"Baseline graft status is a critical predictor of kidney graft failure after diarrhoea"

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Baseline graft status is a critical predictor of kidney graft failure after diarrhoea.


Abstract

**BACKGROUND:** Diarrhoea is one of the most frequent complications after kidney transplantation (KT). Non-infectious diarrhoea has been associated with reduced graft survival in kidney transplant recipients. However, the risk factors for renal allograft loss following diarrhoea remain largely unknown.

**METHODS:** Between January 2010 and August 2011, 195 consecutive KT recipients who underwent standardized microbiological workups for diarrhoea at a single centre were enrolled in this retrospective study.

**RESULTS:** An enteric pathogen was readily identified in 91 patients (47%), while extensive microbiological investigations failed to find any pathogen in the other 104. Norovirus was the leading cause of diarrhoea in these patients, accounting for 30% of the total diarrhoea episodes. The baseline characteristics were remarkably similar between non-infectious and infectious diarrhoea patients, with the exception that the non-infectious group had significantly lower graft function before diarrhoea (P = 0.039). Infectious diarrhoea was associated with a longer duration of symptoms (P = 0.001) and higher rates of acute kidney injury (P = 0.029) and hospitalization (P < 0.001) than non-
infectious diarrhoea. However, the non-infectious group had lower death-censored graft survival than the infectious group (Gehan-Wilcoxon test, P = 0.038). Multivariate analysis retained three independent predictors of graft failure after diarrhoea: diarrhoea occurring ≥5 years after KT [hazard ratio (HR) 4.82; P < 0.001], re-transplantation (HR 2.38; P = 0.001) and baseline estimated glomerular filtration rate <30 mL/min/1.73 m² (HR 11.02; P < 0.001).

**CONCLUSION**: Our study shows that pre-existing conditions (re-transplantation, chronic graft dysfunction and late occurrence) determine the primary functional long-term consequences of post-transplant diarrhoea.

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**KEYWORDS**: diarrhoea; kidney transplantation; prognostic factors

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