

# LMCA INTERVENTION IN COMPLEX CORONARY ARTERY DISEASE WITH PERIPHERAL ARTERIAL DISEASE: A NON-MECHANICAL SUPPORT APPROACH (BALLOON-ASSISTED VIA FEMORAL ACCESS DUE TO FEMORAL ARTERY DISEASE)

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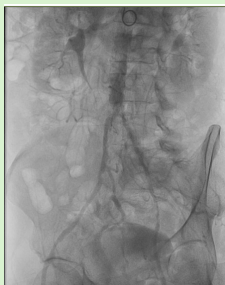
## INTRODUCTION

Left main coronary artery (LMCA)  
Ischaemia risk: **3.5x higher mortality** vs single-vessel CAD.

**Prevalence:** 5-7% of patients undergoing coronary angiography (Source: EURObservational Research Programme)

Patients with peripheral arterial disease (PAD) show that up to 50% present concomitant coronary disease, including significant lesions in the LMCA.

, and the risk increases with the severity of PAD. This is associated with increased cardiovascular mortality, particularly when the LMCA is involved, due to the high risk of major ischemic events.



Angiographic imaging of the pelvic extremities

## CLINICAL CASE

A 62-year-old male with a medical history of hypertension, type 2 diabetes mellitus, peripheral artery disease, and current smoking status. His cardiovascular history includes: 2016: Inferior STEMI treated with primary PCI involving implantation of two drug-eluting stents 2022: Chronic coronary syndrome requiring additional PCI with stent implantation to the LAD 2023: Developed intermittent claudication secondary to progressive peripheral arterial disease. Admission diagnosis: non-ST-elevation myocardial infarction (NSTEMI) demonstrating Wellens' syndrome pattern and persistent angina, prompting urgent diagnostic coronary angiography.



Diagnostic coronary angiography

Peripheral vascular: Femoral arteries (Bilateral) with extensive, diffuse atherosclerotic stenosis  $\geq 70\%$ .

Heart

Team

Decision:

not a candidate for surgical revascularisation and approved High-risk PCI of the LAD. Intra-aortic balloon pump (IABP) support not feasible due to peripheral arterial disease.

## DIAGNOSTIC CORONARY ANGIOGRAPHY

**LMCA:** 50% stenosis in the mid-body. Critical 99% distal bifurcation stenosis Medina 1-1-1 classification.

**LAD:** Proximal segment with in-stent restenosis Mehran III with 90% ostial stenosis segment.

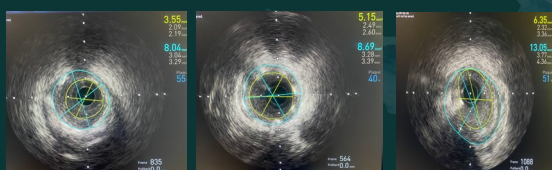
**LCx:** 99% ostial stenosis

**RCA:** No lesions.

## HIGH RISK LAD INTERVENTION

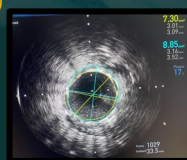
IVUS findings mid segment Minimal lumen area (MLA): 3.55 mm<sup>2</sup> with neointimal hiperplasia intrastent and stent subexpansion causing 55% stenosis. Proximal segment MLA

4.45 mm<sup>2</sup>. LMCA with MLA 6.35 mm<sup>2</sup> and high plaque burden. Initial predilatation was performed using a 2.5 × 20 mm SC balloon. Successful implantation of a 3.5 × 38 mm everolimus-eluting stent (EES) in the left main coronary artery (LMCA) extending into the proximal left anterior descending (LAD) artery. Post-dilatation performed using a 4.0 × 15 mm non-compliant (NC) balloon. Final result: TIMI 3 TMP 3. IVUS assessment: Proximal segment MSA 7.3 mm<sup>2</sup> no malapposition. LMCA MSA 11.24 mm<sup>2</sup> LCx ostial dilatation



Initial IVUS assessment in mid segment (image on the left, proximal segment (image on the center) and LMCA (image on the right)

2.0 x 20 mm SC balloon. Final angiographic result TIMI 3 TMP 3.



Final result at IVUS and final coronary angiographic

