

VIDEO SESSION

The Important Role of FFR Measurement in Everyday Clinical Practice: Two Representative Cases

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The measurement of fractional flow reserve (FFR) has been proven useful in evaluating whether or not to perform percutaneous coronary intervention (PCI), especially in the case of “intermediate” stenosis. Nowadays, the indication of its usefulness has been expanded. While coronary angiography remains the cornerstone for assessment of epicardial coronary artery lesions in the catheterization laboratory, FFR-guided coronary treatment has established its usefulness especially after FAME 1 & 2 trials. We present 2 cases where FFR-guided PCI led to successful result and undoubtedly to a better outcome for these patients.

CASE 1

A 51-year-old man, smoker, with mild dyslipidemia was submitted to PCI for a moderate stenosis of the proximal left anterior descending (LAD) coronary artery. FFR with a value of 0.75 was used to evaluate the functional severity of the stenosis. FFR was repeated following stent apposition. Its new value of 0.80 raised questions regarding the final PCI result. Moreover, a more focused view of the angiogram showed a mild stenosis after the distal part of the stent. A second stent was implanted and improved not only the final image but the value of the FFR as well. Post-stent FFR has proven adequate to predict major adverse cardiac events at 1-year follow-up in a retrospective analysis of patients implanted with drug-eluting stent.

CASE 2

A 49-year-old female, smoker and dyslipidemic under treatment with statins, underwent coronary angiography due to recurrent chest pain. One year earlier, coronary angiography, performed for similar symptoms, revealed moderate stenosis of the LAD and the left circumflex (LCx) coronary artery. The angiographically severe stenoses of both the LAD and LCx were reevaluated using FFR. Based on the FFR results, PCI with stenting was undertaken only for the LAD lesion. The final angiographic result was excellent with the LCx remaining untreated.

CONCLUSION

In *conclusion*, FFR assessment should be used to direct PCI only to flow-limiting

ABBREVIATIONS

FFR = fractional flow reserve
LAD = left anterior coronary descending
LCx = left circumflex
PCI = percutaneous coronary intervention

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lesions and to achieve optimal stent deployment. Moreover, cost-effectiveness data from FAME 2 (FFR-Guided Percutaneous Coronary Intervention Plus Optimal Medical Therapy vs. Medical Therapy Alone in Patients with Stable Coronary Artery Disease) trial were very encouraging. The researchers

concluded “In patients with symptomatic stable coronary artery disease, PCI in the setting of an abnormal FFR improves angina and quality of life, and appears to be economically attractive compared with best medical therapy, assuming the benefit of PCI lasts longer than 1 year”.