Patient and graft survival of deceased donor transplant in one year’s post kidney transplant Experience of single center, what does need for results to be better than this?

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Abstract

Until this time the best modality for treatment of end stage renal failure (ESRD) is kidney transplantation, but the most important problem with that is shortage of donor. A deceased donor is the main provider of kidney and a relative and unrelative live donor is secondary provider of kidney for transplantation. But in deceased donor in comparing with live donor there is not a time for complete evaluation and almost to be in bad condition for deceased donor so it seems that there will be some difference in deceased and live donor outcome. We investigated patient and graft survival in deceased donor in one year after Transplantation in our center.

Material and method: From 2003 until 2018 in our center there were 88 ESRD patients between age of 12 to 67 years 33 females 55males that have been transplanted with deceased donors , donors( between ages 5- to 60 years 12 females 35 males) but we just only approached 85 cases of recipients (43 males and 42 females) and investigated for patient and graft survival : all of recipients have been treated with induction of ATG and then triple medicines Sandimune or Tacrolimuse and prednisolone and Imuran Cellcept and operation have been carried out with one team of surgery.

Results: 8 cases expired about in first 2 months of operation (8 case in early times) and 77 patients were live in one year (90/58%) and overall 16-allograft loss in one year ,69 allografts survived in one year (81/17%).

Conclusion: In our center one-year graft survival was 81/17% and patient survival was 90/58% which results may be comparable with other centers and it seems that the result can be better than this in our center which we will discuss in this paper.

Introduction

Incidence of End stage renal disease has a trend for increasing every year and the ideal treatment for ESRD is kidney transplant. Because in this treatment quality of life and patient survival is near normal life and also economically it is cost benefit.in comparing dialysis wit transplant it has been documented that patient survival in kidney transplant has inverse with duration of dialysis so one factor for good results with transplant is less duration of dialysis. A big problem with transplant is shortage of donor. Deceased donor is the main source of allograft but deceased donor in comparing with live donor has some disadvantage including:

Incomplete evaluation, compromise function during diagnosis of brain death and transferring to theater room, condition of kidneys different in single organ harvesting or multiple organs harvesting, and rising of creatinine before harvesting, increasing warm ischemic and cold ischemic time. In live related and unrelated donor till to anastomosing time every stage of providing kidney is under control and normal events.

Method

From 2002 to 2017 88 kidney recipient (33 females 55 males between ages 12-67 years) from deceased donor evaluated for patient and graft survival. Three cases were omitted because connection was not possible, so just only 85 cases studied. in them one-year patient survival and graft survival were studied.
1. phase of disease which will be result in brain death in that phase she or he will be prescribed some medicine which may be against or gain of kidney health.
2. phase of diagnosis of brain death in that phase the donor will be permitted for donation he or she have been catheterized (exposed to contamination of bacteria and others)
3. There is less time for perfect evaluation
4. With a none optimized condition donor transferred to theater room
5. Harvesting all organs just only with one team.

In deceased donor there are three big events including: unavailable complete history of donor (infection, cancer, and medicine), presence of inflammation in organs of deceased donor increased chance of ischemic reperfusion injury in organs which have been harvested [5], a dominant difference in management between deceased donor recipient and live donor recipient in our center is antithymocyte globulin (ATG ) which has been given for all deceased donor recipients in our center but in a very rare condition with live donor recipients, it must be considered that effect of ATG on T cell after injection remains for one year [6]. We have in live donor related and unrelated recipients patient one year survival near 98/11% and graft survival near 96/22% (in 2016,53 live donor related and unrelated recipient between age 8-66, 28males and 23 females, donors between ages 22-37,49 Males, 4 females with one year patient survival 98/11%. And one-year graft survival is 96/22). An important point especially in deceased donor recipient and also in live donor recipient is vaccination for prevention infection which is preventable at least 4 weeks before transplantation [7-9], which it seems that absence of vaccination in our recipients is an important reason for infection and sepsis and finally expired cases in our center. Care of brain death for stabilizing vital sign and control of diuresis by expert team is effective in outcome of graft in deceased donor [10]. It is important that we remember in deceased donor releasing cytokine which induces inflammation in deceased donor organ [5] it is necessary to suppress it. Harvesting organ with expert and specialist is important for outcome of allograft it has been showed that 5% of deceased donor have bacteremia and contaminated organ during harvesting [10]. It has been showed that overall patient and graft survival in live donor is better than deceased donor [11]. For improving results of deceased donor transplantation the following points must be considered:
1. Vaccination of recipients and all person contact with her or him
2. Control of diuresis of deceased donor
3. Concert of ICU with transplant team
4. Control of deceased donor for prevention of contamination
5. Suppress releasing of cytokine in deceased donor
6. Harvesting organs by especial and expert surgeon
7. As possible as reducing and avoiding prescription of ATG especially in patient with poor condition of allograft kidney.

Results

8 cases were expired due to sepsis and DIC (3 females and 5 males between ages 28 and 59 years) in 4 cases nephrectomy has been done two case immediately post anastomosis and two cases during a month after DGF (delayed graft function) and 77 patients were live in one year (%90/58) and over all 16 allograft loss in one year, 69 allografts survived in one year (81/17%).

Conclusion

It seems that with some change especially vaccination and avoid from ATG and suppress Cytokines and well caring of deceased donor it may be possible to change the results of deceased donor transplantation.

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