INVASIVE CORONARY PHYSIOLOGY AT ONE YEAR PREDICTS LATE MORTALITY AFTER HEART TRANSPLANTATION

Moderated Poster Contributions
TCT@ACC-i2 Moderated Poster Theater, Poster Hall B1
Saturday, March 14, 2015, 10:15 a.m.-10:25 a.m.

Session Title: TCT@ACC-i2: Interventional Cardiology I
Abstract Category: 36. TCT@ACC-i2: IVUS and Intravascular Physiology
Presentation Number: 2105M-05

Authors: Hyoung-Mo Yang, Kozo Okada, Garrett Cohen, Calvin Strehl, Helen Luikart, Hannah Valantine, Yasuhiro Honda, Kiran Khush, William Fearon, Stanford University Medical Center, Stanford, CA, USA

Background: Fractional flow reserve (FFR) and the index of microcirculatory resistance (IMR) predict outcomes in non-transplant patients; their value in heart transplant recipients has not been well-studied. The aim of this study is to determine the prognostic value of assessing coronary physiology early after heart transplantation.

Methods: Seventy-four transplant recipients had coronary physiology assessed at both baseline and 1 year. The primary endpoint was the composite of death and retransplantation at a mean follow-up of 4.5±3.5 years.

Results: A high IMR (≥20) measured at one year was a significant predictor of death/retransplantation (40.9% vs. 13.5%, p=0.025), although FFR was not. However, the rate of death/retransplantation was lowest in patients with high FFR (≥0.90) and low IMR (<20) measured at 1 year compared to those with low FFR (<0.90) and high IMR (≥20) (7.7% vs 60%, p= 0.004) (Figure1). Patients with a decrease in IMR from baseline to 1 year had lower death/retransplantation rates compared to those patients with an increase in IMR (18.0% vs. 29.2%, p=0.027).

Conclusion: Measures of coronary physiology and in particular microvascular dysfunction determined early after heart transplantation are significant predictors of late adverse events.