

# Evaluating The Impact of Fractional Flow Reserve (Ffr) On Decision-Making for Treatment of Borderline Coronary Artery Lesions: Must University Experience; Egypt

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## ABSTRACT

### BACKGROUND

Fractional flow reserve (FFR) is considered the primary reference criterion used for the evaluation of functional significance of coronary artery stenosis. It helps the physician to define appropriate angiographic patients with borderline incidence coronary lesions that should or should not be treated with a stent.

FFR was first applied as part of a clinical trial in Egypt in 2013, and was used in clinical practice in 2015 and was first used in our Cath Laboratory at Misr University for Science and Technology (MUST) hospital, 6 October 2016, Egypt.

### OBJECTIVE

This study aimed to evaluate the effect of the use of FFR in the selection of effective treatment strategy at Misr University for Science and Technology University (MUST) Hospital for angiographic borderline coronary lesions.

### METHODS

The current retrospective study was carried out during the period from December 2016 to December 2019 on eighty-six patients undergoing coronary angiograms; three experienced interventional cardiologists (blinded to FFR results) re-analyzed their angiographic importance and whether to delay or conduct an operation with moderately stenotic lesions (40-70 percent) for which FFR was

performed. A distinction was made between the findings of visual assessment, quantitative coronary angiography, and functional assessment of the severity of coronary stenosis. The concept of severe stenosis was  $FFR < 0.80$ .

### RESULTS

In our sample, 86 patients with a mean age of  $57.60 \pm 9.20$  (range 45-70) (55 male and 21 female) were included. The FFR was  $< 0.80$  in 26.74 percent (23/86) of patients who underwent coronary angioplasty. The association between visual measurement and lesion diameter quantitative evaluation was 0.804 ( $P < 0.001$ ). In addition, 5.81 (5/86) of the patients had  $FFR > 0.80$  left main (LM) lesion and stenting was performed on the other vessels with large coronary lesions.

### CONCLUSION

In patients with moderate coronary artery lesion intensity, assessment of FFR is a valuable method in making clinical decisions regarding revascularization procedures. FFR results in a shift in the coronary intervention judgement. Further assessment is needed of the clinical and cost effects of such adjustments in areas with limited resources.

### KEYWORDS

Fractional Flow Reserve Myocardial, Coronary Stenosis, Coronary Angiography

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