

PERSISTENT MONOCYTE DEPLETION DOES NOT IMPROVE GRAFT SURVIVAL AFTER LIVER, PANCREAS ALONE AND KIDNEY TRANSPLANTS

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

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

Introduction: Monocytes and platelets are markers of innate immunity. In kidney transplant biopsies, the combination of lymphocyte and monocyte infiltration is related with the clinically most severe cases of rejection.

Purpose: To investigate whether persistent monocyte or platelet depletion is associated with decreased incidence of rejection and increased graft survival.

Methods: A total of 390 primary adult liver transplants, 29 primary adult pancreas alone transplants and 613 primary adult kidney transplants were performed between 1990 and 2006. Monocyte depletion was defined as a postoperative, 30-day average monocyte count of ≤ 300 . Platelet depletion was defined as a postoperative, 30-day average platelet count of ≤ 150 . Patient survival, graft survival censored for patient death and acute cellular rejection incidence were retrospectively analyzed.

Results: Persistent monodepletion was achieved in 48%, 38%, 52% of liver, pancreas alone and kidney graft recipients respectively. Persistent monodepletion does not correlate with graft survival after liver transplant ($p = 0.635$, 95% CI: 0.790-1.472), pancreas alone transplant ($p = 0.254$, 95% CI: 0.079-1.958) and kidney transplant ($p = 0.995$, 95% CI: 0.727-1.361). Persistent platelet depletion correlates inversely with graft survival in liver transplants ($p = 0.001$, 95% CI: 0.431-0.797) and kidney transplant ($p = 0.001$, 95% CI: 0.434-0.815). There is no correlation between monocyte count and acute rejection incidence in liver ($r^2 = 0.01$), pancreas alone ($r^2 = 0.08$) and kidney transplants ($r^2 = 0.00$).

Conclusions: Persistent monodepletion does not improve graft survival after liver, pancreas alone and kidney transplants. When persistent platelet depletion is observed after orthotopic liver or kidney transplant, graft survival is significantly decreased.