**ROLE OF CMV IN CARDIAC ALLOGRAFT VASCULOPATHY**

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Cardiac allograft vasculopathy still remains the major threat to the transplanted heart in later years post-implantation. Cytomegalovirus (CMV) infection is known to be linked to cardiac allograft arteriosclerosis a manifestation of chronic rejection. Documented CMV infection episodes in heart transplant recipients are associated with impaired coronary endothelial function. CMV-negative recipients of CMV-positive donor hearts have an impaired distal epicardial endothelial function and an increased incidence of cardiovascular-related events and death during follow-up. During CMV viremia, endomyocardial biopsies (EMBs) demonstrate endothelialitis and vascular smooth muscle cell proliferation. These changes are predictors of subsequent diffuse arteriosclerosis. At the molecular level CMV immediate early proteins (IE-1 and IE-2) increase the constitutive expression of intercellular adhesion molecule-1 (ICAM-1) independent of other intracellular cytokines. Viral chemokines such as US28 have been implicated because of their ability to induce smooth muscle cell migration. Prior data suggests that CMV might accelerate transplant arteriosclerosis through its ability to abolish vascular protective effects of the endothelium-derived nitric oxide system (eNOS). Confirmation of causality requires clinical trials demonstrating that antiviral agents such as ganciclovir inhibit TA. Such studies in patients though limited to retrospective Prophylactic administration of anti-CMV agents effectively prevents acute CMV manifestations. Hence CMV infection may contribute to allograft failure by accelerating coronary endothelial dysfunction as well as inducing molecular changes.