

Long Term Follow up of Percutaneous Coronary Interventions in Heart Transplant Recipients

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Background: Coronary allograft vasculopathy (CAV) is an accelerated type of coronary atherosclerosis which affects the majority of patients after heart transplantation (**HTx**) and is currently the leading cause of late mortality after HTx. Some centers attempt Percutaneous Coronary Intervention (PCI) as a palliative therapy for CAV. Despite immediate angiographic success, the long term clinical results of PCI in HTx patients are not clear. In this study the long term outcome of PCI in our post HTx pts was analyzed.

Methods: All HTx recipients with documented CAV on routine surveillance post transplant coronary angiography between 1990 and 2008 were included. Patients were assigned to medical therapy or PCI according to severity of angiographic findings and suitability for PCI. Baseline clinical characteristics, angiographic results and long term survival were analyzed.

Results: Eighty five HTx recipients underwent coronary angiography and 59 (69%) had angiographic evidence of CAV. The vasculopathy was first diagnosed 1-13 (mean 4.3) years after transplantation. PCI was performed in 25 (42%) of the 59 pts with CAV. Thirteen of the 25 patients (52%) underwent additional PCI procedures due to progression of the CAV found during follow up angiography. A total of 56 segments were treated by PCI with stent implantation in 22 of the segments during the primary procedure. Of the 22 stents, 12 were bare metal stents (BMS) and 10 were drug eluting stents (DES). Immediate angiographic success (>50% reduction in luminal narrowing) was achieved in 96%. Restenosis rate after one year was 58% in the non stented segments and 25% in the stented segments. There was no in-stent restenosis documented in DES during a 2 year follow up period. Repeat PCI to restenosis was associated with 100% immediate success rate. In 5 out of 11 restenosed segments that were redilated a stent (3 BMS, 2 DES) was implanted 0.8 y – 5.8 y (mean 2.6) after the initial PCI. One-year, 5-year and 10-year survival after PCI were 83%, 52% and 35% respectively. HTx patients with documented CAV who underwent PCI had a significantly better long term survival compared to HTx patients with CAV who did not have a PCI (5-year survival 96% Vs 85% and 10-year survival 79% Vs 45%, respectively, $P < 0.05$)

Conclusion: Percutaneous coronary intervention after heart transplantation is feasible, safe and seems to be associated with reasonable long term success particularly with the use of DES.