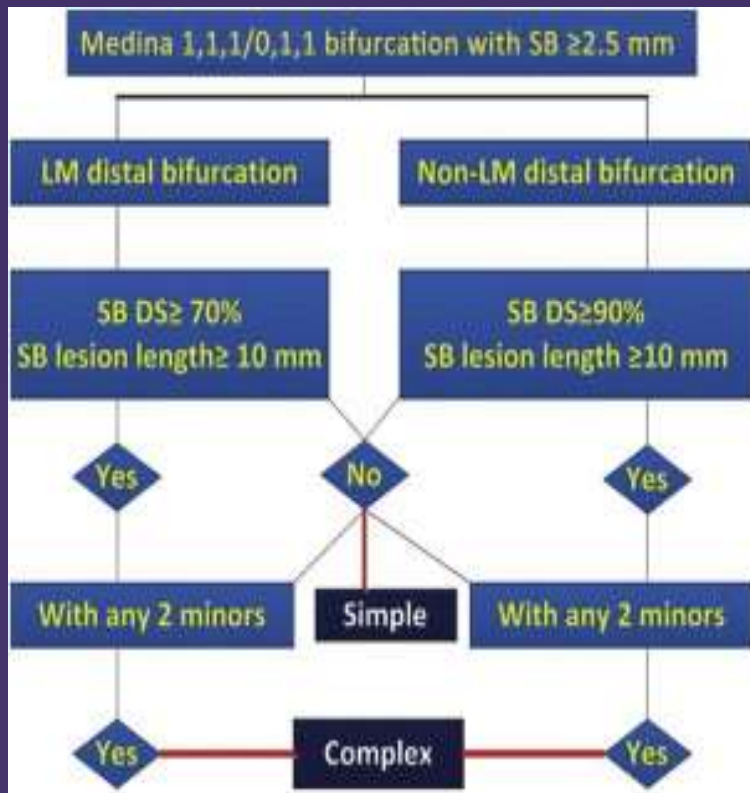


Definition of Complex Bifurcations



Impact of the Complexity of Bifurcation Lesions Treated With Drug-Eluting Stents
The DEFINITION Study

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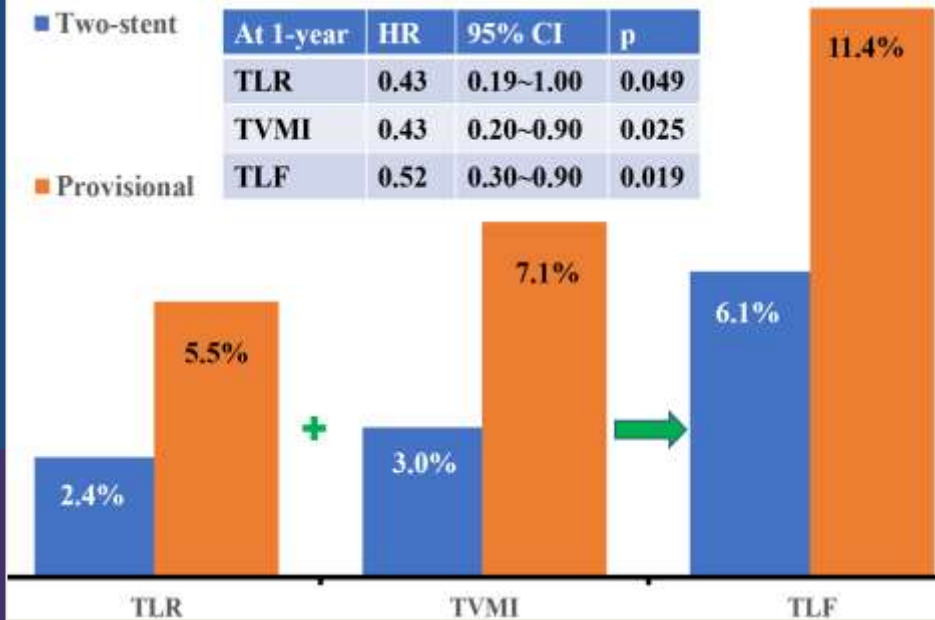
- Major:**
- LM bifurcation: SB-DS $\geq 70\%$ and SB lesion length ≥ 10 mm
 - Non-LM bifurcation: SB-DS $\geq 90\%$ and SB lesion length ≥ 10 mm
- Minor :**
- Moderate to severe calcification
 - Multiple lesions
 - Bifurcation angle $< 45^\circ$ or $> 70^\circ$
 - Main vessel diameter < 2.5 mm
 - Thrombus-containing lesions
 - MV lesion length ≥ 25 mm

Chen SL, et al. JACC CI 2014
Zhang JJ...Chen SL. EHJ 2020



Multicentre, randomized comparison of two-stent and provisional stenting techniques in patients with complex coronary bifurcation lesions: the DEFINITION II trial

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Strategy

- Stenting technique for Complex LAD/D1 bifurcation lesion
 - PS
 - 2-stent
 - DK crush
 - culotte
- Intro-coronary imaging or angiography guidance
 - IVUS-
 - OCT-
 - Angio-