

Utility of a Scoring Tool for Living Kidney Donor

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Abstract

A comprehensive yet efficient evaluation of living kidney donor volunteers (LKDV) is key to a successful transplant program. Donor selection is complex and must balance donor medical suitability, compatibility issues and donor engagement. Identifying the most suitable donor when multiple volunteers are present can be difficult. Herein we examine the utility of a novel scoring tool in the early assessment of LKDV.

Methods

13 donor and 5 recipient variables were scored (-5 to +5). Donor variables included relationship, blood type, motivation, psychosocial and medical comorbidities, substance use, distance from transplant center, financial concerns and interest in paired donation. Transplant candidate (recipient) variables included kidney function, active status, blood type and cPRA. Donor scores were analyzed in relation to evaluation metrics such as donor initiative, outcome of donor evaluation, and actual donation. Correlation of recipient scores with transplant and time until transplant were assessed.

Results

From January-August 2015, the scoring tool was applied to all living donor volunteers (n=367) and their intended recipients (n=173). LDKVs with a higher score were more likely to complete preliminary testing (1.91 vs 1.41, $p < 0.001$), as well as proceed to formal evaluation (2.16 vs 1.6, $p < 0.001$). LDKVs with a higher score were also more likely to be approved for kidney donation (2.24 vs 1.77, $p = 0.011$). In the case of multiple volunteers for a given recipient, a higher score predicted a more successful volunteer (2.01 vs 1.49, $p < 0.001$). Those with higher recipient scores were more likely to receive a transplant during the study period (1.98 vs 1.16, $p < 0.001$). There was no correlation between recipient score and time to transplant ($R^2 = 0.044$).

Conclusion

This novel scoring tool predicts LDKVs who are more likely to start and complete evaluation, as well as to be found suitable for donation. Importantly, in the case of multiple volunteers, the tool can help identify the donor with the highest likelihood of success.

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