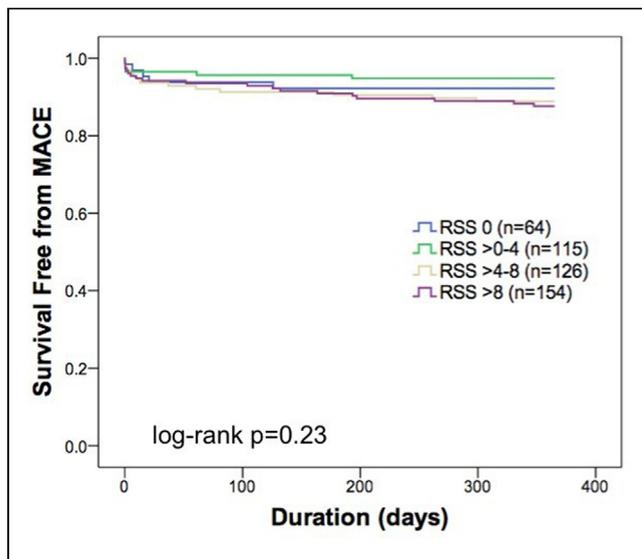


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**BACKGROUND** The residual SYNTAX score (RSS) quantitatively assesses angiographic completeness of revascularization after percutaneous coronary intervention (PCI) and has been shown to be a predictor of events after angiography-guided PCI. In stable patients undergoing functionally complete revascularization (CR) with fractional flow reserve (FFR) guidance, RSS did not predict outcome. Whether this is also true in patients with acute coronary syndromes (ACS) is unknown.

**METHODS** From the DANAMI-3-PRIMULTI, FAME, and FAMOUS-NSTEMI trials, 459 patients presented with ACS and underwent functionally CR. Major adverse cardiac event (MACE) at 1 year was defined as the composite endpoint of death, nonfatal myocardial infarction, and any repeat revascularization. We also compared differences in 1 year outcome among patients with RSS of 0, >0-4, >4-8 and >8, according to the original definition (RSS=0 represents “angiographic” CR).

**RESULTS** The mean RSS was 7.0±5.9 after PCI. MACE at one year occurred in 44 patients (9.6%). Kaplan-Meier curve analysis showed similar 1-year incidence of MACE with the RSS stratifications (log-rank p=0.23, Figure). Results were similar when patients were stratified by presentation (log-rank p=0.67 for UA, log-rank p=0.38 for NSTEMI, and log-rank p=0.15 for STEMI).



**CONCLUSION** After functionally CR with FFR guidance, the extent of residual angiographic lesions are not associated with subsequent ischemic events in patients presenting with ACS. These results support the concept of “functionally” CR even in ACS patients with potentially active non-culprit plaques.

**CATEGORIES IMAGING:** FFR and Physiologic Lesion Assessment

**TCT-706**  
**Physiological severity assessment of coronary stenosis using coronary computed tomography angiography-based myocardial mass at risk and minimal lumen diameter**



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**BACKGROUND** We investigated whether or not the addition of myocardial mass at risk (MMAR) to quantitative coronary angiography was useful for diagnosing functionally significant coronary stenosis in the daily practice.

**METHODS** We prospectively enrolled 46 consecutive patients with 66 lesions who underwent clinically indicated coronary computed tomography angiography (CCTA) with subsequent elective coronary angiography with fractional flow reserve (FFR) measurement. MMAR was calculated using a workstation-based software program with the Voronoi algorithm.

**RESULTS** The minimal lumen diameter (MLD) and MMAR were significantly correlated with the FFR, and the MMAR-to-MLD ratio (MMAR/MLD) showed an even better correlation. The area under the receiver operating characteristic curve of MMAR/MLD for FFR<0.8 was 0.766, and the sensitivity, specificity, positive predictive value and negative predictive value were 65%, 78%, 57% and 84%, respectively, at a cut-off value of 25.1 ml/mm. For the left coronary artery lesions in particular, MMAR/MLD showed a strong correlation with the FFR, and the area under the receiver operating characteristic curve was 0.854.

**CONCLUSION** The index of MMAR/MLD correlated well with the physiological severity of coronary stenosis and showed high accuracy for detecting functional significance. MMAR might be an important parameter to consider when deciding the indication for revascularization.

**CATEGORIES IMAGING:** FFR and Physiologic Lesion Assessment

**TCT-707**  
**Effect of Amount of Myocardium Subtended by a Coronary Stenosis on Fractional Flow Reserve**



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**BACKGROUND** The influence of the amount of myocardium at risk subtended by a coronary stenosis in hemodynamic significance of a coronary stenosis is unclear. The aim of our study was to evaluate the influence of the amount of myocardium subtended by a coronary stenosis on hemodynamic significance of the stenosis as determined by fractional flow reserve (FFR).

**METHODS** We retrospectively evaluated consecutive patients (pts) with stable coronary artery disease who underwent coronary angiography and FFR. The % severity and qualitative lesion length (QLL) of a stenosis were determined by visual estimation. Coronary stenosis was defined as functionally significant if FFR was ≤0.8. Myocardium at risk subtended by coronary stenosis was estimated by using BCIS-1 Myocardial Jeopardy Score.

**RESULTS** Total number of patients who underwent FFR in study period was 314. 274 (Age 65.27± 11.29, 53% male, 1 artery per patient) patients were included in the analysis; 88 (32%) had positive FFR. The % severity of stenosis was significantly higher in positive FFR group (71.65 vs. 61.48%, p<0.001) compared to negative FFR group. Positive FFR group also had significantly higher number of diffuse lesions (20.5 vs. 3.2 %, p<0.0001). BCIS-1 score was similar between the vessels with positive FFR compared to the vessels with negative FFR (3.93 ± 1.78 vs. 3.50 ± 1.76, p=0.061). There was no correlation between FFR value and BCIS score (r=-0.07, p=0.231).