Medication adherence and graft survival among heart transplant recipients

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BACKGROUND

• Though medication adherence is essential for graft survival, little is known about the impact of nonadherence on heart transplant survival.

OBJECTIVE

• The objective of this study was to examine the association between graft survival and adherence in heart 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 heart-only transplant recipients (most recent 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 amount, number of prescriptions for chronic conditions, pharmacy insurance plan, brand medication usage, digital fills, filling at a transplant specialized pharmacy, and receiving financial assistance).

RESULTS

• Of the 3,435 heart transplant recipients who were eligible for the study, 75% were adherent and 81% had a surviving graft (range: 6 to 10,012 days post-transplant; median: 1,409 days).

• Approximately 77% of those patients whose grafts survived and 65% of those whose grafts failed were adherent (Figure 1).

• After adjusting for covariates, the odds of having a surviving graft were almost double for adherent patients than for non-adherent patients (OR=1.94, 95% CI [1.58, 2.37]; p<.001; Figure 2).

• Other notable factors associated with graft survival included having three or fewer post-index prescriptions for chronic conditions (OR=4.33, [3.55, 5.27]; p<.001) and filling immunosuppressants digitally (OR=2.25, [1.13, 4.48]; p<.001; Figure 2).

CONCLUSION

• This analysis suggests that adherent patients had greater odds of having a surviving graft than those who were not adherent to immunosuppressants.

• Future studies should aim to show which patient behaviors contribute to medication adherence and what PDC threshold should be used for transplant research.