
Abstract:

Our aim was to assess if peri-operative blood transfusion is an independent risk factor for mortality and morbidity in the elderly. We report the results of a cohort study of all patients aged 80 or more on the day of their emergency or elective cardiac surgery (n = 874), using routinely collected data from January 2003 to November 2007. The primary outcome was all-cause mortality in hospital. The secondary outcomes were duration of stay in the intensive care unit (ICU) and overall hospital stay. Confounding variables were used to build up a risk model using a multivariable logistic regression analysis, and blood transfusion was added to assess whether it had additional predictive value for hospital mortality. Patients were divided into three groups: (i) transfusion of 0–2 units of red blood cells; (ii) transfusion of > 2 units of red blood cells and (iii) transfusion of red blood cells plus other clotting products. The strongest independent predictors of hospital death were logistic EuroSCORE and body mass index. After inclusion of these two variables, the odds ratio for transfusion remained significant. Relative to 0–2 units, the odds ratio for > 2 units was 6.80 (95% CI 2.46–18.8), and for other additional blood products was 14.4 (95% CI 5.34–37.3), with a p value of < 0.001. Duration of stay in the ICU was significantly associated with the amount of blood products administered (median (IQR ) ICU stay 1 (1-2 [0-15]) day if transfused 0–2 units of red blood cells, 2 (1-6 [0-128]) days if transfused > 2 units of red blood cells and 3
(1-76 [0-114]) days if other clotting products were used; p value < 0.001). Hospital stay was also associated with the amount of red cells used (p < 0.001).