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Management of Acute GI Bleeding in Patients Who Refuse Blood or Blood Products

Abstract

Background and Significance: The Gastroenterology consult service evaluates patients who are admitted to the hospital with gastrointestinal (GI) tract bleeding. Prompt endoscopic evaluation is the mainstay for the diagnosis and treatment of clinically significant GI tract bleeding and occurs in concert with the initiation of supportive measures, including replacement of lost blood, correction of coagulopathy, treatment of hemorrhagic shock, and stimulation of erythropoiesis. There have been several case reports of patients who exsanguinated from acute GI tract bleeding due to refusal of blood or blood products on religious grounds. Management of such patients presents many treatment and ethical challenges. The Jehovah's Witnesses population literally interprets the Bible passages Genesis 9:4, "But flesh with the life thereof, which is the blood thereof, shall ye not eat." and Leviticus 17: 15, "And every soul that eateth that which died of itself, or that which was torn with beasts, whether it be one of your own country, or a stranger, he shall both wash his clothes, and bathe himself in water, and be unclean until the even: then shall he be clean." to mean that they should not ingest blood and thus they do not accept blood or blood products. Nonetheless, there are alternatives, albeit limited, to transfusion of human blood products for patients with acute blood loss secondary to GI tract bleeding. For example, research studies have demonstrated favorable outcomes following the use of recombinant factor VIIa to treat anemia and achieve hemostasis (Boffard et. Al, 2005). In addition, as noted by Berend and Levi (2009), there are several unique lessons to be learned from the management of Jehovah's Witnesses with GI tract bleeding, including learning how to seek and utilize alternative treatment options, and understand medical views and beliefs of patients from different cultures and religions. To date, there are no published guidelines that address the management of patients who refuse transfusion of blood or blood products for faith-based reasons. **Purpose:** To develop an evidence-based treatment protocol for the management of patients who refuse transfusion of blood or blood products for faith-based reasons. **Methods:** Current evidence was appraised and comparisons were made among the various treatment options for patients who refuse transfusion of blood or blood products for faith-based reasons. Using critical appraisal and synthesis, research studies were scored and beneficial interventions from high-quality studies were incorporated into the evidence-based treatment protocol. Practice recommendations were then organized into a treatment algorithm. **Analyses:** The algorithm was critiqued by an expert review panel and subsequently revised based on its comments and recommendations. The revised algorithm will be presented to the panel for final approval. **Implications:** This treatment algorithm will provide clinicians with an evidence-based guide for the medical management of patients who refuse transfusion of blood or blood product.

Document Type

Thesis

Degree Name

M.S. in Advanced Practice Nursing

First Supervisor

Christine Nelson-Tuttle

Subject Categories

Nursing

This thesis is available at Fisher Digital Publications: https://fisherpub.sjfc.edu/nursing_etd_masters/19

Management of Acute GI Bleeding in Patients Who Refuse Blood or Blood Products

By

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Submitted in partial fulfillment of the requirements for the degree

Master's in Advanced Practice Nursing

Supervised by Dr. Christine Nelson-Tuttle

Wegmans School of Nursing

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December 2013

Evidence Based Protocol: Management of Acute GI Bleeding in Patients Who Refuse Blood or Blood Products

Abstract

Background and Significance: The Gastroenterology consult service evaluates patients who are admitted to the hospital with gastrointestinal (GI) tract bleeding. Prompt endoscopic evaluation is the mainstay for the diagnosis and treatment of clinically significant GI tract bleeding and occurs in concert with the initiation of supportive measures, including replacement of lost blood, correction of coagulopathy, treatment of hemorrhagic shock, and stimulation of erythropoiesis. There have been several case reports of patients who exsanguinated from acute GI tract bleeding due to refusal of blood or blood products on religious grounds. Management of such patients presents many treatment and ethical challenges.

The Jehovah's Witnesses population literally interprets the Bible passages Genesis 9:4, "But flesh with the life thereof, *which is* the blood thereof, shall ye not eat." and Leviticus 17:15, "And every soul that eateth that which died *of itself*, or that which was torn *with beasts*, *whether it be* one of your own country, or a stranger, he shall both wash his clothes, and bathe *himself* in water, and be unclean until the even: then shall he be clean." to mean that they should not ingest blood and thus they do not accept blood or blood products. Nonetheless, there are alternatives, albeit limited, to transfusion of human blood products for patients with acute blood loss secondary to GI tract bleeding. For example, research studies have demonstrated favorable outcomes following the use of recombinant factor VIIa to treat anemia and achieve hemostasis (Boffard et. Al, 2005). In addition, as noted by Berend and Levi (2009), there are several unique lessons to be learned from the management of Jehovah's Witnesses with GI tract bleeding, including learning how to seek and utilize alternative treatment options, and understand medical views and beliefs of patients from different cultures and religions.

To date, there are no published guidelines that address the management of patients who refuse transfusion of blood or blood products for faith-based reasons.

Purpose: To develop an evidence-based treatment protocol for the management of patients who refuse transfusion of blood or blood products for faith-based reasons.

Methods: Current evidence was appraised and comparisons were made among the various treatment options for patients who refuse transfusion of blood or blood products for faith-based reasons. Using critical appraisal and synthesis, research studies were scored and beneficial interventions from high-quality studies were incorporated into the evidence-based treatment protocol. Practice recommendations were then organized into a treatment algorithm.

Analyses: The algorithm was critiqued by an expert review panel and subsequently revised based on its comments and recommendations. The revised algorithm will be presented to the panel for final approval.

Implications: This treatment algorithm will provide clinicians with an evidence-based guide for the medical management of patients who refuse transfusion of blood or blood product

Introduction

The gastroenterology service at many major medical centers is often consulted when a patient presents with gastrointestinal (GI) bleeding. They are responsible for making recommendations that affect patient care and outcomes. There have been several reports of patients who experienced an episode of acute bleeding from the GI tract (acute GI bleed), that have expired because the patient adhered to this faith community's doctrine of refusal of blood transfusion.

This project was developed as a performance improvement project to help improve clinical management of patients who refuse transfusion of blood or blood products for faith-based reasons. An evidence-based treatment algorithm was developed using the most current information to ensure that clinicians manage this patient population consistently and appropriately, and that every treatment option and alternative is presented to patients. This treatment algorithm will be used as a reference for providers on the gastroenterology service to employ best practice during consultations involving treatment recommendations for this complex patient population.

Jehovah's Witnesses are a group of individuals who began as a Bible study group in 1869. Part of the charge of their Bible study group was to extensively analyze various Biblical readings. They found what they characterized as multiple errors in the traditional Christian doctrine, including those related to Christian teachings. Thus, the religious convictions of this following were based on strict literal interpretation of the Bible. In 1931, they adopted the name Jehovah's Witnesses, which is based on Isaiah 43:10-12. There are over 6.7 million members currently worldwide (Huges, Ullery, & Barie, 2008).

The Jehovah's Witnesses literally interpreted the following Biblical passages: "The one thing you must not eat is meat with blood still in it; I forbid this because the life is in the blood" (Genesis 9:4) and "The life of every living thing is in blood, and that is why the LORD has told people of Israel that they shall not eat any meat with blood still in it and that anyone who does so will no longer be considered one of his people" (Leviticus 17:15). These passages explain and provide rationale for why this population refuses blood and blood products. The people of the Jehovah's Witness faith community are permitted to make the decision based on their own conscious thought, but if they do decide to accept blood or blood products, there is a formal process of "de-fellowship" that is instituted by the church itself (Effa-Heap, 2009). When taking responsibility for the care of a Jehovah's Witness patient, it is important for clinicians to understand why they feel so strongly about this issue. Consequently, as providers, we should present to them all of the treatment options available and respect the choices that they make.

Boffard et. al (2005) conducted two parallel randomized, placebo-controlled, double-blind clinical trials. The investigators used recombinant factor VIIa as adjunctive therapy for bleeding control in severely injured trauma patients. Red blood cell (RBC) transfusion was significantly reduced with rFVIIa relative to placebo and the need for massive transfusion. In penetrating trauma, similar analyses showed trends toward rFVIIa reducing RBC transfusion and massive transfusion. Mortality rate and critical complications also were reduced. These findings provide evidence for the use of rFVIIa in the reduction of RBC transfusion in severe blunt trauma (Boffard, et. Al., 2005).

The use of Recombinant Factor VIIa (rFVIIa) was also supported via two case reports regarding treatment of excessive bleeding in Jehovah's Witness patients following cardiac surgery (Tanaka, Waly, Cooper, & Levy, 2003). Findings revealed that hemostasis (cessation of

bleeding) was improved in a cardiac surgical patient who refused blood products. Because no human protein or derivatives were present during the manufacturing or purification process of recombinant factor VIIa in baby hamster kidney cells, rFVIIa was found to be an acceptable treatment option for these patients. These case reports provide further evidence on alternative therapeutic options for this patient population.

The Jehovah's Witness patient population may be very challenging to clinically manage because they refuse mainstream treatment options even at times when they face a life or death choice. Berend and Levi (2009) noted that there are lessons to be learned from the management of Jehovah's Witnesses, including acquisition of skills to seek alternatives to obvious treatments, and seeking to understand views and beliefs of patients from different cultures. Having a tool in a medical decision tree format to guide treatment of these patients will help providers stay focused and consistent in their approach.

The purpose of this Performance Improvement project was to develop an evidence-based treatment protocol to clinically manage patients who refuse transfusion of blood or blood products for faith-based reasons.

Methods

An extensive updated review of literature was conducted through online databases using the University of Rochester Medical Center Miner Library and St. John Fisher College Lavery Library online resources. Further assistance was requested, as needed, from a dedicated health studies librarian, at Lavery Library, St. John Fisher College.

Current evidence was appraised and comparisons were made among the various management options for patient who refuse transfusion of blood or blood products for faith-based reasons.

Using the techniques of critical appraisal and synthesis, literature was scored and decisions were made whether to incorporate resulting research evidence into the new evidence-based treatment protocol.

Research gathered during the literature search was organized into an algorithm type flow chart. This algorithm will be available to give providers a decision tree approach to medical management of a patient who refuses transfusion of blood or blood products. The evidence based protocol was then critiqued by expert review including one gastroenterology Attending, one gastroenterology Fellow and two Advanced Practice Registered Nurses. They were asked to critique the protocol for usability, adherence to current practice guidelines and compliance with provider scope recommendations.

Outcomes

Listed below are the questions asked during the review process,

1. Does this protocol follow current practice guidelines?
2. Does it seem practical for use when treating this patient population?
3. Could this protocol be used by Fellows, Residents, NP/CNS's, PA's?
4. Recommended changes
5. Comments

All of the expert reviewers felt this performance improvement project will be essential for treating this patient population. They stated that the recommendations follow current evidence, it was easy to use and could be used across the interdisciplinary team. One of the APRN reviewers stated "This shows the many things we still have available in our toolbox.", "I

would add this to my clinical pearls.” The experts had minor spelling and layout recommendations.

One of the APRN reviewers stated “I think that this protocol has the potential to provide us with alternatives for the management of patient's with gastrointestinal bleeds that are Jehovah's witnesses, but also helps us to find alternatives to blood products when there is such a significant shortage of blood products available for all of our patients”. This protocol is intended for use by any provider that comes in contact with the situation that their patient refuses blood transfusions. It is meant to give providers ideas of ways to manage this patient population and it could most certainly be used when there is a shortage of blood products available to make sure we are using all of the current evidence to treat the patients.

Changes

One of the changes that were made in the protocol was contacting the Jehovah's Witness liaison committee. The literature had recommended contacting a member of this committee to give providers support during management of this patient. The inclusion of the liaison committee contact would be beneficial in maintaining an open relationship with the patient and the providers. It would demonstrate that health care providers were taking all of the necessary steps to ensure cultural competence. This protocol was developed for use in any department treating a population who refuses blood or blood products. Many hospitals may not have a Jehovah's Witness liaison committee. This may add more confusion to the protocol. Another performance improvement project should be considered to develop a Jehovah's Witness Liaison committee. This would serve as a great resource for any community so that this patient population feels comfortable being treated at different medical facilities.

Discussion

When developing a protocol it is also important to think about possible barriers to implementation. The APRN reviewer discussed possible barriers to implementing this protocol which included the availability of the gastroenterology staff to be able to perform the procedures in an expedited fashion, the availability of the closed circuit blood salvage equipment and the overall willingness of the patient to accept the treatment plan and provide consent. Most large medical facilities have an on-call gastroenterology service. For emergency procedures the endoscopy team must respond to cases within one hour. The use of the closed circuit blood salvage equipment was removed from the protocol. The protocol is developed to assist a provider in initiating care when they are faced with the new patient situation. Using the closed circuit blood salvage equipment would require surgical consult, more research of literature and a more in-depth protocol. The development of an additional protocol utilizing the closed circuit blood salvage equipment separate from this protocol may be helpful.

It is crucial that health care providers develop a trusting relationship with their health care providers. With trusting professional relationships, patients may be more likely to actively participate in the health care recommendations offered. Providers with background knowledge about this specific patient population will be able to discuss treatment options that follow the patient's religious practices.

Recommendations

Based on expert review this protocol is easy to use and it should be used across the interdisciplinary team for the treatment of this patient population. The protocol follows current evidence and recommended practice guidelines. This protocol could be disseminated to the gastroenterology service at any major medical center. This would also be useful in emergency department care, where care for hypovolemic shock from bleeding is most frequently initiated.

Management of Acute GI Bleeding in Patients Who Refuse Blood or Blood Products

Can you manage the patient?

No

Early transfer to capable hospital

Consider GI +/- Hematology consult while awaiting transfer

Yes

Page the GI Fellow on call
Consider Hematology Consultation
Determine if ICU level of care is needed

Immediate treatment

Prompt arrest of bleeding

- >Endoscopy
- >Antifibrinolytics (aminocaproic acid or tranexamic acid)
- >Tolerate hypotension (SBP>85)
- >PPI drip
- >Octreotide drip (if concern for varices)

Treat hypovolemic shock

- >Conservative use of moderately warm IV fluid for hypotension
- >Maximize oxygenation
- >Vasopressors

Stimulate Erythropoiesis

- >Erythropoietin
- >Iron
- >Folic Acid
- >Vit B12

Correct Coagulopathy

- >Recombinant factor VIIa

Supportive Measures

- >Limit diagnostic phlebotomy (use pediatric vacutainer tube if available)
- >Decrease metabolic rate (maintain normothermia, control rigors, treat agitation)

Recurrent or ongoing hemorrhage

Recurrent hemorrhage

- >Discuss reconsidering blood transfusion with patient
- >Repeat emergent endoscopy or colonoscopy

Hemostasis Achieved

- >Close observation
- >Continue IV PPI drip if peptic ulcer hemorrhage
- >+/- octreotide drip

Hemostasis Not Achieved

Ongoing hemorrhage

- >+/- Tagged RBC scan
- >IR consultation for angiography with selective embolization
- >Surgical consultation for refractory bleeding

References

- Adelola, O. A., Ahmed, I., & Fenton, J. E. (2008). Management of Jehovah's witnesses in otolaryngology head and neck surgery. *American Journal of Otolaryngology-Head and Neck Medicine and Surgery*, 29, 270-278.
- Berend, K., Levi, M., (2009). Management of adult Jehovah's witness patients with acute bleeding. *American journal of medicine*. 122:12, 1071-1076
- Boffard, K. D., Riou, B., Warren, B., Choong, P. I. T., Rizoli, S., Rossaint, R., Axelsen, M., & Kluger, Y. (2005). Recombinant factor VIIa as adjunctive therapy for bleeding control in severely injured trauma patients: Two parallel randomized, placebo-controlled, double-blind clinical trials. *The Journal of Trauma Injury, Infection and Critical Care*, 59, 8-18.
- Effa-Heap, G. (2009). Blood transfusions: Implications of treating a Jehovah's witness patient. *British Journal of Nursing*, 18(3), 174-177.
- Gutierrez, G., Brotherton, J., (2011). Management of severe anemia secondary to menorrhagia in a Jehovah's witness: A case report and treatment algorithm. *American journal of obstetrics and gynecology*. E5-e8.
- Gyamfi, C., Yasin, S., (2000). Preparation for an elective surgical procedure in a Jehovah's witness: A review of the treatments and alternatives for anemia. *Primary care update Ob/Gyns*, 7:266-268.
- Hughes, D. B., Ullery, B. W., & Barie, P. S. (2008). The contemporary approach to the care of Jehovah's witnesses. *The Journal of Trauma Injury, Infection and Critical Care*, 65, 237-247.
- Panico, M.L., Jenq, G.Y., Brewster, U.C., (2011). When a patient refuses life-saving care: Issues raised when treating a Jehovah's witness. *American Journal of Kidney Disease* 58,4: 647-653.

Pollack, M.J., Wong, R.C.K., (2008). The approach to patients with acute GI hemorrhage who cannot receive a blood transfusion. *Gastrointestinal endoscopy*. 67,6: 945-952

Raman, S.R., Parithivel, V.S., Cosgrove, J.M., (2011). Emergency subtotal colectomy in a Jehovah's witness with massive lower gastrointestinal bleeding: Challenges encountered and lessons learned. *American journal of critical care*, 20,2:176-179.

Shukunami, K., Nishijima, K., Orisaka, M., Yoshida, Y., Kotsuhji, F., (2004). Acute abdomen in a Jehovah's witness with chronic anemia. *American journal of emergency medicine*, 22(3), 242-243.

Tanaka, K. A., Waly, A. A., Cooper, W. A., & Levy, J. H. (2003). Treatment of excessive bleeding in Jehovah's witness patients after cardiac surgery with recombinant factor viia. *American Society of Anesthesiologists*, 98, 1513-5