Results of Renal Transplantation Using Living-Related HLA-identical Donors

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Dear Sir,

We present the results of 10 renal transplant patients on conventional immunosuppression who received transplant from living-related HLA-identical donors. Mean age of these patients was 33 years, and 9 out of 10 were males. The basic disease in 6 patients was chronic glomerulonephritis and 1 case each had polycystic kidney disease, diabetic nephropathy, bilateral renal artery stenosis and membranous glomerulopathy with chronic glomerulonephritis. Four patients belonged to blood group 0 and 2 each to A, B and AB. Each patient received a mean number of 50 haemodialyses before transplantation and 5-12 (mean 6) pretransplant third-party blood transfusions. Four patients had acute rejection (AR) episodes. Patient 1 had AR at the 3rd month, was antirejected with high-dose steroids, to which he did not respond, and lost his graft at the 5th month and subsequently died. Case 2 had 2 AR at the 13th and 20th month and lost his graft in the third year. Case 3 had 2 AR episodes at the 3rd and 6th week. He did not respond to steroid therapy followed by monoclonal antibodies and lost his graft at the 6th month. He was subsequently retransplanted. Case 4 had AR episodes at the 7th, 9th and 16th month and each time responded partially to steroids. He lost his graft at the 2nd year and died of renal failure. Case 5 who never had AR lost his graft at the 2nd year due to recurrence of membranous nephropathy. He was also re-transplanted. At the mean follow-up of 49 months (range 12-144), 5 patients had lost their graft, 4 due to rejection and 1 due to recurrence of basic disease. Of these 2 died, 2 were retransplanted and 1 is being managed conservatively. HLA-identical donors for renal transplantation have been used since the early renal transplant period with excellent outcome [1]. The results have been the gold standard (1-year graft survival of nearly 90-95%) with which the results of HLA-nonidentical living-donor renal transplantations are compared [2]. Few studies have examined the potential benefits of cyclosporine (CsA) in HLA-identical transplants with inconclusive results [3,4]. Because of the controversy of the role of CsA in HLA-identical transplantation, most authors advocate only prednisolone and azathioprine (AZA) in this patient group [5,6].

However, on conventional immunosuppression nearly 10-12% of HLA-identical grafts are rejected during the first year of transplantation [1,6] and two third of these represent early failure within the first 6 weeks after transplantation. Many of these grafts undergo chronic rejection and graft survival falls to 77% by the 5th year [7]. This suggests that other minor histocompatibility loci exist which may also affect the renal transplant outcome. It has been shown that serologically defined HLA-A,B-identical siblings may not be identical in other genetic systems. Immune responsiveness between some of them has been shown in mixed lymphocyte cultures, migration inhibition tests and skin graft experiments [8].

Cyclosporine (CsA) has an impact on living-donor renal transplantation, but its use in HLA-identical transplants remains controversial, since patient and graft survival is excellent even with AZA and prednisolone. Hence, there is little gain of CsA in this patient group.

Moreover, patients on CsA therapy carry the risk of nephrotoxicity. Sanfilippo et al. [9] demonstrated that graft survival in this group is poor with CsA as compared to AZA and steroids. They suggested that CsA toxicity outweighs its benefit on graft survival. On the contrary, Flechner et al. [4] showed that actuarial graft survival at 5 years in the CsA group (96%) was better than AZA-treated patients (76%). There was a decreased incidence of rejection and graft loss in the

CsA group. Even the number of acute rejection episodes was less. Though the mean serum creatinine was a little higher in the CsA group, it was not statistically different. Considering the above data, we feel that conventional immunosuppression may not be ideal for (serologically defined) HLA-identical allograft.

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