



Interventional Cardiology

ANATOMIC VERSUS ISCHEMIC BURDEN IN PREDICTING OUTCOMES OF CORONARY ARTERY DISEASE: DATA FROM IRIS-FFR REGISTRY

Poster Contributions
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Background: The anatomic and ischemic evaluation both provide important prognostic information. It is unclear which studies will better predict patient outcomes.

Methods: Between August 2009 and August 2015, both fractional flow reserve and intravascular ultrasound was evaluated in 1200 patients from a prospective IRIS-FFR registry. Primary outcome was major adverse cardiac events (MACE; cardiac death, myocardial infarction, or repeat revascularization).

Results: During a median follow-up of 3.1 years (interquartile range: 1.9-4.1 years), MACE occurred in 58 lesions (5.7%). On multivariate analysis, deferred lesions associated with recurrent events were more likely than those not associated with recurrent events to be characterized by fractional flow reserve ≤ 0.80 (hazard ratio [HR], 3.13; 95% confidence interval [CI], 1.84-5.33; $P < 0.001$), diameter stenosis $\geq 50\%$ on coronary angiography (HR, 3.14; 95% CI, 1.43-5.68; $P < 0.001$), percent atheroma volume $\geq 62.5\%$ (HR, 1.98; 95% CI, 1.06-3.68; $P = 0.031$), and plaque rupture on intravascular ultrasound (HR, 3.51; 95% CI, 1.65-7.46; $P = 0.001$). In addition, the integrated functional and anatomical assessment improved the risk prediction ($P < 0.001$).

Conclusions: Anatomic and ischemic burden independently and complementarily affected on prognosis. Therefore, for more complete understandings of natural history of coronary artery disease, the simultaneous assessment appeared to be necessary.

Independent Correlates of MACE Related to Deferred Lesions

Correlates	Hazard Ratio	95% CI	P Value
Predictors of patients-level events			
Current smoking	1.78	0.97-3.28	0.063
Previous percutaneous coronary intervention	2.36	1.23-4.53	0.010
Predictors of events at individual lesion sites			
Diameter stenosis $\geq 50\%$ by QCA	2.83	1.50-5.31	0.001
Fractional flow reserve ≤ 0.80	3.00	1.60-5.63	0.001
Percent atheroma volume $\geq 62.0\%$	2.56	1.26-5.22	0.010
Plaque rupture on intravascular ultrasound	2.46	0.97-6.27	0.059