

THE FIRST 70 RENAL TRANSPLANTS AT GAZI UNIVERSITY

GAZİ ÜNİVERSİTESİ'NDE YAPILAN İLK 70 BÖBREK TRANSPLANTASYONU

Musa BALI, M.D., Metin ONARAN*, M.D., A. Ziya ANADOL, M.D**, Şevki SERT*, M.D.

Gazi University, Faculty of Medicine, Departments of Nephrology, Dialysis and Transplantation Center* and General Surgery**, Ankara-Turkey
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ABSTRACT

Purpose: Kidney transplantation is accepted as the treatment of choice for end stage renal disease all over the world and also in Turkey since 1975. We reviewed our results in Gazi University. **Methods:** Seventy patients underwent kidney transplantation at Gazi University, School of Medicine, Transplantation Center between September 1996 and March 2001. Fifty-seven of these were from living relatives and 13 from cadaveric donors. Patients received triple drug immunosuppressive regimen (Cyclosporine-A or Tacrolimus, Azathioprine or Mycophenolate mofetil and Prednisolone). Rejection episodes were treated with bolus methylprednisolone and/or polyclonal or monoclonal antibodies. **Results:** We have found one and three year graft survival rates were 100% and 94,4% in the two haplotype group; 92,3 % and 84,6% in the one haplotype group; 69,2% and 61,6 % in the cadaveric group, respectively. **Conclusion:** Patient and graft survivals are quite reasonable in all groups and kidney transplantation program is successfully continuing with promising results at Gazi University.

Key Words: Renal Transplantation, Living Related, Cadaveric, Graft Survival.

INTRODUCTION

Kidney transplantation is accepted to be the treatment of choice for end stage renal failure all over the world for over the past 40 years. Due to the tremendous progress in immunosuppressive therapy, patient and graft survival rates have reached 90 % and 80 % for living related and cadaveric grafts, respectively (1-3). In Turkey, the first successful kidney transplantation was performed in 1975 and almost 400 kidney

ÖZET

Amaç: Son dönem böbrek hastalığı için tüm dünyada ve 1975"den bu yana Türkiye'de de tercih edilen tedavi seçeneği böbrek trasplantasyonudur. Çalışmamızda Gazi Üniversitesi Tıp Fakültesi'nde yapılan böbrek trasplantasyonları incelenmiştir. **Metod:** Eylül 1996 ile Mart 2001 tarihleri arasında hastanemizde 70 böbrek trasplantasyonu gerçekleştirilmiştir. 57 trasplantasyon canlı donörden, 13 trasplantasyon kadavra donörden yapılmıştır. Hastalar üçlü immünsüpresif tedavi (Siklosporin-A veya Takrolimus, Azotioprin veya Mikofenolat Mofetil ve prednizolon) almışlardır. Rejeksiyon atakları bolus metilprednizolon ve/veya poliklonal veya monoklonal antikorlar ile tedavi edilmiştir. **Bulgular:** 1 ve 3 yıllık greft yaşam süreleri iki haplotip uyumlu hastalar için sırasıyla %100 ve %94,4, bir haplotip uyumlularda %92,3 ve % 84,6, kadavra böbreklerde ise %69,2 ve % 61,6 bulunmuştur. **Sonuç:** Tüm gruplarda hasta ve greft yaşam süreleri kabul edilebilir düzeydedir ve Gazi Üniversitesi'nde böbrek trasplantasyonu başarılı sonuçlarla devam etmektedir.

Anahtar Kelimeler: Böbrek Trasplantasyonu, Canlı Akraha, Kadavra, Graft Yaşamı

transplants are being performed every year. Because of cadaveric organ shortage, most of them (over 80 %) are from living related donors, unfortunately (4). At Gazi University, the kidney transplantation program started in 1996 and up to now, 70 kidneys have been successfully transplanted. Here we present early results of this experience.

PATIENTS AND METHODS

From 13 September 1996 to 16 March 2001, 70 kidney transplantations have been performed at Gazi University. Of these, 57 were from living relatives and 13 were from cadaveric donors. According to Human Leukocyte Antigen (HLA) mismatches, the patients who received a living related graft, were divided into two groups: 39 patients with 1-haplotype match and 18 with 2-haplotype match. Patients' age range, sex and donor relationships are shown in Table 1.

Cadaveric transplantations have been performed on 13 patients. Of these, seven were female and six were male, between 14-45 years (mean 38.6). Cadaveric grafts were harvested either from heart beating (9 grafts) or non-heart beating donors (4 grafts). Five of the heart beating cadaveric grafts were sent to our hospital from The Turkish Transplant Coordination Society (Table 1).

Patients received triple drug immunosuppressive therapy (Cyclosporin-A (Cyc-A) 5-7 mg/kg/day, Azathioprine (Aza) 1-2 mg/kg/day and Prednisolone 0.5 mg/kg/day). Eight patients received Tacrolimus instead of Cyc-A and eight patients received Mycophenolate mofetil (MMF) instead of Aza. Cyc-A blood levels were measured by RIA and Tacrolimus by IMX methods.

Rejection episodes were diagnosed on the basis of clinical and laboratory findings (blood chemistry, Doppler US and renal scintigraphy). First rejection episodes were treated by bolus methylprednisolone (MP) 1 g/day for three consecutive days. In the event that rejection episodes persisted, a biopsy was taken and

therapy adjusted according to biopsy results. If necessary, polyclonal and monoclonal antibodies were administered. Doppler US, renal scintigraphy and blood chemistry tests were used for patient follow up. Donors were discharged on the 4th postoperative day and the recipients on the 10th-15th day.

RESULTS

The rejection rate for patients in the 2-haplotype group was 22.2 %. One and three year patient survival was 100 % and graft survival was 94.4 % respectively. Patients' mean creatinine value was 1.66 mg/dl. One patient lost his kidney after correction of renal artery stenosis due to thrombosis at the anastomotic line. Calicial fistula was observed in one patient and treated by resection + omentoplasty and double J (DJ) catheter placement. Total ureteric necrosis was observed in one patient and treated by Boary flap ureteroplasty (Table 2).

The rejection rate for patients in the 1-haplotype group was 38.4 %. One patient died in a traffic accident one year after kidney transplantation (2.56 %). One patient was operated on because of a brain abscess due to nocardia infection and she is living uneventfully. One patient was operated on for distal ureteral necrosis and an ureteroneocystostomy was performed (2.56 %). One patient was operated on due to urinary leak and an ureteroneocystostomy + DJ catheter placement was performed (2.56 %). One and three year survival rates were 100 % and 97.4 %, graft survival rates were 92.3 % and 84.6 %, respectively. Mean creatinine value was 1.52 mg/dl. in 1-haplotype group (Table 2).

In the cadaveric group, the rejection rate was

Table - 1 : Age range, sex and donor relationship of the transplant patients.

Type of Tx*	Number of Patients (n)	Age range (mean)	Donors
2-haplotype match	18 (2 f, 16 m)	11-51 (35,08)	Age range 20-57 (mean 37,1) 1 mother, 4 father, 13 sibling
1-haplotype match	39 (16 f, 23 m)	13-53 (26,1)	Age range 26-64 (mean 44,1) 21 mother, 7 father, 8 sibling, 1 aunt, 1 husband, 1 offspring
Cadaveric	13 (7 f, 6 m)	14-55 (38,6)	
Total	70 (25 f, 45 m)		

*Tx: Transplantation.

33.3 %. One patient died one week after transplantation due to sepsis after OKT3 administration. Another died of sepsis 18 months after transplantation with a functioning graft. Three patients had primary non-functioning grafts and they were all from non-heart beating donors. Percutaneous transluminal angioplasty was performed to two patients with renal artery stenosis, one of which later underwent surgical correction with a renal artery - internal iliac artery end to end anastomosis. He is doing well with stable kidney functions. Mean creatinine value was 1.53 mg/dl in this group (Table 2).

DISCUSSION

Kidney transplantation has been widely accepted to be the preferred method for the treatment of end stage renal disease since 1960 (1, 5-9). Both patient and graft survival rates have increased remarkably from 60 % to 90 % due to new immunosuppressive strategies, refined surgical procedures and early diagnostic methods of rejection.

In our country, 4324 kidneys were transplanted between 1975 and 1999. Of these, 80 % were from living relatives and 20 % were from cadaveric donors. In 1999, the number of kidney transplants was 360, 25 % of which from cadaveric donors (4).

In our center, we performed 70 kidney transplants between 13th September 1996 and 16th March 2001. Patient and graft survival rates are compatible with international standards in both living related and cadaveric groups (3, 7) (Table 2, Figs. 1 and 2). In the cadaveric group, our primary non-function rate was 30 %, four of which were harvested from nonheartbeating donors. Casavilla et al (10) reported 25 % primary nonfunction rate in their series (11). We are now in favor of the idea that nonheartbeating donor use should be limited unless pretransplant biopsy confirms viability. In our cadaveric group, one year patient survival (PS) was 92.3 % and graft survival (GS) was 69.2 %. For patients who received kidney from living related donors; the 2 haplotype-group had 100 % PS and 94.4 % GS for 1 year, while the 1-haplotype group had 100 % PS and 92.3 % GS. (Table 2).

Our urologic complication rate was 5.7 % which was also comparable with that of pioneering transplant centers.

Disparity between the number of organs available and the number of patients in the waiting lists continues to increase. Many transplant teams have expanded their donor criteria and started to use marginal donors in order to overcome cadaveric organ shortage. Keeping in mind that nephron mass is a major determinant of chronic allograft failure, increasing the number of viable nephrons by simultaneously transplanting two kidneys into the same recipient effectively prevents progressive deterioration renal function. So, many transplant centers have recently increased using these marginal kidneys by dual kidney transplantation with good results (12, 13). In our opinion, these marginal kidneys can be safely used after evaluation with a frozen section biopsy.

Conclusion

Renal transplantation program is successful and rapidly progressing at Gazi University with promising results.

Correspondence to: Şevki SERT, M.D.
Gazi Üniversitesi Tıp Fakültesi
Diyaliz ve Transplantasyon Merkezi
Beşevler
06500 ANKARA -TÜRKİYE
Phone : 312 214 10 00 / 5234

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