

Determination of appropriate treatment strategy for coronary artery stenosis by means of coronary angiography is subjected to variation in subjective assessment. To combat this, various tools have been employed including stress testing and intracoronary imaging devices e.g. fractional flow reserve (FFR) and intravascular ultrasound (IVUS) into the cardiac catheter laboratory in recent years. American Heart Association guidelines now recommend that FFR should be used for assessing plaques of intermediate severity (50%-70%).¹ Previously, the randomized clinical trials of FFR in the Fractional Flow Reserve Versus Angiography in Multivessel Evaluation (FAME) and FAME 2 studies found the benefit of FFR in relation to PCI.^{2,3}

The FAME 2 trial was terminated early because of a significant reduction in the composite primary end point (of death, myocardial infarction, or urgent revascularization) in the FFR-guided PCI group. However, neither FAME nor FAME 2 found a mortality benefit for FFR-guided PCI. In a new observational study, the use of FFR or IVUS during PCI is not associated with improved long-term mortality rates when compared with standard angiography-guided PCI.⁴

The results are based on an analysis of 41 688 patients with stable angina and non-ST-segment-elevation MI (NSTEMI) included in the Pan-London (United Kingdom) PCI Registry. Compared with conventional PCI, there was no statistically significant difference in mortality among those treated with FFR- and IVUS-guided PCI after a median of 3.3 years.

1.

Levine GN, Bates ER, Blankenship JC, et al. 2011 ACCF/AHA/SCAI guideline for percutaneous coronary intervention: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines and the Society for Cardiovascular Angiography and Interventions [published correction of dosage error appears in Circulation. 2012;125(8):e412]. Circulation. 2011;124(23):e574-e651. doi:10.1161/CIR.0b013e31823ba622.

2.

Tonino PA, De Bruyne B, Pijls NH, et al; FAME Study Investigators. Fractional flow reserve versus angiography for guiding percutaneous coronary intervention. N Engl J Med. 2009;360(3):213-224.

3.

De Bruyne B, Pijls NH, Kalesan B, et al; FAME 2 Trial Investigators. Fractional flow reserve–guided PCI versus medical therapy in stable coronary disease. *N Engl J Med*. 2012;367(11):991-1001.

4.

Fröhlich G, Redwood S, Rakhit R, et al. Long-term survival in patients undergoing percutaneous interventions with or without intracoronary pressure wire guidance or intracoronary ultrasonographic imaging. *JAMA Intern Med* 2014; 174:1360-1366.

Fröhlich G, Redwood S, Rakhit R, et al. Long-term survival in patients undergoing percutaneous interventions with or without intracoronary pressure wire guidance or intracoronary ultrasonographic imaging. JAMA Intern Med 2014; 174:1360-1366. Abstract.