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Effect of severe diarrhea on kidney transplant outcomes

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Objectives: In addition to immunological complications, non-immunological events should be considered following kidney transplantation. Among them, diarrhea is the most common gastrointestinal complication, but its effect on transplant outcomes remains unclear

Methods: This retrospective study enrolled patients who underwent kidney transplantation between May 1993 and December 2017. Patients with diarrhea as the chief complaint at admission were defined as the diarrhea group. Transplant outcomes were compared between the diarrhea and non-diarrhea groups.

Results: Among a total of 1704 kidney recipients, severe diarrhea that required hospitalization was identified in 84 (4.9%) patients. Patients with diarrhea showed higher risks of graft failure (hazard ratio, 4.48 [2.84–7.08]) and all-cause mortality (hazard ratio, 6.45 [3.68–11.31]) than did patients without diarrhea. The risk of *de novo* donor-specific antibody was also elevated in the diarrhea group, although there was no change in the risk of biopsy-proven rejection. In subgroup analysis, the aetiology of diarrhea, as well as a change in immunosuppressant following diarrhea, showed no significant differences in graft survival. However, incomplete recovery from concurrent acute kidney injury was significantly associated with graft loss.

Conclusions: Diarrhea is related to poor graft and patients' outcomes in kidney recipients. An effort to recover from concurrent acute kidney injury is important for improved graft survival.