HLA-DR MISMATCHED PAEDIATRIC RENAL TRANSPLANTATION: PATIENT AND GRAFT OUTCOME WITH DIFFERENT KIDNEY DONOR SOURCE

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Introduction

Renal allograft failure in children has been associated with several factors, including age, race, donor source, cold ischemia time, primary renal disease, HLA antigen mismatch, and transplantation year. Graft survival has improved substantially over the years owing to changes in the induction and maintenance immunosuppression regimens.

Aim of the work

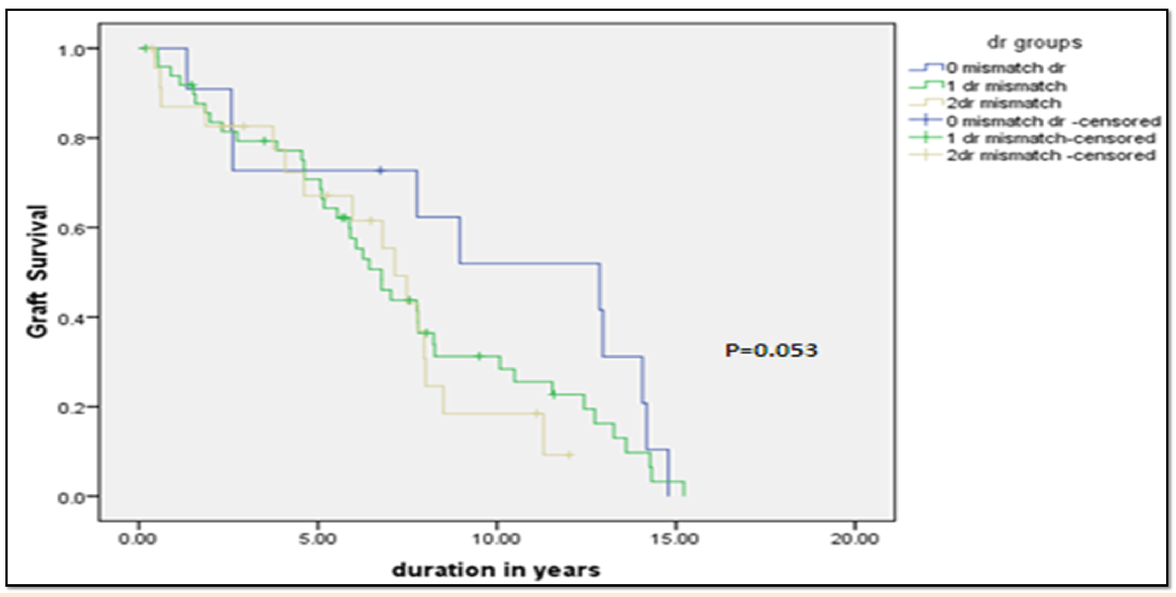
To determine the impact of HLA-DR mismatching on rejection, graft survival, and sensitization in pediatric renal transplant patients and to determine the likelihood of finding an appropriate donor based on HLA-DR mismatch.

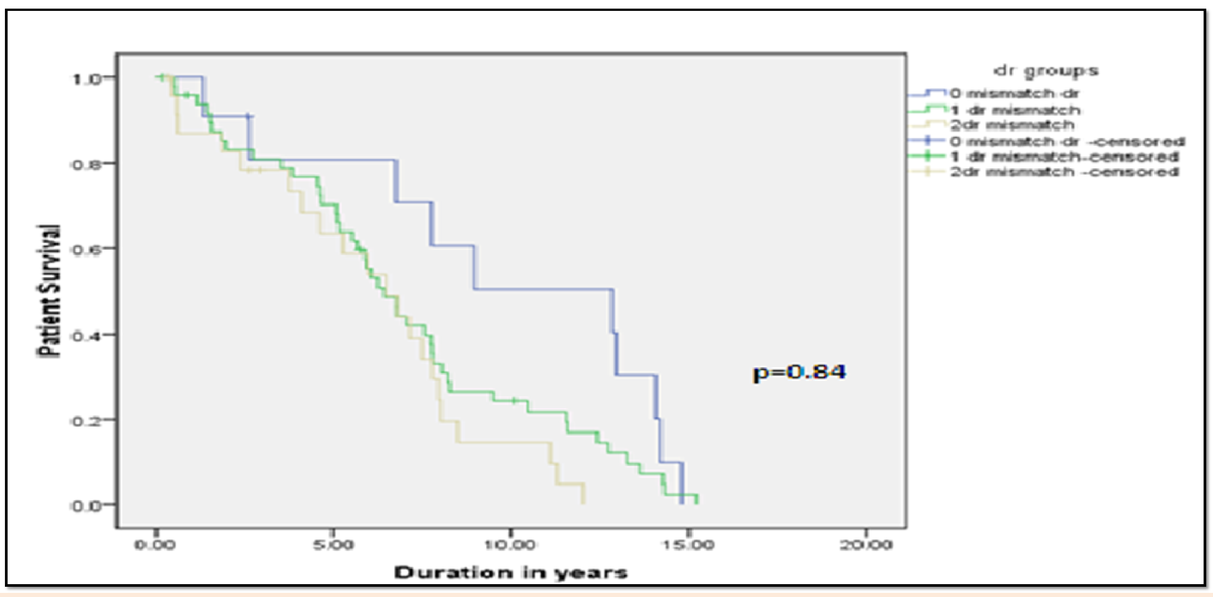
Materials and methods

In this retrospective analysis, pediatric renal transplants performed in Hamed Al-Essa organ transplant center of Kuwait (n=104), between 1994 and 2011 were examined for the effect of HLA-DR mismatches on graft and patient survival. DR zero mismatch(group1, n=17); one mismatch(group 2, n=63) and two mismatches (group3, n=34) comprised the three arms of our study. Pre-transplant complement-dependent cytotoxicity and flow cytometry cross matches were negative. Basic immunosuppression comprised Tacrolimus, MMF and steroids..

Results

The three groups were matched regarding mean recipient age (12.2±5.5,13.9±3.8 ,13.7±4.2 years respectively); patient and donor sex; donor age(35±8.2,34±7.4,30±9.3 years), original kidney disease, type of maintenance immunosuppression, basal graft function, viral profile and pretransplant co-morbidities(diabetes, anemia, hypertension and tuberculosis). Most of patients with two DR mismatch received cadaveric grafts and ATG induction; while patients with grafts from live donors received simulect induction ($p<0.05$). We found that patient survival at 1, 5, and 10 years was comparable in all groups. Posttransplant complications were comparable in all groups especially infections (bacterial and viral), hypertension, mean rejection episodes and NODAT. Moreover, we found no significant difference in the graft function as represented by serum creatinine at 1, 3, 5, and 10 years of follow up($p>0.05$).





Conclusion

HLA-DR mismatch pediatric renal transplantation-especially with cadaveric donors- is feasible with potent induction and maintenance immunosuppression.

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