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Blood Transfusion Acceptance in a Jehovah's Witness Patient

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ABSTRACT

Jehovah's Witnesses are a religious group known for their unique beliefs and practices. They strictly adhere to the belief that the Bible prohibits the consumption or transfusion of blood. This religious group declines blood transfusions and opt for alternative medical treatments that do not involve blood products, even in life-threatening situations. The case examines a particular patient's experience, a devout Jehovah's Witness, who was admitted to the hospital in a critical condition, necessitating urgent medical intervention, including the possibility of a blood transfusion. Initially, the patient displayed hesitancy in accepting the blood transfusion when surrounded by family members adhering strictly to the religious doctrine. The cultural and religious significance of declining blood products in Jehovah's Witness teachings can lead to immense emotional distress and internal conflict for the patient. However, once the family left the room, the patient told multiple medical staff that she wants a blood transfusion. As a result, it is imperative to always give Jehovah's Witness patients the opportunity to confirm, without the influence of family members or others, with medical staff members that they want a blood transfusion.

Keywords: Jehovah's Witness; Blood transfusion; Hemoglobin; Tranexamic acid; Hepatic mass

INTRODUCTION

Jehovah's Witnesses are a part of the Christian religion that follow the teachings of both the Old and New Testaments of the Bible.[1] An estimated 8 million active members worldwide and approximately 1.5 million in the United States follow the teachings of the Witnesses.[2] They separate themselves from the fundamental Christian teaching by believing that God is Jehovah and Jesus Christ is God's son.[1]

Modern-day Jehovah's Witnesses arose out of Pittsburg, Pennsylvania around the end of the 19th century.[1] It began with a gathering of students engaging in Bible study where they compared doctrines taught by churches with a

systematic analysis of the Bible.[1] They compiled their findings into publications such as books, newspapers, and journals.[2] Eventually, these publications were consolidated to form a journal called "The Watchtower-Announcing Jehovah's Kingdom."[1] Since Jesus Christ is considered the founder of Christianity, they consider him the founder of the Jehovah's Witnesses.[1]

When caring for a Jehovah's Witness patient, many medical, ethical, and legal concerns arise due to their refusal of allogeneic blood transfusions. They hold strict beliefs that blood transfusions directly violate God's laws and therefore reject all transfusions including blood products (whole blood, packed red blood cells, white cells, platelets, and plasma).[2] The Witnesses believe that anyone who willingly receives blood forfeits any chance at eternity because they are breaking God's laws that are stated in biblical passages (Genesis 9:3–4; Leviticus 17:10–16; Acts 15:19–29).[2] The view towards blood products can differ between individual witnesses, as some allow cellular and plasma derivatives such as hemin, immunoglobulins, albumin, and clotting factors.[2]

CASE PRESENTATION

Patient is a 71-year-old Jehovah witness female with a history of nonalcoholic fatty liver disease, hepatic mass, atrial fibrillation on Pradaxa, and heart failure with reduced ejection fraction of 48% who presented for syncope with vomiting. Her symptoms began abruptly a few hours earlier. She denied any recent sick contact or febrile illness. There was no history of recent travel. Her vitals on presentation were very unstable. Her blood pressure was 107/89 mmHg, but quickly dropped to 69/44 mmHg. She was afebrile, but her pulse was 176 beats/min and respiratory rate was 22 breaths/min on 96% oxygen saturation. A complete workup of labs was ordered (Table 1).

A physical exam showed a patient with that was jaundiced, but not in any distress. She followed commands, had an irregularly irregular pulse, and mildly diminished breath sounds bilaterally. Her abdomen was firm on palpation but compressible and nontender. Her extremities were warm, motor and sensory function was intact, and pedal pulses were palpable bilaterally.

While in the ED, she was found to be in atrial fibrillation with rapid ventricular rate and was subsequently treated with amiodarone. CT of abdomen and pelvis showed ruptured hepatic mass with active intraperitoneal bleeding and large volume ascites. Paracentesis was done and showed a bloody return. Surgery was consulted who determined the likelihood of survival was very low due to comorbidities and was deemed not a surgical candidate. As a result, interventional radiology consultation was recommended.

Her initial hemoglobin was found to be 4.8 and lactate was 13.6. Platelets were normal, and white blood cell count was normal (Table 1). Patient informed that without transfusion of blood products, she would likely die very soon from intraperitoneal bleeding and severely low hemoglobin and unstable vitals. Patient expressed an understanding of her condition. The patient initially declined transfusion. This was reaffirmed by her daughter and son who

reiterated that she is a Jehovah witness patient. Despite this, the patient was given fluids, prothrombin complex concentrate (Kcentra), vitamin K, tranexamic acid, fresh frozen plasma, and Idarucizumab (Praxbind).

Table 1: Patient's Laboratory Results

	On Admission	Reference Range
Aspartate Transaminase (AST)	632 (High)	8-20 U/L
Alanine Transaminase (ALT)	180 (High)	8-20 U/L
Alkaline Phosphatase (ALP)	118 (High)	20-70 U/L
Total Bilirubin	2.6 (High)	0.1-1.0 mg/dL
Sodium	141	135-145 mEq/L
Potassium	3.5	3.5-5.0 mEq/L
Bicarbonate	28	22-28 mEq/L
Chloride	103	95-105 mEq/L
Blood urea nitrogen (BUN)	18	7-18 mg/dL
Creatinine	1.40 (High)	0.6-1.2 mg/dL
Calcium	8.5	8.4–10.2 mg/dL
Phosphorus	3.3	3.0–4.5 mg/dL
Magnesium	1.9	1.5–2.0 mg/dL
Lactate	13.6 (High)	1-2 mmol/L
Lipase	45	10-140 U/L
White blood cell (WBC)		4500–11,000/mm^3
Hemoglobin	4.8 (Low)	12.0–16.0 g/dL
Platelets	143,000 (Low)	150,000–400,000/mm^3
Prothrombin time (PT)	----	11–15 seconds
International normalized ratio (INR)	1.8 (High)	0.9-1.1

Later when the family was no longer present, the patient expressed to multiple medical staff members that she would accept blood products at this time if it would save her life. Massive transfusion protocol was initiated. Patient eventually received a total of 4 units of packed red blood cells. After transfusion, her hemoglobin improved to 8.4 and lactate was down trending to 5.9 towards normal. Afterwards, the patient underwent embolization of the large right hepatic lobe active bleeding. She requested no further blood transfusion in the future. Patient was on the medical-surgical floor and her hemoglobin remained stable.

DISCUSSION

An estimated 1000 Jehovah's Witnesses die annually due to refusal of blood transfusions.[3] Caring for these patients is a complex task that involves medical, ethical, and legal concerns. Due to the increasing rise of membership in the group, physicians must be informed on how to properly care for Witnesses while respecting their beliefs. Most Jehovah's Witnesses hold strict beliefs and reject blood transfusion altogether while some allow for the use of

cellular and plasma derivatives. There may even be rare cases where patients accept blood transfusion, as seen in the case presentation, however, these cases are rare and information surrounding these cases is limited.

Alternatives to blood transfusion have been determined that may serve as a solution for Jehovah's witness patients. These options include the use of tranexamic acid, cell salvage technique, and aprotinin and erythropoietin.[4] Tranexamic acid is an antifibrinolytic agent that works by blocking the breakdown of blood clots and subsequently preventing bleeding. Cell salvage is a procedure that includes collecting the blood that is lost during a surgery and transfusing it back into the patient.[4] This is usually used in conjunction with tranexamic acid in adults that are expected to lose a very high volume of blood.[4] In cases where patients are not expected to lose a great volume of blood, only tranexamic acid is used. There is also the use of combined aprotinin and erythropoietin through blood conservation techniques. This involves the use of high-dose erythropoietin, aprotinin, maximal volume intraoperative autologous blood donation, intraoperative cell salvage, continuous shed blood reinfusion, and drawing as few blood specimens as possible. This method has been used in cases involving Jehovah's witness patients in the past. A study done by Rosengart et. al showed that complex open-heart procedures can be performed without homologous transfusion by optimally applying these blood conservation techniques.[5] These processes are listed under guideline 24 of the National Clinical Guideline Centre (NICE) which encompasses methods, evidence, and recommendations pertaining to transfusions.

CONCLUSION

This case emphasizes the significance of discussing sensitive matters like blood transfusions when the patient is alone with the medical staff members, without the presence of family members. When family members are not present, patients may feel more comfortable expressing their true preferences and beliefs, which can have a profound impact on the course of their medical treatment. Open and empathetic communication between doctors and patients during such crucial moments is important to ensure that medical decisions align with the patient's values, allowing for the delivery of the most patient-centered and compassionate care possible. The case report also highlights the challenging ethical and medical dilemmas that can arise when a patient's religious beliefs intersect with life-saving medical interventions.

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