

Can FFR Predict Myocardial Infarction or Cardiac Death?

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Although various medications, devices, and procedure techniques were developed and improved, a few of them can improve the fundamental hard outcome as death or myocardial infarction. According to several studies using noninvasive cardiac stress test, existence and burden of ischemia were critical determinant to predict adverse clinical outcome including mortality. Therefore, existence of ischemia can be a representative indication for revascularization to improve clinical outcome. Fractional flow reserve (FFR) is a reliable novel index to assess coronary lesion severity. DEFER, FAME 1 and 2 studies well demonstrated the efficacy and safety of FFR-guided PCI in patients with coronary artery disease. Also functional SYNTAX score using FFR had shown better discrimination power to predict prognosis of after PCI in multivessel disease. Large registry study done by Adgej J well demonstrated the difference of all cause death between patients with lower than 0.80 and those with above in 1010 patients with FFR gray zone (0.70-0.85). Therefore, not only target vessel revascularization, the incidence of death or myocardial infarction can be lower in patients with FFR-guided PCI. Recent meta-analysis study done by Nils Johnson showed that ischemia exists not as a dichotomous state, but rather as a graded continuum. Similarly as burden of ischemia in noninvasive stress test, physiologic severities measured by FFR also exists as continuum and can be linked hard clinical end point including death or myocardial infarction.