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Six-Month Clinical Outcomes of Patients Deferred from Angioplasty Based on Fractional Flow Reserve - The Rabin Medical Center Experience

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Background: Fractional flow reserve (FFR) has become the gold standard in physiologic assessment of coronary artery stenosis. A FFR value ≥0.75 is considered a reliable physiologic parameter indicating a functionally non-significant lesion.
Objective: To evaluate the clinical outcomes of "real world" patients deferred from angioplasty based on FFR measurements and clinical judgment.
Methods: The FFR measurement was performed in 71 patients (71 vessels) that were referred to the catheterization laboratory for evaluation of coronary artery disease and had an intermediate grade stenosis in their angiograms. Mean age was 63±12 yrs and 79% were males. Patient's risk factors for ischemic heart disease were: diabetes in 41%, hypertension in 69% and dyslipidemia in 82%. The clinical presentation was stable angina in 45% and acute coronary syndrome (excluding those with myocardial infarction <5days) in 55%. The angiographic findings revealed multivessel disease in 53%. The culprit lesions were in the LAD in 64%, in the CX in 19% and in the RCA in 17%. Mean % diameter stenosis was 55±12 with a mean FFR value of 0.8±0.1.
Results: Based on FFR measurements and clinical judgment, patients were treated by angioplasty with stent deployment in 38% of the cases (mean FFR=0.78±0.1 at baseline, increased to 0.92±0.06 post angioplasty) and by conservative medical treatment (mean FFR=0.88±0.07) in 62%. Six–month follow-up of all the patients included in this cohort revealed only one non-cardiac death (2.3%) in the patients treated conservatively with no cardiac events in the patients treated by angioplasty.
Conclusion: In "real world" patients with intermediate grade coronary lesions, the defer of angioplasty based on FFR measurement combined with clinical judgment seems to be a viable strategy with good six-month clinical outcomes.