

Abstract Type : Oral Presentation
Abstract Submission No. : F-004537

The outcome and risk factor of refractory T cell mediated rejection (TCMR) on renal allograft transplantation based on the Korean organ Transplantation registry (KOTRY)

Eun-Jeong Kwon¹, Gi-Ae Yun¹, Seokwoo Park¹, Sejoong Kim¹, Ho Jun Chin¹, Ki Young Na¹, Dong-Wan Chae¹, Hyung Sub Park², Taeseung Lee², Jong Cheol Jeong¹

¹Department of Nephrology, Seoul National University Bundang Hospital, Republic of Korea

²Department of Surgery, Seoul National University Bundang Hospital, Republic of Korea

Introduction: Refractory TCMR (rTCMR) is a rare but critical complication affecting allograft survival in kidney transplantation (KT). We analyzed the outcome and risk factors of rTCMR in Nationwide prospective KT cohort study.

Methods: Patients enrolled in the Korean Organ Transplantation Registry (KOTRY) who underwent KT from 2014 to 2021 were used for analysis. Logistic regression and cox regression were used. Primary outcome was death censored graft failure. Analysis of rejection was limited on events within 1 year of transplantation. The rTCMR was defined as a case in which Cr was greater than 2.8mg/dl even after treatment of TCMR or histologically persistent TCMR in the consecutive biopsy.

Results: A total of 9150 donor-recipient pairs were analyzed. A 16% (n=1472) incidence of a rejection detected including clinical or biopsy proven rejection. Among them, rTCMR occurred in 7.1% (n=105). Baseline characteristics were compared in 3 groups, no rejection after transplantation, rejection group except rTCMR, and rTCMR group. Recipients mean age (50.0 vs 49.1 vs 48.8, $p < 0.023$), male (59% vs 65% vs 73%, $p < 0.001$), deceased donors (32% vs 36% vs 42%, $p < 0.002$) and mean donor age (47.6 vs 50.3 vs 50.6, $p < 0.001$) in three groups were identified. Age (odds ratio (OR) 0.976 (95% confidence interval (C.I.) 0.956-0.996)), cancer (OR 2.398 (95% C.I. 1.245-4.619)) of recipient, deceased donor (OR 2.704 (95% C.I. 1.446-5.053)), HLA mismatch number (OR 1.284 (95% C.I. 1.119-1.472)) were associated with refractory TCMR in multivariable logistic regression analysis. In no-rejection, resolved rejection, and rTCMR groups, death-censored graft survival rates at 1, 2, and 5 years were 99.1%, 98.5%, 97.1%, and 94.7%, 93.1%, 90.2%, and 61.2%, 58.7%, 48.9%, respectively.

Conclusion: The rTCMR is fatal risk factor to allograft survival. Age, malignancy history, HLA mismatch numbers, DDKT were independent risk factors.