Reduction of Immunosuppression in Renal Transplant Patients in the ICU: Immunologic and Overall Long-term Outcome

Oliver Staeck, Dmytro Khadzhynov, Danilo Schmidt, Matthias Niemann, Frank Petereit, Nils Lachmann, Hans-H. Neumayer, Klemens Budde and Fabian Halleck

Department of Nephrology, Charité Universitätsmedizin Berlin, Germany

Background: Little data exists to guide the management of immunosuppression in critically ill patients in the ICU (1,2,3). Reduction of the immunosuppressive medication may reduce the risk of infection, but may consequently increase the risk of sensitization, rejection and graft failure.

Variables	mono IS (n=58)	multiple IS (n=82)	P
Age (years) (mean, SD)	64 (11)	57 (14)	<0.001
APACHE II on ICU admission	22 (9)	17 (9)	0.004
SOFA on ICU admission	5 (3-8)	4 (2-6)	0.020
SAPS II on ICU admission	45 (19.5)	35 (18)	0.002
Acute kidney injury in ICU	52 (90%)	57 (70%)	0.007
Dialysis in ICU	30 (52%)	18 (22%)	<0.001
Mechanical ventilation in ICU	44 (76%)	44 (54%)	0.008
Catecholamines in ICU	31 (53%)	21 (26%)	0.001
Sepsis in ICU	25 (43%)	15 (18%)	0.002

Table 1

Methods: A retrospective long-term observational study of a well-characterized cohort of 140 kidney transplant patients admitted to the ICU between 2003 and 2013. Demographic and clinical data as well as long-term outcomes over a period of maximal 10 years after transplantation were assessed.

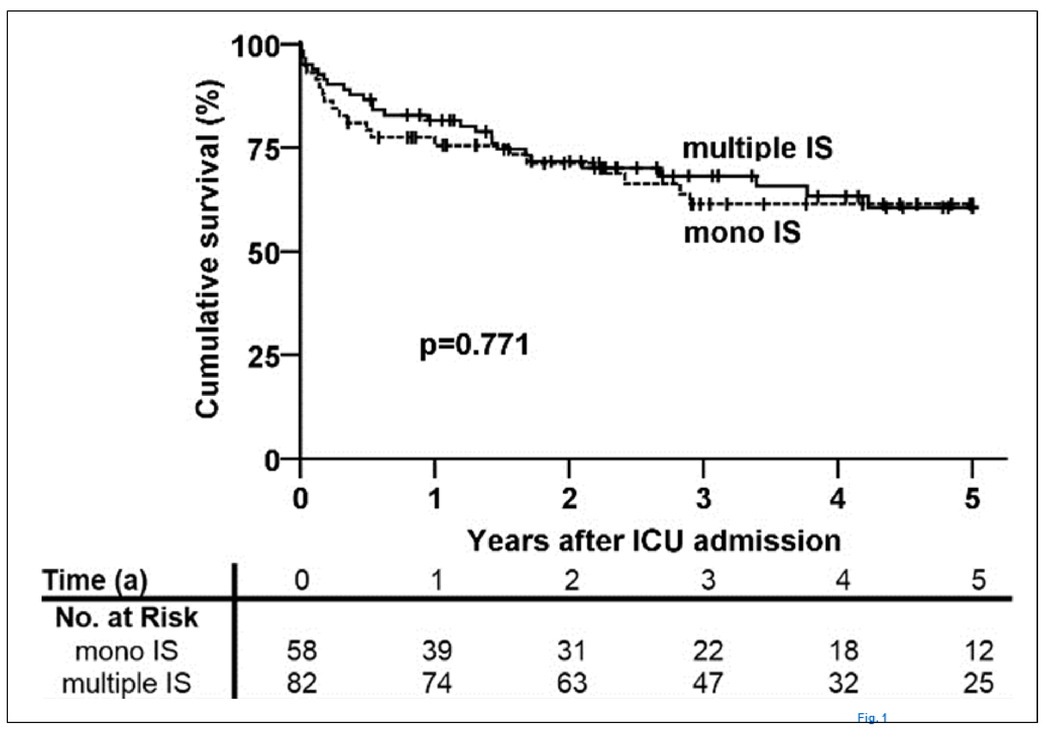

Fig.1

Results: During ICU stay 58 patients received reduced immunosuppression as a monotherapy (mono IS), 82 patients received immunosuppressive therapy with multiple agents (multiple IS). Patients who received mono IS were older, other baseline characteristics of the two groups before ICU admission did not differ significantly. Patients with mmunosuppression reduced to monotherapy during ICU-stay (mono IS) had significantly higher severity of illness scores than patients who received immunosuppression with multiple agents (multiple IS): APACHEII 22 vs. 17, p=0.004 (Table 1). Nevertheless 5-year mortality was not significantly different (both groups 39%, logrank p=0.771) (Fig. 1). Between the groups (mono IS vs. multiple IS) there was no significant difference in the occurrence of de novo donor-specific HLA-antibodies (12% vs. 11%, p=1.000), rejections (9% vs. 7%, p=0.762), baseline creatinine 1 year post-ICU (2.1 vs. 1.9 mg/dl, p=0.322) and 5 years post-ICU (1.7 vs. 1.9 mg/dl, p=0.935) (Table 2).

Variables	mono IS (n=58)	multiple IS (n=82)	P
Mean follow up (months) (SD)	34 (30)	36 (30)	0.660
Kidney graft loss (censored for death)	17 (29%)	16 (20%)	0.226
Baseline Creatinine 1 year post-ICU (median, IQR)	2.1 (1.5-3.0)	1.9 (1.3-2.6)	0.322
Baseline Creatinine 5 years post-ICU (median, IQR)	1.7 (1.2-2.2)	1.9 (1.2-2.3)	0.935
Rejections after ICU	5 (9%)	6 (7%)	0.762
Pt with de novo donor-specific HLA-antibodies after ICU	7 (12%)	9 (11%)	1.000

Table 2

Conclusions: Reduction of immunosuppression in critically ill renal transplant patients on ICU may reduce complications without resulting in a significantly higher risk of sensitization, rejections and graft failures.

(1) Sadaghdar H et al. Chest. 1995 May;107(5):1402-5.
(2) Klouche K et al. Transplantation. 2009 Mar 27;87(6):889-95.
(3) Canet E et al. Crit Care. 2011;15(2):R91

51ERA-EDTA
658-MP
N) Renal Transplantation. N2) Clinical epidemiology of renal transplantation.
Oliver Staeck
DOI: 10.3252/pso.eu.51era.2014
Poster presented at: 51 ERA-EDTA CONGRESS AMSTERDAM 2014
PosterSessionOnline.com