Outcome of Renal Transplantation from Foreign Unrelated Living Donors in Turkey

M.	Murat	Çolakoğlu ^a
T.	Tekin	Akpolat ^a
N.	Nurol	Arik ^b
C.	Cengiz	Utaş ^c
T.	Turgay	Artınoy ^d
Ş.	Şükrü	Sindel ^d
C.	Cem	Sungur ^a
Ü.	Ünal	Yasavul ^a
Ç.	Çetin	Turgan ^a
Ş.	Şali	Çağlar ^a

^aDepartments of Nephrology, Hacettepe University, Ankara, ^bOndokuz Mayıs University, Samsun, ^cErciyes University, Kayseri, and ^dGazi University, Ankara, Turkey

Dr. Nurol Arik, Ondokuz Mayıs Üniversitesi, Tıp Fakültesi, Hemodiyaliz ve Nefroloji Bölümü, TR-55139 Samsun (Turkey)

Dear Sir,

Transplantation is the optimal treatment for patients with end-stage renal disease (ESRD). In Turkey, renal transplants (RTs) are mainly obtained from living donors. Unfortunately, due to the insufficient availability of cadaveric grafts and compatible living donors, RTs have to be obtained from abroad. Some units in South-East Asia have run RT commercial programmes for many years [1-4]. Several patients with ESRD have gone to Bombay for RT from unrelated living donors and have returned to Turkey for posttransplantation follow-up. The purpose of this report is to evaluate the results of RT from unrelated living donors in Turkish patients with ESRD and to discuss the ethical and social aspects of organ transplantation.

Sixty-three patients (38 males, 25 females, mean age 38.4 years, range 17-63) from 4 Transplantation units were investigated retrospectively. All transplantations were performed in 1992 and 1993. Mean duration of dialytic therapy before transplantation was 26.1 months (range 0-96). Sixty patients have received primary and 3 patients have received secondary grafts. Mean follow-up time after transplantation was 12.1 months (range 1-25 months). Patient data were collected from the hospital file during transplantation in Bombay and regular follow-up in Turkey. All the donors were males with a mean age of 25.4 years (range 23-30).

Mean preoperative period for patient preparation was 5-7 days in most of the patients and mean hospitalization time after

operation was 10-12 days. Most of the transplanted patients had been admitted to transplantation units in Turkey at 10-15 days after transplantation. The immunosuppressive protocol was as follows at the time of admission: cyclosporine 7-10 mg/kg, azathioprine 1-2 mg/kg and prednisolone 1 mg/kg. Dipyridamole, salicylic acid, polyvita-min tablets, iron supplements, 7/8 receptor blockers and antacids were other medications in most of the patients and 1 patient was

using antithymocyte globulin. Antituberculosis treatment was continuing in 2 patients. Serum creatinine levels were $> 177 \mu\text{mol/l}$ in 26 patients (41.1%) at the admission time. Anti-HIV was negative in all patients and HBsAg was positive in 2 patients. The data consisting of tissue typing was available in 40 patients and A, B, and DR loci were evaluated. There was 1 antigen excess in 4 patients, 2 antigen excess in 11 patients, 3 antigen excess in 11 patients, 4 antigen excess in 13 patients and 5 antigen excess in 1 patient. The Kaplan-Meier technique was used to assess graft and patient survival rates. Persistence of serum creatinine $> 177 \mu\text{mol/l}$ was considered as graft loss.

Graft survival rates were 75.0 and 67.6% at 3 months and 1 year, respectively. Patient survival rates were 93.0% and 89.2% at 3 months and 1 year, respectively. Six patients died within 5 months after transplantation. Forty-seven of the 63 patients (74.6%) were hospitalized during posttransplantation follow-up for various reasons. The complications after renal transplantation were as fol-

lows: acute rejection 25, various surgical problems 8 (lymphocele, perirenal hematoma, ureter necrosis), perforation of sigmoid colon 1, urinary tract infection 15, pneumonia 3, cyclosporine nephrotoxicity 7, elevation of serum alanine aminotransferase (ALT) 12, subdiaphragmatic abscess 1, miliar tuberculosis 1, hemiplegia 1, hyperglycemia 3, polycythemia 1 and gingival hypertrophy 1.

Living unrelated donors are considered as acceptable sources for RT in some centers [5].

Previous studies evaluating the outcome of RT from living unrelated donors in Bombay have reported conflicting results [1-4]. Although 1-year patient and graft survivals were 95% and 85% in the report by Al-Khader et al. [2], the study of Salahudeen et al. [3] has reported a high mortality rate, and Abu-Romeh et al. [1] have reported increased early mortality. The report of Sever et al. [4] which was evaluating the results of transplantation with grafts from living unrelated donors in Bombay to Turkish patients have stated a high risk of medical and surgical complications. Our study showed a 1-year graft survival of 67.6%; 3-month and 1-year patient survival was 93.0% and 89.2% in this study, respectively. It should be remembered that other patients may have died in Bombay or may have returned to their hemodialysis units without admission to the transplantation units and these patients may decrease patient and graft survival rate further.

The commonest causes of the high mortality rate in the early postoperative period are insufficient preoperative management

and incompatible patient selection for commercial reasons. The increased frequency of elevated liver enzymes after the postoperative period, poor tissue matching, or transplantation during treatment of active tuberculosis are evidence of insufficient preoperative management and incompatible patient selection. We think that in this 'kidney bazaar' where profit is the first objective, normal standards of medical screening cannot be adhered to.

Our conclusions are: (1) Turkish patients with ESRD are new customers of this 'kidney bazaar'; (2) Morbidity and mortality rates are high in these patients due to various factors mentioned above; (3) shortage of the supply of cadaveric kidneys and willing and acceptable living related donors are the main difficulties in our country. For that reason, a possible source of living unrelated organ donors, has been considered; (4) the use of a complete stranger as a living unrelated donor raises legal and ethical issues with respect to the awareness and motivation of the donor; (5) considering the many reports which state that grafts from living unrelated donors are an acceptable alternative to cadaveric grafts with excellent graft and patient survival, an

alternative strategy may involve the use of emotionally related donors such as spouses, relatives by marriage or close friends who meet acceptable ethical as well as medical standards; their expanded use can provide an important additional source of organs for transplantation until the number of cadaveric donors is sufficient to satisfy the growing demands for transplant organs.

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