PACKED RED BLOOD CELL TRANSFUSION IS ASSOCIATED WITH ADVERSE OUTCOMES IN PATIENTS UNDERGOING ENDOVASCULAR THERAPY OF PERIPHERAL ARTERIAL DISEASE

ACC Poster Contributions
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Background: The use of packed red blood cell (PRBC) transfusion has been associated with higher rates of morbidity and mortality in patient populations such as the critically ill and those who have had acute coronary syndromes, cardiac surgery, and surgical revascularization for peripheral arterial disease (PAD). The reason for this is not fully understood. We hypothesized that PRBC transfusion following endovascular therapy of PAD would be associated with similarly poor outcomes.

Methods: De-identified public discharge data were obtained from the California Office of Statewide Health Planning and Development. Inpatient admissions that involved endovascular treatment of PAD between 1999 and 2006 were selected using ICD-9 procedure codes for retrospective review. Admitting diagnoses, baseline patient characteristics, and the use of PRBC transfusion were obtained. The primary outcome was in-hospital mortality. The secondary outcome was in-hospital myocardial infarction (MI). Categorical variables were compared using Fisher’s Exact test and continuous variables were compared using paired t-test. A generalized linear model was used to determine significance in a multivariable regression.

Results: Between 1999 and 2006, there were 77,484 admissions during which an endovascular procedure for PAD was performed. Of those, 10,204 (13.2%) patients received a PRBC transfusion. Patients requiring transfusion had more frequent histories of hypertension, diabetes, dyslipidemia, congestive heart failure, anemia, renal disease, and tobacco use. After adjusting for these comorbidities, transfused patients still had significantly higher in-hospital mortality (8.9% vs. 2.5%; OR 2.8 [95% CI 2.4-3.2]; p<0.001) and MI (7.7% vs. 2.7%; OR 1.99 [1.7-2.3] ; p<0.001.

Conclusion: PRBC transfusion is associated with higher rates of in hospital mortality and myocardial infarction in patients undergoing endovascular therapy of PAD even after adjustment for baseline differences in the respective patient populations. Further study is warranted to explore the mechanism of these findings.