Analysis of 300 ABO incompatible kidney transplantations in a single center

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Background: Kidney transplant (KT) is the optimal renal replacement therapy for patients with end-stage renal disease. However, the demand for kidneys continues to exceed the supply. To overcome this problem, efforts to extend the donor pool by including ABO-incompatible kidney transplantation (ABOi-KT) has been increased. The aim of this article was to retrospectively review data on recipients, donor profiles, and clinical outcome in 300 cases of ABOi compatible KT in a single center.

Methods: This is a retrospective, observational study using data extracted from medical records. A total of 300 consecutive patients who underwent ABOi-KT at our institution from May 2009 to Nov 2020 were included in this study.

Results: From a Kaplan-Meier analysis, overall patient survival after ABOi KT at 1, 3, 5 years were 98.3%, 97.6%, and 97.0%, respectively. The death censored graft survival rates after ABOi KT at 1, 3, and 5 years were 97.2%, 91.4%, and 86.4%, respectively. Our analysis suggested that overall patient survival, death-censored graft survival, and rejection free graft survival in ABOi KT showed no significant differences in comparison with ABO-compatible KT ($P=0.34$, $P=0.41$, and $P=0.88$ for each). Interestingly, BK viremia was more commonly observed in ABOi KT compared to ABOc KT (17.0% vs. 9.6%, $P=0.005$). Furthermore, in multi-variable analysis, ABO-incompatibility itself increased the risk of BK viremia significantly compared to control (hazard ratio, 1.40; $P=0.03$).

Conclusions: The outcomes of ABOi KTs continually improved during the study period, while the annual number of KTs increased. ABO incompatible KT can be performed safely with successful graft outcomes.

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