



## Utility of fractional flow reserve in moderate in-stent re-stenosis and jailed side branches and comparison of fractional flow reserve with SPECT- MPI in native coronary artery stenosis

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### Abstract:

Background: Functional flow reserve (FFR) is used to determine functional significance of coronary artery stenosis. FFR demonstrated discrepancy between angiographic and functional significance of jailed side branches (JSB) as well as moderate In-stent restenosis (ISR), with only minority of such lesions having functional significance. An attempt was made to study utility of FFR and comparison of FFR with single photon emission computed tomography myocardial perfusion imaging (SPECT-MPI) in native coronary artery stenoses.

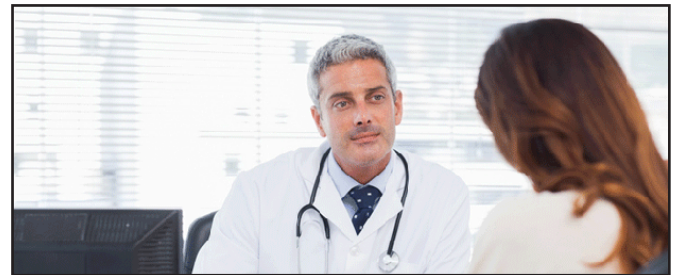
Methods: A total 101 lesions in 79 patients with stable ischemic coronary artery disease were subjected to FFR and SPECT-MPI including native as well as ISR and JSB. Relation between FFR and perfusion imaging was analyzed quantitatively. Sensitivity, specificity, positive predictive value, negative predictive values were used for diagnostic accuracy.

Results: FFR was  $\leq 0.75$  in majority of the lesions having  $> 70\%$  stenosis. Most of the lesions having reversible perfusion defect had  $FFR \leq 0.80$ . There was a significant negative correlation between summed difference score (SPECT-MPI) with FFR value. As FFR value decreased summed difference score increased. Sensitivity and specificity did not differ much when FFR cut off was taken as 0.75 or 0.80.

Conclusion: There was a significant negative correlation between FFR and sum difference score (SPECT-MPI). Sensitivity and specificity of SPECT-MPI did not differ much when FFR value cut off was taken as 0.75 or 0.80.

### Biography:

Dr Ajit Jadhav is an interventional cardiologist by profession and works with Dr D Y Patil Medical College, Pune. He holds a DNB in Cardiology and MD in Internal Med-



icine. He gathers a total experience of 3 years in the field of Interventional cardiology. Dr. Ajit is passionate about working in preventive cardiology as well as in advanced imaging modalities in the field of Structural heart disease and Interventional Cardiology

### Publication of speakers:

1. Melikian N, De Bondt P, Tonino P, De Winter O, Wyffels E, Bartunek J et al. Fractional flow reserve and myocardial perfusion imaging in patients with angiographic multivessel coronary artery disease. *JACC: Cardiovascular Interventions*. 2010; 3:307-14.
2. Lindstaedt M, Halilcavusogullari Y, Yazar A, Hollandt Letz T, Bojara W, Mügge A, et al. Clinical outcome following conservative vs revascularization therapy in patients with stable coronary artery disease and borderline fractional flow reserve measurements. *Clinical cardiology*. 2010; 33:77-83.
3. Ragosta M, Bishop AH, Lipson LC, Watson DD, Gimple LW, Sarembock IJ, et al. Comparison between angiography and fractional flow reserve versus single-photon emission computed tomographic myocardial perfusion imaging for determining lesion significance in patients with multivessel coronary disease. *The American journal of cardiology*. 2007; 99:896-902.

International Conference on cardiology| 19-20, March 2020 |London, UK

**Citation:** Jadhav Ajit K; Utility of fractional flow reserve in moderate in-stent re-stenosis and jailed side branches and comparison of fractional flow reserve with SPECT- MPI in native coronary artery stenosis; *Cardiology Summit on 2020; March 2020* | London, UK