Continued use of Transfusion in the Transplant Waitlist Population, Even Among Non-Sensitized Candidates.

Jon J. Snyder, PhD, MS  
Hassan N. Ibrahim, MD, MS  
Bertram L. Kasiske, MD, FACP  
Melissa A. Skeans, MS  
Allan J. Collins, MD, FACP  

United States Renal Data System
Background & Motivation

• Sensitized patients spend more time on the kidney transplant waiting list than do non-sensitized patients.
• Exposure to blood products via transfusion may result in sensitization, thereby increasing the likelihood of a prolonged waiting time.
• We explored the 3-year cumulative incidence of transfusion, stratified by PRA at the time of listing, to see if transfusions were used more sparingly in non-sensitized patients.
Distribution of wait-listed patients, by age, race, PRA, & blood type

Figure 7.4 (Volume 2)

Patients age 18 & older listed for a kidney or kidney-pancreas transplant on December 31 of each year.

ASN 2010
Patients age 18 & older listed for a first-time, kidney-only transplant in the given year; estimates for PRA of 80 & above are unstable & are therefore omitted.
Population & Methods

- We used USRDS data to define a cohort of adult, ESRD-certified waitlist patients, first listed from 1991-2006, whose primary payer was Medicare (N=110,669).

- We examined pre-listing report of transfusion on the OPTN Transplant Candidate Registration OPTN.

- We examined Medicare inpatient and outpatient claims for evidence of transfusion in the first three years after listing. Using Kaplan-Meier methods, we estimated 3-year cumulative incidence of transfusion, stratified by PRA at the time of listing, with censoring at de-listing, death, and transplant.
Pre-transplant transfusion status of transplanted patients, by gender

Figure 7.46 (Volume 2)

Patients age 18 & older receiving a first-time, kidney-only transplant recipient.
Median waiting time, by pre-listing transfusion status

Figure 7.47 (Volume 2)

Patients age 18 & older receiving a first-time, kidney-only, deceased donor transplant.
Three-year cumulative incidence of transfusions in wait-listed patients, by PRA at listing.
Three-year cumulative incidence of transfusion in wait-listed patients, by PRA at listing.

Figure 7.48 (Volume 2)

Patients age 18 & older with Medicare primary coverage & listed for a kidney transplant in the given year.
Relationship between Transfusion and Outcomes on the Waiting List


ASN 2010
Relationship between PRA at Transplant and Outcomes: Death-Censored Graft Failure


ASN 2010
Relationship between PRA at Transplant and Outcomes: Death with Functioning Graft


ASN 2010
Conclusions

• Sensitized candidates wait longer for transplant.
• 28% of wait-listed patients received a transfusion within 3 years of listing.
• Non-sensitized patients (PRA of 0% at listing) were as likely as mildly sensitized patients (PRA < 20%) to receive a transfusion.
• Highly sensitized patients (PRA 80%+) were more likely to receive a transfusion within 3 years of listing, 41% within 3 years of listing.
• Transfusion was associated with decreased likelihood of transplantation.
• PRA at transplant remains associated with adverse outcomes.
Continued use of Transfusion in the Transplant Waitlist Population, Even Among Non-Sensitized Candidates.

Jon J. Snyder, PhD, MS
Hassan N. Ibrahim, MD, MS
Bertram L. Kasiske, MD, FACP
Melissa A. Skeans, MS
Allan J. Collins, MD, FACP

United States Renal Data System