Optimizing Anesthetic Care for Jehovah’s Witnesses

Regarding Alternatives to Blood Products

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Problem

- Acute blood loss is a potential risk factor for major cardiovascular surgery
- Jehovah’s Witnesses are known for refusing blood transfusions
- In Jehovah’s Witness patients (P) having major cardiovascular surgery, does the use of blood product alternatives & interventions (I) maintain cardiovascular stability and decrease morbidity and mortality (O) during the perioperative period (T)?
- Will a 30-minute (T) educational PowerPoint presentation (I) for SRNAs attending ADU (P) about blood product alternatives & interventions increase their knowledge base on how to optimize anesthetic care (O) for Jehovah’s Witnesses?

Methods

- Quantitative study approved by IRB & SRC
- 30-minute educational PowerPoint presentation presented to AHU NAP senior SRNAs
- Inclusion required voluntary signed informed consent
- 10-question multiple choice pre-test followed by same 10-question post-test administered after PowerPoint
- Total participants n=22
- Test scores analyzed by AHU statistician

Analysis & Conclusion

- A paired sample t test was conducted to analyze the data collected using SPSS
  - The t value -12.754 is associated with p<.001 which is statistically significant.
  - It was concluded that the average percentage test scores increased significantly between Pre-test (40.45%) and Posttest (81.82%)

Findings & Limitations

- Statistical analysis of data showed an overall increased in average test scores by 41.37%.
- The educational PowerPoint was successful in increasing knowledge base of senior SRNAs regarding the current beliefs of Jehovah’s Witnesses and acceptable alternatives to blood products
- Limitations included small homogenous sample size of 23 AHU senior SRNAs.
- Further limitations were the exclusion of one student for late arrival and failure to sign an informed consent, making the final sample size n=22.
- Knowledge gained can be utilized by the SRNAs in the clinical setting and throughout their anesthesia career
- In the future, this scholarly project may lead more development of a protocols or guidelines for perioperative care of the Jehovah’s Witness patient having cardiovascular surgery.

Preoperative Planning:

- Discuss surgery & risk of blood loss, multidisciplinary team coordination, detailed review of medical history, & discuss blood product alternatives & interventions acceptable to the patient
- Iron & Recombinant human erythropoietin (EPO)- Recommendations to start therapy 3-4 weeks pre-op
- DIC medication and herbal supplements that impair clotting
- Correct coagulopathies (acquired &/or inherited)
- Appropriate monitoring of labs, minimize phlebotomy

Intraoperative Interventions:

- Maintain normothermia
- Appropriate patient positioning
- *Acute normovolemic hemodilution (ANH) & Normovolemia hemodilution
- Controlled Hypotension- caution w/ PMH CAD, CVA, uncontrolled HTN
- Hemostasis- coordinated with surgeon

GOAL: ↑ Hemoglobin production, optimize oxygen delivery & consumption minimize blood loss, & promote hemostasis

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References Available Upon Request