

## Publication

# Allograft and patient survival after sequential HSCT and kidney transplantation from the same donor-A multicenter analysis

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**Author(s)** Eder, Michael; Schwarz, Christoph; Kammer, Michael; Jacobsen, Niels; Stavroula, Masouridi Levrat; Cowan, Morton J.; Chongkraitanakul, Tepsiri; Gaston, Robert; Ravanan, Rommel; Ishida, Hideki; Bachmann, Anette; Alvarez, Sergio; Koch, Martina; Garrouste, Cyril; Duffner, Ulrich A.; Cullis, Brett; Schaap, Nicolaas; Medinger, Michael; Sørensen, Søren Schwartz; Dauber, Eva-Maria; Böhmig, Georg; Regele, Heinz; Berlakovich, Gabriela A.; Wekerle, Thomas; Oberbauer, Rainer

**Author(s) at UniBasel** [Medinger, Michael](#) ;

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Tolerance induction through simultaneous hematopoietic stem cell and renal transplantation has shown promising results, but it is hampered by the toxicity of preconditioning therapies and graft-versus-host disease (GVHD). Moreover, renal function has never been compared to conventionally transplanted patients, thus, whether donor-specific tolerance results in improved outcomes remains unanswered. We collected follow-up data of published cases of renal transplantations after hematopoietic stem cell transplantation from the same donor and compared patient and transplant kidney survival as well as function with caliper-matched living-donor renal transplantations from the Austrian dialysis and transplant registry. Overall, 22 tolerant and 20 control patients were included (median observation period 10 years [range 11 months to 26 years]). In the tolerant group, no renal allograft loss was reported, whereas 3 were lost in the control group. Median creatinine levels were 85  $\mu\text{mol/l}$  (interquartile range [IQR] 72-99) in the tolerant cohort and 118  $\mu\text{mol/l}$  (IQR 99-143) in the control group. Mixed linear-model showed around 29% lower average creatinine levels throughout follow-up in the tolerant group ( $P < .01$ ). Our data clearly show stable renal graft function without long-term immunosuppression for many years, suggesting permanent donor-specific tolerance. Thus sequential transplantation might be an alternative approach for future studies targeting tolerance induction in renal allograft recipients.

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