

ABSTRACT TITLE: A Comparison of Preoperative Anemia Management versus No Intervention for Patients Requesting Bloodless Surgery.

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Problem: Patients requesting bloodless surgery who arrive in a tertiary hospital system without any patient preparation may be at a greater risk for increased morbidity and mortality in comparison to patients with preoperative preparation and an established surgical plan.

Background/Evidence: Perioperative anemia has found to be associated with a nearly five-fold increase in the odds of postoperative mortality. In addition anemia is associated with increased requirement for transfusion, which is also associated with higher mortality. Of concern, even mild anemia is independently associated with an increased 30-day morbidity and mortality for non-cardiac surgical patients. Mild anemia is classified as an Hb10-12g/dL in women and 10-13g/dL in men and is associated with a 41% increased risk of mortality and a 31% increase in morbidity in patients undergoing major non-cardiac surgery.

Jehovah's Witnesses have strong beliefs prohibiting the 'consumption' of blood. This prevents them from accepting whole blood or its primary components such as homologous or autologous whole blood, packed red blood cells (RBCs), white blood cells (WBCs), or platelets and plasma.

Aim/Objectives: To evaluate the outcomes of patients requesting bloodless surgery by comparing patients that had early intervention to manage preoperative anemia and hemoglobin optimization versus no intervention

Methods/Strategy: A retrospective record review was performed to compare hemoglobin levels, hospital length of stay, complications and mortality for bloodless surgery patients that had early versus no intervention prior to surgery since the initiation of a bloodless surgery program at a tertiary hospital.

Results: A total of 24 patients were enrolled in the bloodless surgery program between October, 27, 2016 and March, 12, 2016. Of this, 13 patients met the study criteria (male: 5 (38.5%), female: 8 (61.5%)) with an age range of 12-78 (mean 46.2, median 57, SD 23.55). The early intervention group size was 8 (61.5%; female N=6/ male N=2) versus no intervention; 5 (38.5%; female N=2; Male N=3).

The early intervention group versus no intervention demonstrated an initial Hb mean of 13.81g/dL (SD 1.95) versus 10.48g/dL (SD 4.22), post-surgery Hb mean 11.86g/dL (SD 1.68) vs 6.65g/dL (SD 4.45) and discharge Hb mean 11.94 g/dL (SD 1.57) vs 8.7 gm/dL (SD 1.42). Hospital length of stay, early versus no intervention was: mean 3.5 days (SD 2.070) versus 12 days (SD 15.38). Although complications were higher in the no intervention group, the sample size was too small to calculate a statistical significance (intensive care admission: early 25% vs no

intervention 80%, Infection: no intervention 20%, delayed wound healing: no intervention 40% and death: no intervention 20%).

Conclusion: This preliminary data in this study reflects a small sample size, a diverse patient population and differing surgeries. The outcomes are suggestive that early support and pre-operative anemia management may have an impact on hemoglobin levels, hospital length of stay and a reduction in morbidity and mortality.