The Journal of Heart and Lung Transplantation

Outcomes after ABO-incompatible heart transplantation in adults: A registry study

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Background

In the past, ABO incompatibility was considered an absolute contraindication to heart transplantation (HT) in adults. Advances in ABO-incompatible HT in pediatric patients and ABO-incompatible abdominal transplantation in adult patients have led to clinical exploration of intentional ABO-incompatible HT in adults. However, it is not well known how outcomes in ABO-incompatible adult heart transplant recipients compare with outcomes in ABO-compatible recipients.

Methods

We analyzed International Society for Heart and Lung Transplantation transplant registry data from heart donors and recipients ≥18 years old at the time of transplant for HT performed between 1988 and 2011. We compared baseline characteristics and post-transplant outcomes in ABO-incompatible and ABO-compatible HT. Death or retransplantation was the composite primary end-point.

Results

Among 76,663 adult patients undergoing HT between 1988 and June 30, 2011, 94 ABO-incompatible heart transplants were performed. The incidence of death or retransplantation in the ABO-incompatible group was higher than in the ABO-compatible group: 21% vs 9% at 30 days (hazard ratio = 2.38, $p < 0.001$) and 36% vs 19% at 1 year after transplant. However, ABO-incompatible grafts surviving past the first year after transplant had a similar incidence of failure compared with the ABO-compatible group. After 2005, the rate ABO-incompatible HT in adults increased, likely as a result of planned, intentional (rather than accidental) ABO-incompatible HT. In this group of patients, short-term and long-term incidence of death or retransplantation was similar to ABO-compatible recipients ($p = 0.822$): 7% at 30 days and 19% **at 1 year after transplantation.**

Conclusions

We found no difference in incidence of death or retransplantation between ABO-compatible and ABO-incompatible HT in patients who underwent transplantation after 2005.

keywords: ABO, blood group incompatible heart transplant, heart transplantation

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Combination of liver biopsy with MELD-XI scores for post-transplant outcome prediction in patients with advanced heart failure and suspected liver dysfunction

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Background

Functional and structural liver abnormalities may be found in patients with advanced heart failure (HF). The Model of End-Stage Liver Disease Excluding INR (MELD-XI) score allows functional risk stratification of HF patients on and off anti-coagulation awaiting heart transplantation (HTx), but these scores may improve or worsen depending on bridging therapies and during time on the waiting list. Liver biopsy is sometimes performed to assess for severity of fibrosis. Uncertainty remains whether biopsy in addition to MELD-XI improves prediction of adverse outcomes in patients evaluated for HTx.

Methods

Sixty-eight patients suspected of advanced liver disease underwent liver biopsy as part of their HTx evaluation. A liver risk score (fibrosis-on-biopsy + 1) × MELD-XI was generated for each patient.

Results

Fifty-two patients were listed, of whom 14 had mechanical circulatory support (MCS). Thirty-six patients underwent transplantation and 27 patients survived ≥1 year post-HTx (74%, as compared with 88% average 1-year survival in HTx patients without suspected liver disease; $p < 0.01$). Survivors had a lower liver risk score at evaluation for HTx (31.0 ± 20.4 vs 65.2 ± 28.6, $p < 0.01$). A cut-point of 45 for liver risk score was identified by receiver-operating-characteristic (ROC) analysis. In the analysis using Cox proportional hazards models, a liver risk score ≥45 at evaluation for HTx was associated with greater risk of death at 1 year post-HTx compared with a score of <45 in both univariable (HR 3.94, 95% CI 1.77–8.79, $p < 0.001$) and multivariable (HR 4.35, 95% CI 1.77–8.79, $p < 0.001$) analyses. Patients who died <1 year post-HTx had an increased frequency of acute graft dysfunction (44.4% vs 3.7%, $p = 0.009$), longer ventilation times (55.6% vs 11.1%, $p = 0.013$) and severe bleeding events (44.4% vs 11.1%, $p = 0.049$). The liver risk score at evaluation for HTx also predicted 1-year mortality after HTx listing ($p < 0.001$).

Conclusions

Patients with HF and advanced liver dysfunction are high-risk HTx candidates. Liver biopsy in addition to MELD-XI improves risk stratification of patients with advanced HF and suspected irreversible liver dysfunction.

Keywords: congestive hepatopathy, fibrosis, heart failure, liver disease, risk stratification

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Live Donor Liver Transplantation: A Valid Alternative for Critically Ill Patients Suffering From Acute Liver Failure

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Keywords: clinical research / practice; liver transplantation / hepatology; fulminant hepatic failure; liver transplantation: living donor; donors and donation: living

We report the outcome of live donor liver transplantation (LDLT) for patients suffering from acute liver failure (ALF). From 2006 to 2013, all patients with ALF who received a LDLT (n = 7) at our institution were compared to all ALF patients receiving a deceased donor liver transplantation (DDLT = 26). Groups were comparable regarding pretransplant ICU stay (DDLT: 1 [0–7] vs. LDLT: 1 days [0–10]; p = 0.38), mechanical ventilation support (DDLT: 69% vs. LDLT: 57%; p = 0.66), inotropic drug requirement (DDLT: 27% vs. LDLT: 43%; p = 0.64) and dialysis (DDLT: 2 vs. LDLT: 0 patients; p = 1). Median evaluation time for live donors was 24 h (18–72 h). LDLT versus DDLT had similar incidence of overall postoperative complications (31% vs. 43%; p = 0.66). No difference was detected between LDLT and DDLT patients regarding 1- (DDLT: 92% vs. LDLT: 86%), 3- (DDLT: 92% vs. LDLT: 86%), and 5- (DDLT: 92% vs. LDLT: 86%) year graft and patient survival (p = 0.63). No severe donor complication (Dindo–Clavien ≥3 b) occurred after live liver donation. ALF is a severe disease with high mortality on liver transplant waiting lists worldwide. Therefore, LDLT is an attractive option since live donor work-up can be expedited and liver transplantation can be performed within 24 h with excellent short- and long-term outcomes.

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Obstetric and Neonatal Outcome of Pregnancies Fathered by Males on Immunosuppression After Solid Organ Transplantation

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Keywords: clinical research/practice; health services and outcomes research; obstetrics and gynecology; immunosuppressant; pregnancy

Immunosuppressive drugs may influence spermatogenesis, but little is known about outcome of pregnancies fathered by transplanted males. We estimated risk of adverse outcomes in pregnancies (with data after the first trimester) fathered by males that had undergone organ transplantation and were treated with immunosuppression. A population-based study, linking data from the Norwegian transplant registry and the Medical Birth Registry of Norway during 1967–2009 was designed. All Norwegian men undergoing solid organ transplantation were included. Odds ratios for major malformations, preeclampsia, preterm delivery (<37 weeks) and small-for-gestational-age were obtained using logistic regression. A total of 2463 transplanted males, fathering babies of 4614 deliveries before and 474 deliveries after transplantation were identified. The risk of preeclampsia was increased (AOR: 7.4, 95% CI: 1.1–51.4,) after transplantation compared to prior to transplantation. No increased risk was found for congenital malformations or other outcomes when compared with pregnancies before transplantation or with the general population (2 511 506 births). Our results indicate an increased risk of preeclampsia mediated through the transplanted and immunosuppressed father. Importantly, no increased risk was found for other adverse obstetric outcomes or malformations, which may reassure male transplant recipients planning to father children.

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