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EFFECT OF EVEROLIMUS INTRODUCTION AND CALCINEURIN INHIBITOR REDUCTION ON GRAFT VASCULOPATHY IN HEART TRANSPLANT RECIPIENTS

ACC Poster Contributions
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Background: Reduced exposure to calcineurin inhibitors (CNI) following heart transplantation (HTx) is associated with improved renal function. Immunosuppressant regimes centered on everolimus, a novel proliferative signal inhibitor, have been shown to achieve this goal. However, it is uncertain whether this strategy reduces cardiac allograft vasculopathy (CAV) progression in HTx recipients and was investigated in this prospective randomized-controlled trial.

Methods: In this 12-month multicenter Scandinavian study 190 maintenance HTx recipients were randomized to everolimus with reduced CNI exposure or continue their current CNI-based immunosuppression. Both groups continued their prior usage of azathioprine (AZA) or mycophenolate mofetil (MMF). 111 patients had evaluable intravascular ultrasound examinations at baseline and 12 months and matched analysis was performed to measure change in Maximal Intimal Thickness (MIT), Percent Atheroma Volume (PAV) and Total Atheroma Volume (TAV).

Results: When considering all 111 patients, mean age 57.6±10.7 years and mean time post-HTx 69.6±51.3 months, no significant difference in CAV progression was evident between everolimus and reduced CNI (n=48) versus standard CNI therapy group (n=63) ($p > 0.05$). When considering patients established on AZA (n=39) a significantly slower rate of CAV progression was observed amongst patients treated with everolimus as compared to standard CNI therapy [MIT 0.00±0.04 mm and 0.04±0.04 mm ($p<0.01$), PAV 0.2±3.0% and 2.6±2.5% ($p=0.02$), TAV 0.25±14.1 mm3 and 19.8±20.4 mm3 ($p<0.01$), respectively]. When considering patients receiving MMF (n=70) there was no significant difference in CAV progression between the two treatment groups.

Conclusions: Conversion to everolimus and reduced CNI did not significantly influence CAV development in the entire study population but a significantly reduced rate of CAV progression was evident amongst HTx recipients concurrently treated with AZA.