Background

Though medication adherence is essential for graft survival, non-adherence to immunosuppressants post-kidney transplant is common (30-35%)\(^1\), potentially leading to poor quality of life and increased healthcare costs.

Objective

The objective of this study was to examine the association between graft survival and adherence in kidney transplant recipients.

Methods

This retrospective, observational cohort study used claims data from a single, large national pharmacy chain (claims data from 2013-2016) and post-transplant follow-up data from the OPTN database (data from post-transplant to 2016).

The sample included adult deceased donor kidney-only transplant recipients (most recent transplant if more than one) who had ≥2 pharmacy claims for any immunosuppressant ≥150 days apart in the 12-months after their first fill in the study period (2013-2016).

Proportion of days covered (PDC) by any immunosuppressant for 12-months after first fill was calculated as a measure of adherence (defined as PDC ≥80%). Graft survival was defined as having a surviving graft at the end of the study period.

Logistic regression was used to estimate the association between adherence and graft survival controlling for covariates (age at transplant, time since transplant, gender, race/ethnicity, copay, number of prescriptions for chronic conditions, pharmacy insurance plan, brand medication usage, digital fills, filling at a transplant specialized pharmacy, receiving financial assistance, the interaction between brand medication usage and receiving financial assistance, and the interaction between age and adherence).

Results

Of the 14,703 kidney transplant recipients eligible for the study, 73% were adherent and 85% had a surviving graft (range: 1 to 9,780 days post-transplant; median: 969 days).

Approximately 77% of those patients whose grafts survived and 64% of those whose grafts failed were adherent (Figure 1).

After adjusting for covariates, the odds of having a surviving graft were higher for adherent patients than for non-adherent patients (\(OR=2.75, [1.95, 3.87]; p<.001\); Figure 2).

Other notable factors associated with graft survival included having no post-index prescriptions for chronic conditions (\(OR=3.48, [2.95, 4.11]; p<.001\)) and commercial insurance (vs. Medicare Part B) (\(OR=1.35, [1.16, 1.56]; p<.001\); Figure 2).

Conclusion

This analysis suggests that adherent patients were more likely to have a surviving graft than those who were not adherent to immunosuppressants.

As medication adherence behaviors may vary across patient populations, future studies should aim to show which patient behaviors contribute to medication adherence.