

# Experience of Renal Transplantation: A Review Study

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End stage renal disease is a devastating physical, economical and social problem for the patients and their family. Renal transplantation is the best treatment option for ESRD patients. A total of 30 patients with live donor kidney transplantation were followed up in Lahore General Hospital, Lahore over a period from October 1998 to June 2000.

The aim of study is to report the present situation, high light the problems and identify the factors limiting the number of transplants and further prospect of renal transplantation in Pakistan. The cause of ESRD was HTN 8(26.7%) drug induced nephropathy 8(26.7%) chronic G.N. 6(20%), chronic pyelonephritis 4(13.3%), calculus renal failure 2(6.7%), polycystic kidney disease 1(3.3%) and diabetes mellitus 1(3.3%). The recipient age ranged between 15-55 years (mean 31.45). The donor age ranged 18-65 years (mean 35.78 years). Relationship of donor to recipient was mother 6(20%), father 8(26.7%), brother 4(13.3%), son 1(3.3%), cousin (wife) 2(6.7%), nephew 1(3.3%), non-related 8(26.7%). In our study graft survival was 87%, patients survival 90.10% and mortality 9.90%.

Transplanted patients has to be better motivated to take medications regularly and must have a financial support to purchase the medicines and get the investigations. 1<sup>st</sup> degree relatives are very limited source of donors in this part of the world and unrelated donors certainly encourage, transplantation.

**Key words.** Renal transplantation,

End stage renal disease is that stage of chronic renal failure at which renal function is no longer sufficient to sustain life. The most common causes of renal failure in patients being considered for dialysis and transplantation are chronic glomerulonephritis, hypertensive nephrosclerosis, chronic interstitial nephritis, polycystic disease, diabetes mellitus and calculus renal failure<sup>3</sup>.

Treatment options fall into three broad categories which are haemodialysis, peritoneal dialysis and transplantation<sup>4</sup>. With the advent of haemodialysis machines and later renal transplantation in Pakistan the management of end stage renal disease has taken a new course. The third option and perhaps the best solution for the end stage renal disease is renal transplantation<sup>1</sup>.

## Patients and Methods

From October, 1998 to June 2000 renal transplant patients presented for periodic follow up in Lahore General Hospital, Lahore. For all recipients and donors a proforma was completed consisting of:

1. Only living donor was selected.
2. Consent of the voluntary donor was fully ascertained.
3. The donor who was apparently in good general health was further evaluated.
4. Any history of mental or psychological problems was ruled out.
5. Detailed history and clinical examination of both donor and recipient were carried.
6. The donors age ranged between 18-65 years and recipient between 15-55 years.
7. The blood groups of the recipient and donor were compatible.

Donors having history of hypertension, myocardial infarction, peptic ulcer, mental disturbance, diabetes mellitus, jaundice, chest problems and having active hepatitis B and C and active CMV(IgG) were not included in this study. Recipient having primary oxalosis, liver cirrhosis, oesophageal varices cardiac decompensation grade-4 incapacitating lung disease and cerebral vascular diseases were not accepted.

The evaluation of donor and recipient were carried out by performing blood group and cross match, urine examination, urine bacterial count and culture sensitivity, CBC, blood urea, serum creatinine, serum electrolytes, LFTs virology. Tissue typing and lymphocyte cross match.

In recipients following diseases were treated before transplantation, uraemic pericarditis, ischaemic heart disease, malnutrition, chronic infections, tuberculosis, urological problems. All the donors graft veins were anastomosed with recipients external iliac vein as a end to side and artery as an end to end with internal iliac artery except in three patients having double arteries. In these cases, the arteries were anastomosed one as an end-to-end with internal iliac artery and 2<sup>nd</sup> artery as an end-to-side with external iliac artery. The ureter is rehabilitated by modified Liches technique in all cases<sup>9</sup>. No drain was used in all cases. Immunosuppression, used were triple regimen<sup>8</sup>, cap sandimmune neural 6mg/kg body weight/24 hours, tab azathioprine 1mg/kg body weight 24 hours, inj. Methyl prednisolone 500mg at the time of induction then 250mg i/v OD for three days, on fourth post-op day, tab. Methyl prednisolone 60mg OD were started and subsequently tapered to 10mg as a maintenance dose. The dose of cyclosporin was monitored by monthly cyclosporin

level.

### Results

A total of 30 patients with live donor kidney transplantation were followed up in Lahore General Hospital, Lahore over a period from October 1998 to June 2000.

1. The causes of renal failure were HTN 8(26.7%) drug induced nephropathy 8(26.7%), (Kushta), chronic G.N. 6(20%), chronic pyelonephritis 4(13%), calculus renal failure 2(6.7%), chronic pyelonephritis 4(13.3%), calculus renal failure 2(6.7%), polycystic kidney disease 1(3.3%), diabetic mellitus 1(3.3%).
2. Donor recipient age ranged 18-65 years (mean 31.45 years) and 15-55 years (mean 31.45 years) respectively.
3. The donor recipient male to female ratio was donor 22(73.3%) male 8(26.7%) female. The recipient 28(29.3%) were male and 2(6.7%) female.
4. The donor and recipient relationship were mother 6(20%), father 8(26.7%), brother 4(13.3%), son 1(3.3%), cousin wife 2(6.7%), nephew 1(3.3%), non-related (26.7%). Reasons of accepting non related donors were blood group O-ve in 2 patients, no other person in family available for donating kidney due to chronic rejection in the first transplant and patient was young. Five patients could not arrange donor from family after full screening. A few donors were HCV +ve/CMV +ve.
5. Complication noticed in our study included brain abscess 1 patient (3.3%), recovered by the treatment of Neurosurgery Department, ureteric stenosis 1(3.37%) ureterovesical leak 1(3.37%), both recovered by treatment 1(3.3%) of our patient, developed chronic rejection after 10 months, he was again put back on haemodialysis lymphocele 2(6.61%), recovered conservatively. Causes of graft loss were chronic rejection 1(3.3%), pulmonary T.B. 1(3.3%), septicaemia 1 (3.3%).
6. In our study graft survival was 87%, patient survival 90.1% and mortality 9.90%. The successful transplantation restores almost normal and return to relatively productive lives. In our study (n=27), the formal job 16(53%), change of job 7(23%) and unable to do job 4(13.2%).

### Discussion

Haemodialysis, CAPD and renal transplantation are the treatment modalities available to the patients with ESRD. Successful transplantation restores almost normal life and return to relatively productive lives<sup>7</sup>. These patients have better quality of life, more over renal transplantation has reduced the number of young patients on dialysis<sup>11</sup>. In our study, the results are comparable with international studies. In our set up transplantation is limited because of non-

availability of the donor kidney. The countries with active cadaveric transplant programs have greater total number of renal transplants<sup>6</sup>. In the absence of cadaveric donor, the sole source of organ harvesting is from the relatives organ<sup>2</sup>. In our considered opinion unless this ethical system of harvesting is brought in practice, non related donor will eventually become the source of kidney procurement which is not desirable especially considering the socioeconomic condition of the people<sup>10</sup>. This would raise moral issues, which would be difficult to cope with. There are few suggestions by which we can increase the number of donors (a) elderly donor more than 55 with normal kidney can very well be accepted with an excellent outcome (b) extending the donor pool to second and third degree relatives will immensely increase the number (c) only other encouraging donor pool is cadavers (d) we propose that all the muslims countries should pass legislation organizing living and cadaver organ donation and organ transplantation at the local as well as the Arab League level (e) public awareness about the organ donation.

In conclusion, while renal transplantation is available in Pakistan much work is still needed, for effective narrowing the gap between supply (organ) and demand.

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