

Transfusion in older patients with cancer admitted to the Intensive Care Unit in MD Anderson Cancer Center

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BACKGROUND: To describe the outcomes of older patients who received blood transfusions in the ICU, assessed the prevalence of anemia at admission and determined the independent factors associated with the utilization of transfusion in the unit.

HYPOTHESIS: The literature reports that patients who receive the highest number of transfusions are at increased risk of dying during hospitalization according to age and comorbidities presented at admission.

METHODS: This is a retrospective chart review, where we collected socio-demographic and medical characteristics, amount of RBC units transfused, hemoglobin levels, SOFA scores, hospital and ICU length of stay (LOS) of patients >79 years admitted to the ICU from September 1, 2001 to August 31, 2005. We constructed a logistic regression model to evaluate the independent factors associated with mortality by including the amount of RBC units transfused during the stay and the factors potentially associated with mortality (p -value $<.20$ in the bivariate analysis).

RESULTS: A total of 534 patients were included in our study, from which 311 (58.2%) received transfusion. During the first 24 hours of admission in the ICU, 150 patients (28.1%) presented without anemia, 229 (42.9%) with mild, 124 (23.2%) moderate and 31 (5.8%) with severe anemia. 138 (44.4%) women were transfused; 470 patients were non-hematological, from whom 286 (86.2%) required transfusions, received a mean of 4.2 (median 2) units; 64 (12%) were hematological and 43 (13.8) were transfused received a mean of 2.1 (median 0) units [This difference was significant ($p < .001$)]. Mortality was not associated with anemia (p value = .11). The percentage of women without anemia who received blood was higher than that of men. We found that having had chemotherapy during the period of 6 weeks before the ICU admission was associated with having transfusions in the event of not developing anemia in the unit (p value .06). The factors independently associated with mortality were medical admissions (Odds Ratio [OR] = 3.78, 95% CI 1.18, 12.11), increased modified SOFA score (OR = 1.27, 95% CI 1.04, 1.57), and increased ICU LOS (OR= 1.12, 95% CI 1.03, 1.21).

CONCLUSION: Based on patients with higher risk of mortality at admission, the severity of anemia is not associated with mortality, which means that this study does not support the evidence that the amount of RBC transfusions is associated with mortality in this population.