

The Negative Effect of Perioperative Red Blood Cell Transfusion on Morbidity and Mortality After Major Abdominal Operations

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Abstract:

Background: This study aims to test associations between perioperative blood transfusion and postoperative morbidity and mortality after major abdominal operations.

Methods: The 2014 ACS NSQIP dataset was queried for all patients who underwent one of the ten major abdominal operations. Separate multivariable regression models, were developed to evaluate the independent effects of perioperative blood transfusion on morbidity and mortality.

Results: Of 48,854 patients in the study cohort, 4,887 (10%) received a blood transfusion. Rates of transfusion ranged from 4% for laparoscopic gastrointestinal resection to 58% for open AAA. After adjusting for significant effects of NSQIP-estimated probabilities, transfusion was independently associated with morbidity and mortality after open AAA repair (OR=1.99/14.4 respectively, $p \leq 0.010$), esophagectomy (OR=2.80/3.0, $p < 0.001$), pancreatectomy (OR=1.88/3.01, $p < 0.001$), hepatectomy (OR=2.82 /5.78, $p < 0.001$), colectomy (OR=2.15/3.17, $p < 0.001$), small bowel resection (OR=2.81/3.83, $p \leq 0.004$), and laparoscopic gastrointestinal operations (OR=2.73/4.05, $p < 0.001$).

Conclusions: Perioperative blood transfusion is independently associated with an increased risk of morbidity and mortality after most major abdominal operations.

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