ESPN/ERA-EDTA Registry

The association of donor and recipient age with graft survival in pediatric renal transplant recipients

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Background

- Allocation policy aims to reduce waiting times and provide high-quality grafts to the best-matched recipients. However, the impact of donor-recipient age combinations on graft survival remains unclear.
- The aim of the study was to to optimize the utilization of donor grafts by examining how the relationship between donor age and recipient age affects graft survival in pediatric renal transplant recipients.

Methods

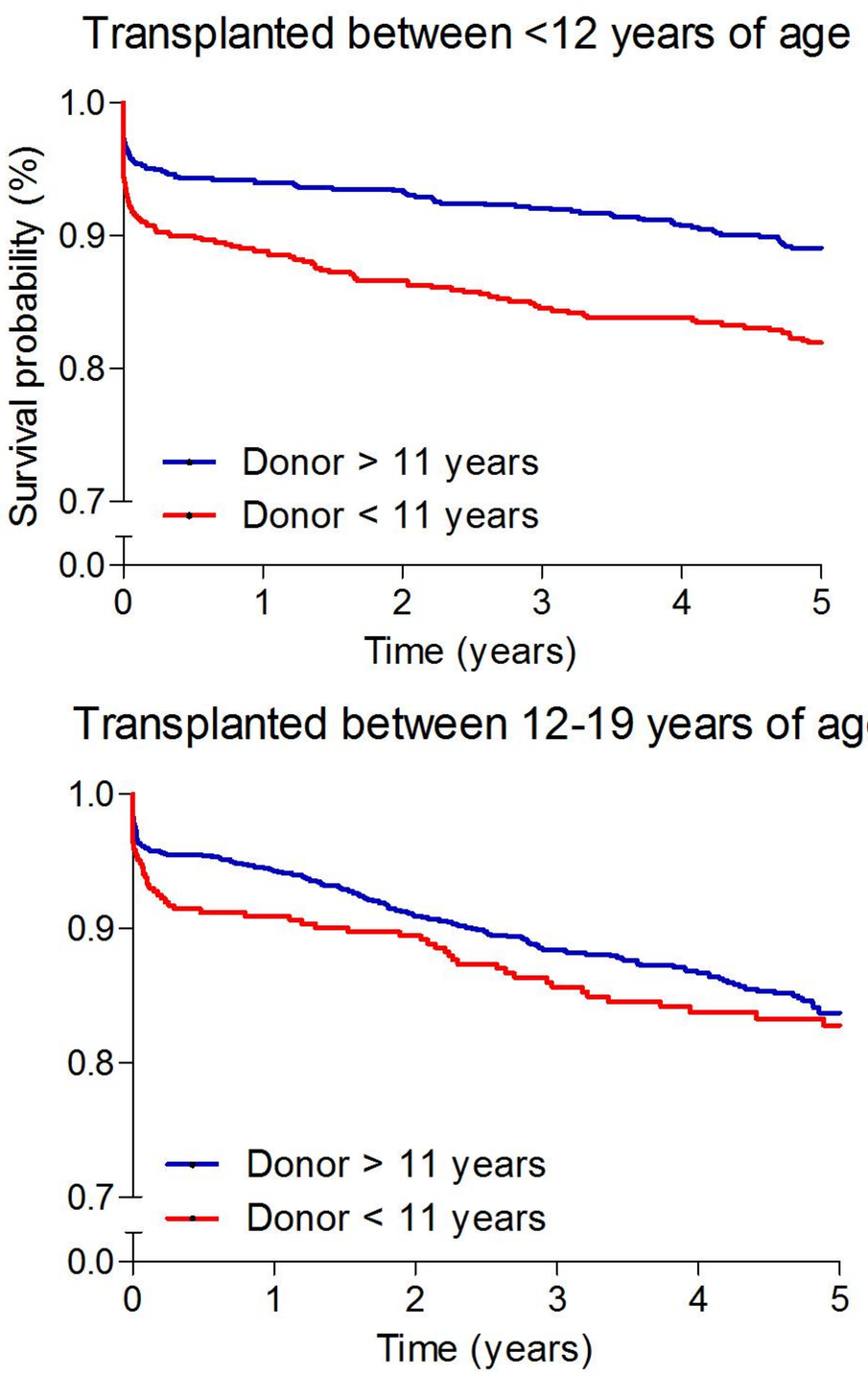
Subjects

- Age: 0-19 years
- Starting RRT: 1990-2013
- 13 European countries

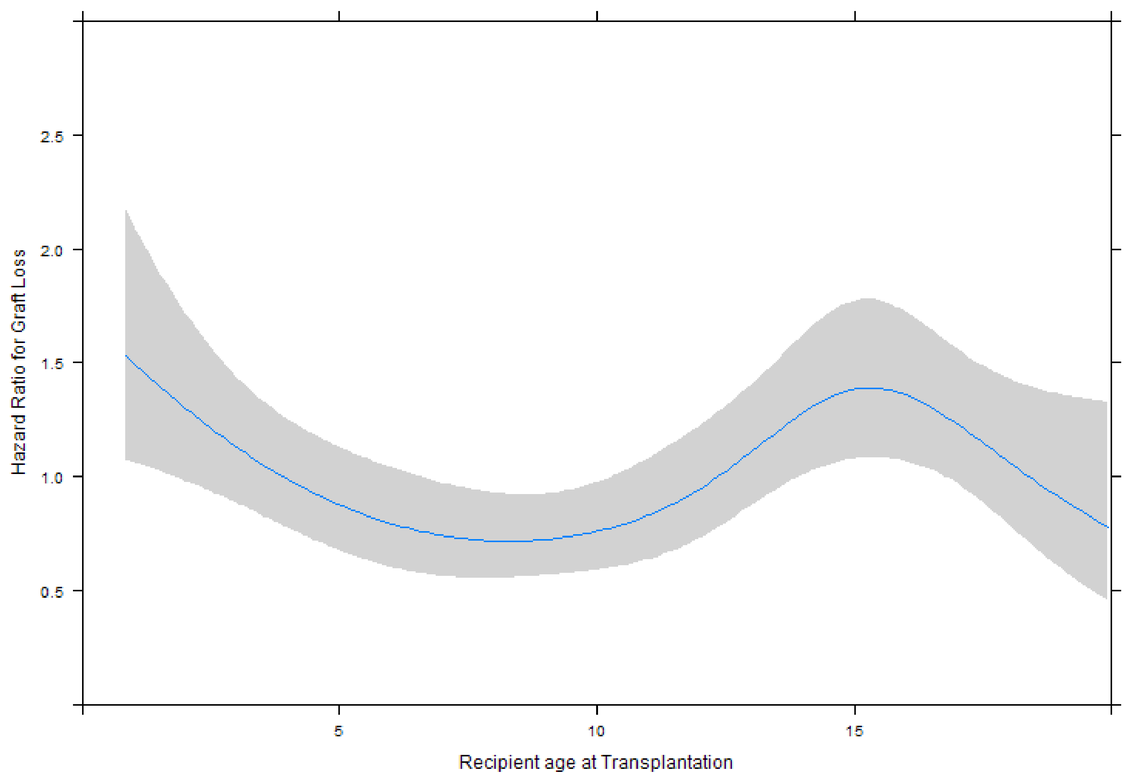
Statistics

- Kaplan-Meier and Cox proportional hazards regression
- Primary outcome: 5-year graft survival
- Stratified by deceased / living donors and donor / recipient age groups
- All analyses were adjusted for country, sex, primary renal disease, pre-emptive Tx, and calendar year

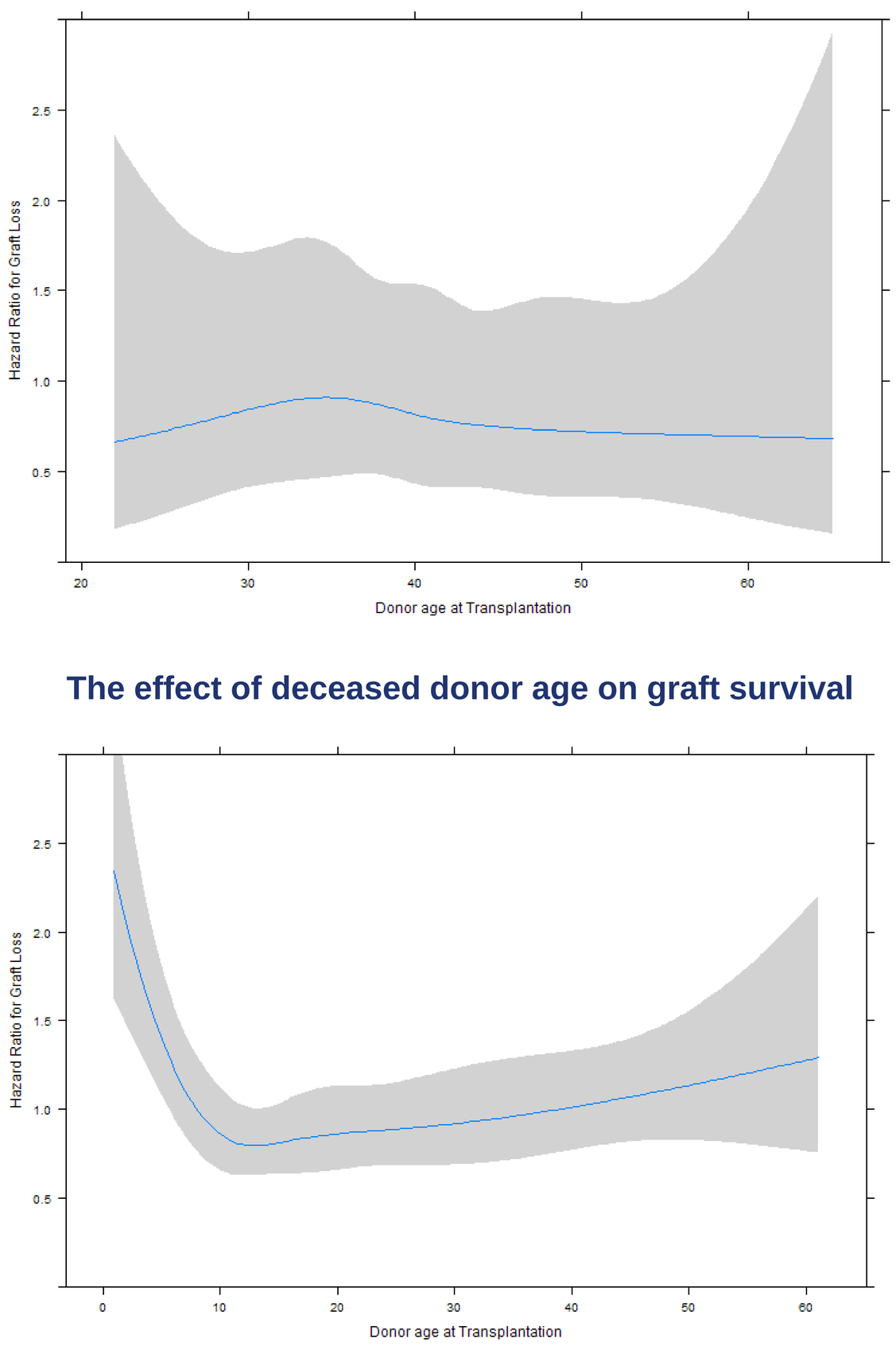
Graft survival in recipient age and deceased donor age combinations



The effect of recipient age on graft survival



The effect of living donor age on graft survival



The effect of deceased donor age on graft survival

Conclusion

First, we found that the youngest and adolescent recipients experience the highest rates of graft failure. Second, deceased donor age was non-linearly associated with graft survival, with the highest rates of graft failure occurring in recipients of the youngest donor grafts. Third, living donor age did not affect the risk of graft failure, as the risk of graft failure of older (50-75 years old) was similar to that of younger living donors. Lastly, we established a high risk of graft failure in younger, pre-adolescent, recipients receiving grafts from younger deceased donors, whereas in adolescent recipients, DD age seemed less important than adolescence itself.

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