

BASELINE HEPATIC ARTERIAL DOPPLER INCREASES PATIENT BUT NOT GRAFT SURVIVAL IN ORTHOTOPIC LIVER TRANSPLANTATION

Dionisios Vrochides, Mazen Hassanain, Jeffry Barkun, Jean Tchervenkov, Prosanto Chaudhury and Peter Metrakos

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

Introduction: Liver enzyme elevation is the major marker of graft dysfunction secondary to an acute vascular event in the immediate postoperative period after liver transplantation.

Purpose: To investigate whether a baseline arterial doppler coupled with an aggressive surgical approach in cases of arterial flow absence leads to higher patient survival.

Methods: 566 adult liver transplants were performed between 1990 and 2006. Hepatic arterial doppler was performed on the first postoperative day (baseline) and each time that an elevation of the liver enzymes was observed. Patients with abnormal doppler findings (with or without enzymes elevation) during the first postoperative week were re-explored. Abnormal doppler findings that were discovered after the first postoperative week were verified by CT angiogram. The 47 patients that were diagnosed with arterial thrombosis either intraoperatively or by CT angiogram were divided into three groups. No further action was taken for group 0, thrombectomy alone was performed for group 1, thrombectomy and anastomotic revision was employed for group 2.

Results: 79 (13.9%) patients were diagnosed with arterial inflow complications either intraoperatively or by CT angiogram. 47 (8.3%) of those had arterial thrombosis, either alone or in conjunction with arterial stenosis. 32 (5.6%) patients had arterial stenosis alone. Actuarial 4-year patient survival was 58%, 50% and 20% for groups 1, 2 and 0 respectively ($p = .131$). Actuarial 4-year graft survival was 32%, 35% and 18% for groups 1, 2 and 0 respectively ($p = .589$). Re-transplant rate (re-graft per graft) was 0.4, 0.29 and 0.09 for groups 1, 2, and 0 respectively ($p = .098$).

Conclusions: Baseline hepatic arterial doppler coupled with an aggressive surgical approach, despite low secondary patency rates, increases patient survival in orthotopic liver transplantation, because it allows stabilization and therefore increased re-transplant rates, in patients with hepatic artery thrombosis.