INTEGRATION OF TRANSPLANTATION AND HOME DIALYSIS

DO Oliver, PJ Morris, JGG Ledingham

Renal Unit and *Nuffield Department of Surgery, Oxford, United Kingdom

Introduction

Survival of patients treated with hospital dialysis, home dialysis and cadaver transplantation collated from International Registries and from individual centres present difficulties in interpretation. Each centre may have different criteria for the selection of patients for a particular treatment, and policies regarding the mode of treatment may vary with changes in the patients' clinical and social status. Despite the lack of controlled trials comparing dialysis with transplantation, experience in the use of an integrated transplant and dialysis policy, where the primary goal is patient survival rather than graft survival, has suggested that patient survival (88% at one year) is the same as with dialysis alone.

We report here our experience, effected in the past two years, of integrating cadaver transplantation with an established home dialysis programme.

Treatment and Patients

The aim of management was to provide patients with a well functioning graft and the best quality of life. Thus patients were returned to dialysis to await a second graft if graft function or immunosuppression decreased the quality of life or increased the risk of death compared to our patients treated by home dialysis. The implications of the Unit’s integrated dialysis and transplant policy was explained to all patients at an interview and in a written statement. The 105 patients admitted to the programme were volunteers already maintained on home dialysis and new patients aged less than 51 years. Eighty-two patients were transplanted. Treatment immediately before transplantation was: home dialysis 58.5%, training for home dialysis 19.5%, hospital dialysis while waiting for a transplant 19.5% and conservative management 2.5% (two children).

Prednisolone was given in a dose of 100mg daily for five days, 90mg daily
until the 10th day, and thereafter the dose was reduced by 5mg every five days until reaching 10mg daily. In some patients higher doses were required to control rejection (eg 15–20mg per day). Azathioprine was given in a dose of 2–2.5mg per kg per day, or in a lower dose if there was leucopenia. Acute rejection episodes were treated with three intravenous bolus injections of methylprednisolone 1g at 12-hourly intervals, except in some patients who received prednisolone by mouth (300mg, 200mg, 100mg, 90mg and thereafter the previous maintenance dose) during a trial of intravenous versus oral therapy.

Results

Seventy-six patients received 82 grafts of which 75 were cadaveric (CD) and seven from living donors (LD). Six patients had second CD grafts including two in whom the first graft was LD. At two years, 54 grafts were functioning with patient survival of 93% and graft survival of 60% at this time (Figure 1a). Four deaths occurred in patients with functioning grafts (three formerly treated by home dialysis, one by hospital dialysis) but there were no deaths in 18 patients returned to dialysis after graft failure. Survival of all patients (the integrated group) was 92% at two years (Figure 1b). Five deaths in 29 patients treated by dialysis alone (four home, one hospital) resulted in a two-year survival of 72% for this small group. The mode of treatment of 35 patients on the transplant waiting list at the end of the study period was: home dialysis 83%, training for home dialysis 6% and hospital dialysis 11%.

Discussion

Patient survival improves when hospital dialysis and cadaver transplantation are regarded as complementary rather than competitive treatments. The present study suggests that patient survival is not adversely affected when cadaver transplantation is combined with home dialysis.

Figure 1a  Actuarial survival of transplant patients and grafts
Figure 1b  Actuarial survival of all patients (integrated treatment) and dialysis alone
There are other advantages when home dialysis and transplantation are integrated successfully. In these circumstances there is no longer a dilemma concerning the choice of treatment. It is acceptable to patients. A successful graft results in a better quality of life and the best use is made of limited facilities. Patients training for, or treated by home dialysis, are experts in self-care and collaborate with the hospital centre after transplantation.

With integrated treatment, this dialysis unit with nine treatment stations provides haemodialysis for all referred patients with chronic renal failure from a population of 2.25 million and supports 110 patients on home dialysis without saturation of its facilities.

References