Impact of an Anastomosis Time on Transplant Outcomes in Deceased Donor Kidney Transplantation

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Objectives:
It is known that the increase in anastomosis time (AT) in deceased donor kidney transplantation (DDKT) is associated with increased incidence of delayed graft function (DGF) and interstitial fibrosis and tubular atrophy. However, there is no consensus on the impact of an anastomosis time on transplant long-term outcomes in DDKT.

Methods:
A total of 193 DDKT recipients were included in this study. AT was defined as the time from putting out donor kidney from refrigeration conditions of 4°C until the perfusion of donor kidney. The incidence of DGF, acute rejection, estimated glomerular filtration rate (eGFR) in 3, 12, 24, and 60 months after kidney transplantation (KT), renal allograft survival, and patient survival were analyzed according to AT. Subgroup analysis was performed to investigate the association between cold ischemic time (CIT) and transplant outcomes.

Results:
Mean AT was 44.81±14.30 minutes (range: 14–95) in this study. AT was not independent predictor for DGF, allograft loss, and patient death. Groups based on AT quartiles (≤34 min (n=49), 34–40 min (n=48), 40–51 min (n=49), >51 min (n=47)) did not show significant differences in the incidence of DGF, acute rejection, eGFR in 3, 12, 24, and 60 months after KT, renal allograft survival, and patient survival. Group with AT ≤34 minutes and CIT ≤246 minutes had highest eGFR in 3, 12, and 24 months post-transplant, but it did not reach statistical significance.

Conclusions: In our single center experience, the increase in AT in DDKT has no significant effect on transplant outcomes. Further multicenter studies are needed to include more post-transplant medical and surgical complications and to verify our results.