One Hundred Kidney Transplantations in Tuzla

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INTRODUCTION

Kidney transplantation assures considerably better quality of life than the treatment of end-stage renal disease patients with dialysis. Goal: Authors intended to present results of kidney transplantations that were performed for over 13 years in UCC Tuzla. Examinees and methods: Total of 100 transplantations have been done over 13 years. The gender and age structure have been presented, as well as number of transplantations per year, type of transplantation (living related donor, living unrelated donor, deceased donor), number and percentage of donors and results of transplantations expressed as survival of both the patient and transplanted kidney/renal graft. We also wanted to presented other important events such as dates of introduction of certain drugs, dates of first cadaver transplantation, transplantation with desensitization protocols and dates of first living unrelated (spousal/emotional) transplantation. Results: The survival of patients and renal grafts were demonstrated by Kaplan-Meier curve, and obtained results were fully in range of results recommended in other literature and by other authors. One-year survival of graft is 94%, with five-year survival being 75%. One-year survival of patients is 95%, and five-year survival of patients was 84%. Discussion: Our results have been compared to those from other studies, gaining suggestions for transplantation improvement. Conclusion: Among all modifications of renal replacement therapy transplantation is by far the method of choice because, its well known advantages aside, it also has an economical advantage over chronic treatment with dialysis and it should therefore become interesting to healthcare systems. Key words: kidney transplantation, graft survival, patient survival.

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1. INTRODUCTION

Treatment of end-stage renal disease patients with dialysis and its modalities is, possibly, one of the greatest achievements of medicine in general (1). Organ transplantation is a huge step ahead in treatment of these patients (2). It not only provides better life quality, but lengthens life expectancy in comparison to treatment by methods of dialysis (3, 4, 5, 6, 7). During mid 70’s transplantations have been done in Sarajevo, Bosnia and Herzegovina, which in that period was almost spectacular given the circumstances that it has gone not more that 20 years since the first transplantation in the world. Owing thanks to Professors Bošković and Macanović, Sarajevo, alongside Rijeka, was the leading transplantation center in former Yugoslavia (8, 9). Nowadays transplantations are done not only in Sarajevo but in Tuzla and Banja Luka as well. It is a fact that dialysis significantly increases life expectancy and eliminates many medical complaints that untreated patients with end-stage renal disease endure. However, that type of treatment is associated with many complications because dialysis does not fully compensate for normal renal function. Patients commonly suffer from anemia and bone diseases, with their cardiovascular system being at risk as well. By introducing transplantation as treatment possibility many of these problems are surpassed because
transplanted kidney regulates and modifies occurrence of complaints that end-stage renal disease patients might occur. It could be said that treatment by transplantation is by far the best treatment for end-stage renal disease. And although living-donor transplantation is the most widespread, being even the only modality of transplantation in some countries, transplantation trends should focus toward deceased-donor transplantation (10). Renal transplantation as highly sophisticated renal replacement therapy was started in UCC Tuzla in September of 1999.

2. PATIENTS AND METHODS

Over period of 13 years (1999 until January 2011) total of 100 renal transplantations have been performed in UCC Tuzla, making it 7.69 transplantations annually. Chronic dialysis patients from different dialysis centers in Bosnia and Herzegovina underwent transplantation, 68% of them being males and 32% females. The mean age of patients was 31.65 years (95% confidence interval 16–53 years). Most transplantations have been performed year 2000 (14), and the least were carried out in year 2007 (5) (Figure 1). First deceased-donor transplantation was performed in May 2006, and first living unrelated (spousal) transplantation was performed in year 2010 (Figure 2). Living related transplantations were mostly performed (88), followed by deceased donor (11) and one spousal kidney transplantation (1) (Figure 3). Most commonly donors were mothers (31), fathers (26), sisters (13), brothers (12), other family members (7), and cadaver (11) (Figure 4). In the beginning patients were treated with cyclosporine, azathioprine and corticosteroids, with polyclonal antibodies (antithymocyte globulin) being used as induction therapy. The usage of mycophenolate-mofetil (CellCept) started in 2002 followed by introduction of basiliximab (Simulect) later that year. Tacrolimus (Prograf) was first introduced in therapy in June 2008. First transplantation under desensitization protocol was carried out in December 2009, and it included plasmapheresis, immunoglobulins and rituximab. In year 2011 first planned pregnancy in a woman with transplanted kidney was carried out.

3. RESULTS

Results have been presented by Kaplan-Meir estimator and curve. One year renal graft survival rate in our patients is 94%, and 5-year renal graft survival rate is 75%. Average time until loss of graft function was 93 months (%95 confidence interval from 82 to 104 months) in all patients, and 49 months (%95 confidence interval from 36 to 62 months) only in group of patients with loss of graft function (Figure 5). One-year patient survival rate was 96%, 5-year patient survival rate being 84%. Average time until lethal outcome was 111 months (%95 confidence interval from 101 to 121 months), and in patients with lethal outcome death occurred after 44 months in average (%95 confidence interval from 27 to 61 months) (Figure 6).

4. DISCUSSION

The total and mean annual number of transplantations in our center is relatively low, yet at this moment we are still leaders in our country by number and
types of performed transplantations. Our results are better than some countries of our region provide, although some other countries are still ahead of us. The rates of performed transplantations are insufficient to solve the problem of growing numbers of end-stage renal disease patients, but it makes quite the ground for experience building and professional improvement. Results are among percentile ranges of efficacy based on patient and graft survival. International guidelines suggest that 1-year survival rate for renal graft should be at least 85% and not lower than 70% 5-years after transplantation. Our results are 95% for 1-year renal graft survival and 75% for 5-year renal graft survival. Guidelines for patient survival rates are 90% after 1-year and 85% 5-year following transplantations, with our results indicating 1-year patient survival rate of 96%, 5-year survival rate of 84%. Optimal graft function is obtained by sensitive maintenance of balance among underdosed drugs and graft rejection at one end, and drug overdose and their induced toxicity at another end (12).

5. CONCLUSION

Number of performed transplantations would have been greater if our country had health care system that would regulate issues of promotion and realization of deceased donor transplantation. Current laws are not perfect, but they make ground for eventual alterations. Continuous education is cardinal factor in improvement of healthcare in transplantation. Probably the best way to increase the number of performed transplantations would be joining an European association such as Eurotransplant, which is basically our bottom line goal.

REFERENCES