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A Comparative Effectiveness Analysis of Early Steroid Withdrawal in Black Kidney Transplant Recipients

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Abstract

Background and objectives There is continued debate whether early steroid withdrawal is safe to use in high-immunologic risk patients, such as blacks. The goal of this study was to use comparative effectiveness methodology to elucidate the safety of early steroid withdrawal in blacks with kidney transplants.

Design, setting, participants, & measurements Our cohort study used United Network of Organ Sharing data including all adult black kidney transplant recipients from 2000 to 2009 followed through 2014. Propensity score matching was used to equalize baseline risk between continued steroid and early steroid withdrawal groups. Interaction terms were used to assess if the effect of early steroid withdrawal on outcomes varied by baseline and post-transplant factors. Of 26,582 eligible black patients with kidney transplants (5825 [21.9%] with early steroid withdrawal), 5565 patients with early steroid withdrawal were matched to 5565 blacks on continued steroid use.

Results Black patients with early steroid withdrawal had similar risk of graft loss (hazard ratio, 0.98; 95% confidence interval, 0.92 to 1.04; $P=0.42$) and lower risk of death (hazard ratio, 0.91; 95% confidence interval, 0.84 to 0.99; $P=0.02$), primarily driven by a late mortality advantage (>4 years post-transplant). Delayed graft function, cytolytic induction, tacrolimus, and mycophenolate significantly modified the effect of early steroid withdrawal on outcomes ($P<0.05$). Acute rejection rates were slightly higher in the continued steroid group (13.0% versus 11.3%, respectively; $P<0.01$), but this was not associated with graft or patient survival.

Conclusions Overall, early steroid withdrawal in black kidney transplant recipients was not associated with graft loss but seemed to be associated with better long-term patient survival. Early steroid withdrawal in blacks not receiving cytolytic induction, tacrolimus, and mycophenolate or those with delayed graft function was associated with higher risk of graft loss and death.

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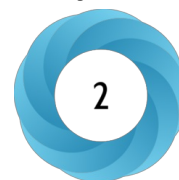
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