PROLONGED LYMPHOPENIA AFTER ANTI-THYMOCYTE GLOBULIN INDUCTION IS NOT ASSOCIATED WITH INCREASED GRAFT SURVIVAL IN PANCREAS TRANSPLANT RECIPIENTS

Department of Surgery, Multi-Organ Transplant Program, McGill University, Montreal, Quebec, Canada

Dionisios Vrochides, Mazen Hassanain, Peter Metrakos, Jean Tchervenkov, Prosanto Chaudhury, Marcelo Cantarovich and Steve Paraskevas

Introduction: Anti-thymocyte globulin (ATG) induction is associated with higher graft survival, as well as freedom from acute cellular rejection (ACR) after pancreas transplantation. ATG may induce prolonged (> 30 days) lymphopenia.

Purpose: To determine whether prolonged lymphopenia after ATG induction contributes to superior long term results after pancreas transplantation.

Methods: A total of 35 adult pancreas alone transplants were performed between 1998 and 2006, with anti-thymocyte globulin for induction. Re-transplants, multi-organ recipients and perioperative deaths were excluded (n=7) from the study population. Recipients with an average value of ≤ 300 lymphocytes/mm^3 for the first 30 postoperative days comprised the cohort of prolonged lymphopenia, whereas the rest comprised the non-lymphodepleted cohort. Graft survival censored for patient death, patient survival, ACR (incidence/patient), CMV infection and LOS were retrospectively analyzed.

Results: Prolonged lymphopenia was achieved in 50% (n=14). Although there was a trend favoring non-depleted recipients there was no statistically significant difference in the mean actuarial graft survival for the lymphopenic and the non-lymphopenic cohorts ($p = 0.572$, 95% CI: .156 - 2.787). The incidence of ACR was identical ($p = 1.0$) between the non-depleted and the depleted group. No CMV infection was diagnosed. LOS was similar between the two groups ($p = .635$).

Conclusions: Lymphocyte depletion that persists for more than one postoperative month after induction with ATG is not associated with improved long-term results. Further investigations, including immunophenotyping and functional assays, should confirm or reject the theory of benefit from lymphocyte subpopulations "molding" in pancreas alone transplant recipients.