# From epicardial to microvascular: a holistic approach to unstable angina management

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**Introduction**: Coronary angiography (CA) remains the gold standard for detecting epicardial stenosis, yet microvascular dysfunction is frequently overlooked despite its significant impact on myocardial ischemia and patient symptoms. An increasing body of evidence[1] suggests that assessing coronary microvascular function, in conjunction with evaluating epicardial lesions, is essential for guiding treatment decisions and optimizing patient outcomes.

**Case report**: 64-year-old female patient with a family history of cardiovascular disease was admitted to the cardiology ward due to unstable angina. Urgent CA revealed subocclusive stenosis of the right coronary artery (RCA) with distal TIMI 1 flow and borderline (60%) stenosis of the left anterior descending (LAD) artery. A subsequent percutaneous coronary intervention (PCI) targeting the RCA, identified as the culprit lesion, was successfully performed, involving the implantation of two drug-eluting stents (DES). Regarding the borderline stenosis of the LAD, a decision was made to reassess the lesion during a follow-up procedure three months later. During this follow-up period, the patient reported intermittent episodes of angina. Control CA confirmed an excellent outcome from the previous PCI of the RCA, with TIMI III flow, while the LAD stenosis remained unchanged. The LAD lesion was then functionally evaluated using coronary physiology assessment, which revealed a significantly reduced coronary flow reserve (CFR) and markedly increased microcirculatory resistance (IMR), with the fractional flow reserve (FFR) remaining normal. These findings identified the presence of structural microvascular coronary disease and confirmed that the LAD stenosis was functionally insignificant. Considering these results, PCI of the LAD stenosis was not indicated. Instead, the antianginal therapy was intensified, and the patient was discharged in stable condition.

**Conclusion**: This case underscores the importance of functional assessment of both epicardial and microvascular compartments to accurately identify the underlying causes of patient symptoms. As current clinical practice often prioritizes epicardial assessment, this case emphasizes the need for a broader diagnostic approach to ensure appropriate management and avoid unnecessary interventions.

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## LITERATURE

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