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Living unrelated renal transplantation: the new alternative?

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Sir: Today, the need for cadaveric donor kidneys for transplantation purposes far exceeds the supply and, thus, efforts must be undertaken not only to ensure optimal use of donor organs – via organ exchange organizations – but also to increase the donor pool. Publicity campaigns, the distribution of donor cards, the appointment of transplant coordinators, the reimbursement of hospital costs for donors during organ procurement, and many other initiatives – all well intended – have thus far been insufficient to substantially increase the supply of donors. Alternatives must, therefore, be sought. By accepting living donors, the supply of organs can be expanded.

Using the Eurotransplant (ET)[1] database, we have analyzed all first noncadaveric kidney transplantations that were performed in the ET countries between 1980 and 1993 [1], namely, 1340 living (genetically) related and 54 spousal (i.e. sexual partner) transplantations. Only 12 living unrelated (i.e. friends, neighbours) renal grafts were transplanted, as this practice is uncommon in the ET countries.

Figure 1 shows the survival probabilities of the living related and spousal transplantations superimposed on the survival estimates of first cadaveric kidney transplantations (n = 26209) performed in the ET countries during the same period. The best graft survival was obtained with the living related transplantations: 90 % and 83 % at 1 and 3 years, respectively. The survival rate of spousal transplantations was only a few percentage points lower: 83 % at 1 year and 79 % at 3 years. Three out of 12 living unrelated transplants failed within 1.5 years post-transplantation, but this group is too small to draw any meaningful conclusions from. Other authors have also demonstrated good renal graft survival rates for living unrelated transplantation [2, 3], despite relatively small data sets.

Our study clearly shows a "spousal effect": the survival rates of the spousal transplantations are comparable to the zero HLA-A,B, DR-mismatched cadaveric transplantations: 79 % and 78 % at 3 years, respectively.

We postulate that, apart from the better kidney quality, the shorter ischemia time, the lack of an agonal phase, and the better compliance with spousal transplantation, other factors, such as selection on the basis of a negative crossmatch, donor-specific blood transfusions, and hyporesponsiveness induced by sexual intercourse, might facilitate graft survival for mismatched spousal grafts. Confirmation on larger data sets is required.

[1] Eurotransplant (ET) is an international, nonprofit organ exchange organization in which tissue typing laboratories, donor, and transplantation centers in Austria, Belgium, Germany, Luxembourg, and The Netherlands collaborate.

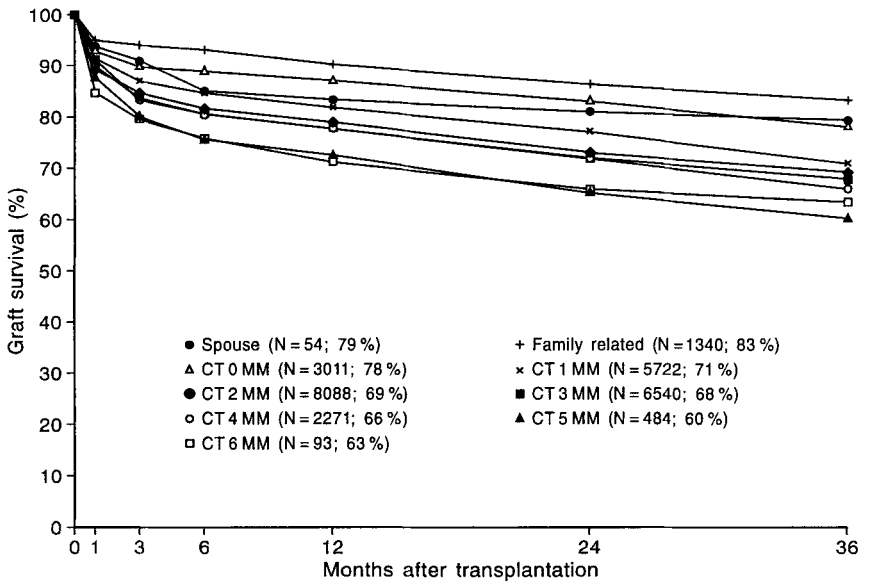

Fig. 1 Survival of first renal cadaveric and living transplantations in Eurotransplant (number of patients transplanted, graft survival rate 3 years post-transplantation) *CT* cadaveric transplantation; *MM* HLA-mismatch

References

1. Persijn GG, De Meester JMJ, Smits JMA Kidney transplantation from living donors in Eurotransplant. Transplant Proc
2. Sodal G, Albrechtsen D, Brekke IB, Bondevik H, Fauchald P, Jakobsen A, Flatmark A (1988) Transplantation with kidney grafts from living donors mismatched for two haplotypes. Transplant Proc 20: 377–379
3. Terasaki PI, Cecka JM, David W, Gjertson DW, Takemoto S (1995) High survival rates of kidney transplants from spousal and living unrelated donors. N Engl J Med 333: 333–336

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