COMPARISON OF THE EFFECT OF ANASTOMOSIS TYPE ON EARLY GRAFT FUNCTIONS AND COMPLICATIONS IN KIDNEY TRANSPLANT PATIENTS WITH MULTIPLE ARTERIES

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Introduction

Multiple renal arteries are seen 23-30% unilaterally and 9-10% bilaterally. Previous studies suggest that the presence of multiple arteries in grafts may increase complications and graft dysfunction leading to avoid renal transplantations in such cases. In this study, we aimed to compare the effect of anastomosis type on early graft functions and complications in kidney transplant patients with multiple arteries.

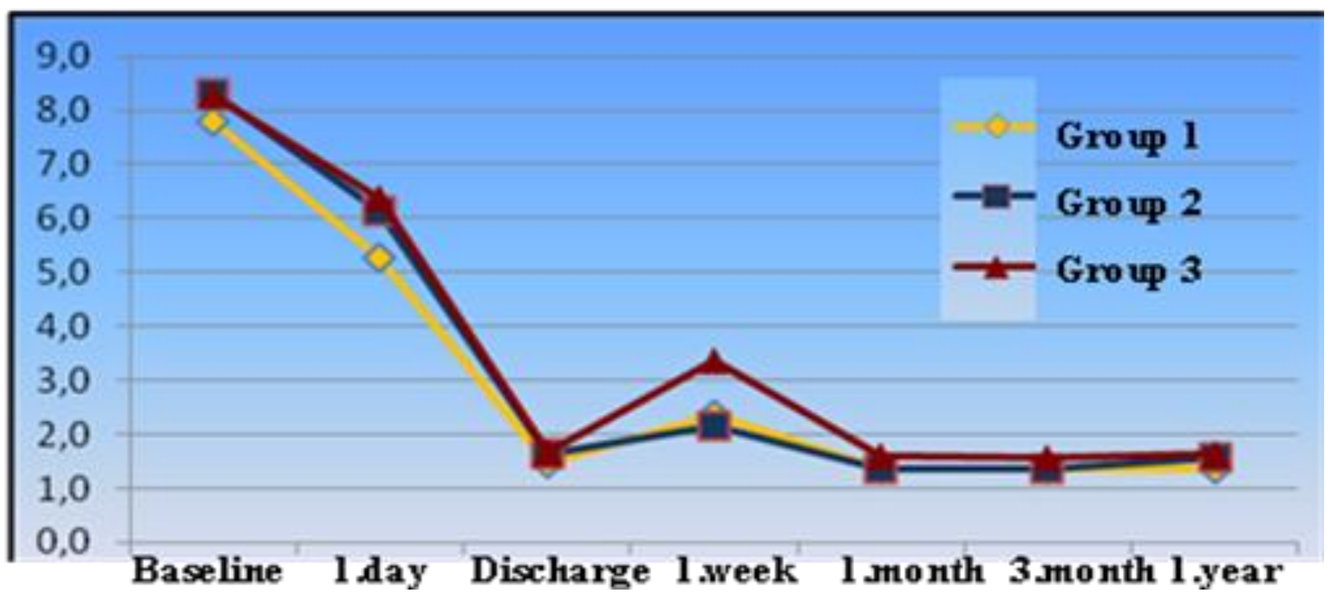
Materials and Methods

In this retrospective study, 452 patients who had undergone renal transplantation between 2008 and 2013 were evaluated. Of patients, 398 were eligible for this study. Patients whom had undergone first kidney transplantation either from deceased or living donors were divided into three groups according to renal artery anastomosis type: either one renal arterial anastomosis with only one artery in graft (n=270, control, Group 1, 46% living donor), one renal arterial anastomosis where other small renal arterial branches first anastomosed to main renal artery (n=13, Group 2, 35% living donor) and multiple renal arterial anastomoses where each renal arterial branch anastomosed separetely (n=55, Group 3, 31% living donor).

Results

Among all groups, blood loss amounts, chronic kidney disease, operation and hospitalization durations were similar. The operation time of Group 1 was lower than that of Group 3 (255±65 vs. 301±80 min, $p<0.001$). The serum creatinine levels at the post-operative 1st day, discharge day, 1st week, 3rd month and 1st year of group 1 were lower than those of group 3. Also the creatinine normalization time of group 1 was lower than that of group 3 ($p<0.05$). There was no significant difference in serum creatinine levels between group 2 and other groups (Fig. 1). The vascular and non-vascular complication occurred 30(9%) and 108 (34%) patients in Group 1, 3(15%) and 9(45%) patients in Group 2 and 12(20%) and 28(46%) patients in Group 3, respectively ($p=0.013$). The surgery intervention required 57(18%) in Group 1, 8(40%) in Group 2 and 18(30%) in Group 3 ($p=0.437$). The acute rejection episodes were seen in 26(8%) patients in Group 1 and 6(10%) patients in Group 3 ($p>0.05$). The ratios of graft and patient losses at 1st year 8% and 7% in Group 1, 5% and 5% in Group 2 and 8% and 7% in Group 3, respectively ($p>0.05$).

Fig 1. The course of serum creatinine levels on follow ups in all groups



Conclusion

Our study suggested that the presence of multiple arteries in donor kidneys did not affect the early functional results and complications after transplantation. Only renal artery number associated with operation time. In cases of multiple renal arteries in grafts, kidney transplantation can be done safely according to surgeon's experience and preference.

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