Category: Renal failure

A612 - Excellent results in kidney transplantation from donors with multiple organ failure - an unused resource in times of organ shortage

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Introduction:
Organ replacement procedures such as ECMO (extracorporeal membrane oxygenation), LVAD (left ventricular assist device) and dialysis are routinely used to treat multi-organ failure (MOV). Globally transplantation programs struggle with increasing organ shortage. Patients (pts) with MOV are a potential source for procurement. However, outcome data after kidney transplantation (KTX) from such donors are sparse.

Methods:
We retrospectively studied the cadaveric KTX at the Charité Berlin in 2018 and identified donors with ongoing organ replacement procedures. Donor and recipient risk factors were assessed. Overall patient and graft outcomes were analyzed at 12 months post-transplant.

Results:
A total of 220 kidneys were transplanted. We identified 11 KTX from 7 donors with MOV (6 following cardiopulmonary resuscitation, 5 with acute renal failure - 4 on dialysis). In 3 donors, a veno-arterial ECMO was implanted during ECLS-resuscitation. One donor needed a veno-venous ECMO due to ARDS, and 1 donor had a LVAD implanted due to cardiac failure. The donor age was 41 ± 10.5 years (yrs). In addition, 6 donors had at least one cardiac risk factor. The kidney donor risk index averaged 0.94 (SD ± 0.14) and S-creatinine prior to KTX was 2.41 (SD ± 1.27).
The recipients were 49.2 (SD ± 8.2) yrs of age and cumulated an average waiting time of 7.7 ± 2.9 yrs. Delayed graft function (DGF - dialysis within the first 7 days after KTX) occurred in 91% of patients (pts) (vs. 43.7% DGF in the overall 2018 cohort). All pts gained renal function at a median of 7 (IQR 5.25-9) days (100% vs. 96.3% 2018 cohort). Mean S-creatinine 12 months post-transplant was 1.30 ± 0.45 mg/dL resembling an estimated GFR of 58.86 ± 17.9 mL/min/1.73m2. One pt died unexpectedly 44 days after KTX with a functioning graft.

Conclusion:
The results of organs from donors with MOV in the first year after KTX were excellent. Especially the young donor age together with a targeted benefit-risk assessment enables the usage of such organs.

Image:
Graft function in the first year post-transplant

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