

Selected Summary

Renal transplantation without dialysis: Better results at a lower cost ?

Mange KC, Joffe MM, Feldman HI. (Centre for Clinical Epidemiology and Biostatistics and the Department of Biostatistics and Epidemiology, University of Pennsylvania and the Renal-Electrolyte and Hypertension Division, Department of Medicine, Hospital of the University of Pennsylvania, Philadelphia, USA.) Effect of the use or nonuse of long-term dialysis on the subsequent survival of renal transplants from living donors. *N Engl J Med* 2001;**344**:726–31.

SUMMARY

This study retrospectively analysed data from the US Renal Data System (USRDS) to study the effects of transplantation on patients without prior dialysis (pre-emptive transplantation) compared with those patients who had dialysis before transplantation. Data collection was over 3 years and consisted of 9130 recipients more than 18 years of age, who had received living related renal allografts. Of these, 1819 patients underwent pre-emptive transplantation and 6662 had dialysis prior to surgery. These two groups were similar with regard to most demographic characteristics, which included race, gender, age, cause of native kidney disease, and relationship, gender, race of the donors, HLA matches and household income. Further analysis showed that acute rejections within the first 6 months were less common in the pre-emptive group when compared with patients who had received dialysis (5.5% v. 14.6%). On multivariate analysis, using a proportional hazards year-wise model adjusting for time dependency, it was found that there was a 52% reduction in graft failure in the first year with pre-emptive transplantation ($p=0.002$), 82% ($p=0.001$) in the second year and 86% ($p=0.001$) in the third and fourth years. In the first year, acute rejection was found to be associated with the difference in survival.

COMMENT

This elegant study of one of the largest databases (USRDS) of the renal population in the USA, convincingly shows that survival rates are superior with pre-emptive transplantation, related mostly to diminished occurrence of acute rejections in the first 6 months of the first year post-transplantation. Subsequent rejections have not been studied nor the effect of transfusions on rejections; presumably these were few with most patients being treated with erythropoietin.

Similar findings have emerged from other USRDS-based studies with cadaver transplantation.¹ Longer waiting times while on dialysis result in poorer graft and patient survival. Waiting times of 6–12 months, 1–2 years, 2–3 years, 3–4 years and more than 4 years, increase the risk of mortality by 21%, 28%, 41%, 53% and 72%, respectively, as compared with pre-emptive transplants.

The North American Pediatric Renal Transplant Co-operative Study (NAPRTCS) registry data ($n=2495$) is revealing.² At 3 years, the survival rate was 89% in patients with pre-emptive transplants as compared with 82% among those who received dialysis; the difference was seen only in recipients of living-related grafts.

Pre-emptive transplantation in 46 patients from 1989–96 was compared with 86 matched controls at the Christian Medical College, Vellore in southern India.³ The 2-year survival was similar in both groups but hepatitis B virus infection, hepatitis and transfusion requirements were significantly lower.

Pre-emptive renal transplantation is associated with better survival in the USA, and an equivalent short term survival in India. It decreases the transfusion requirements, thus reducing its attendant morbidity and long term liver disease-related mortality.

Dialysis therapy is expensive: a haemodialysis done thrice weekly costs between Rs 12 000 and Rs 15 000 per month. Blood transfusions or erythropoietin, vascular or peritoneal accesses, transport costs, treatment of complications including hospitalization are additional expenses.

It thus makes good sense to plan in advance for pre-emptive transplantation in a developing nation such as ours.

REFERENCES

- 1 Meirer-Kriesche HU, Port FK, Ojo AO, Rudich SM, Hanson JA, Cibrik DM, *et al.* Effect of waiting time on renal transplant outcome. *Kidney Int* 2000;**58**:1311–17.
- 2 Vats AN, Donaldson L, Fine RN, Chavers BM. Pretransplant dialysis status and outcome of renal transplantation in North American children: A NAPRTCS Study. North American Pediatric Renal Transplant Cooperative Study. *Transplantation* 2000;**69**:1414–19.
- 3 John AG, Rao M, Jacob CK. Pre-emptive living related renal transplantation. *Transplantation* 1998;**66**:204–9.

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ERRATA

1. In the *Short Report* (Injection use in a village in north India. 2001;**14**:143–4), the names of two members of the Undergraduate Study Team have been mis-spelt and should be Faiz Uddin Ahmad and Geeta Behera.
2. In the *Medicine and Society* (Mohanti BK, *et al.* Palliative care education and training during residency: A survey among residents at a tertiary care hospital. 2000;**14**:102–4).

On page 104, second para, the sentence should read: 'Our survey. . . institution, acclaimed for emphasis on training and research,^{13,14} where PC services...'

On page 104, fifth para, the first two sentences are missing and read: 'Multiple symptoms such as pain, fatigue, cachexia, sleeplessness and depression occur in advanced cancer.^{2,10,16} Correct assessment of the symptoms is essential for the delivery of PC.'