REVIEW ARTICLE

Medicine, religion and faith: issues in Jehovah's Witnesses and major surgery

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ABSTRACT

Background: Major surgical treatment in Jehovah's Witnesses (JW) presents complex ethical and legal issues to the physician. The Jehovah's Witness is willing to accept all medical treatment except blood transfusion; and so, the physician is often confronted with a difficult task especially in emergency settings and among minors. This paper looks at the ethical and legal aspects of this peculiar religious sect in relation to surgical treatment. It also provides guidelines for contemporary management of JW using transfusion avoidance strategies.

Methodology: Medical literature on the subject was reviewed using manual library search, articles in journals and internet search. The search words were: Jehovah's Witness + blood transfusion +legal and ethical issues. The search was done using Pubmed, Medline, Hinari and Medscape, as search engines. The search covered a period between 1940 and 2013.

Results: Jehovah's witnesses do not argue that blood transfusions have not kept alive patients who otherwise might have died, "but to them, such life is vacuous". Jehovah's Witnesses, therefore, are exercising a fundamental right of any sane adult with capacity to refuse medical treatment. There is, however, no conclusive evidence that Jehovah's Witnesses have a higher mortality rate after traumatic injury or surgery despite their refusal to accept blood transfusion. As a result of these findings, an increasing number of patients are refusing blood transfusion even for non-religious reasons. Transfusion avoidance strategies are, therefore, desirable. These strategies are likely to gain popularity, and become standard practice for all patients. Dearth of legal statutes in our environment is a major limitation. The legal issues sometimes are conflicting in the setting of emergency and minors.

Conclusion: Respect for a patient's wish and autonomy is sacrosanct. Where a sane adult has expressly rejected a particular treatment option, applying the same option in whatever guise is unethical, and legally, damaging. When in doubt, especially in the minors, the doctor should obtain a court order before administering the life-saving treatment. Every hospital must have institutional protocols for managing these patients.

INTRODUCTION

Surgeons are bound to treat Jehovah's Witnesses as their number increases and their belief against blood transfusion persists. The medical consideration notwithstanding, the need to respect their belief is imperative. An understanding of the various ethical and legal issues that may arise in the course of treatment is important. Lack of formal education on the subject and the absence of moral and medical consensus make the subject matter difficult.[1] This article discusses the religious background of Jehovah's Witnesses and the surrounding ethical conflict. It will equally look into the significant lessons learnt from managing Jehovah's Witnesses without blood transfusion.

JEHOVAH'S WITNESS: THE ORIGIN

It started as a religious community founded in Pennsylvania in the 1870's by Charles Russell.[2] It is a millennial religion based upon prophecies that the end of the world was imminent. Charles Russell was born to Presbyterian parents, but at 18 years of age he organized his own Bible class in Pittsburgh Pennsylvania.[3] The Bible class, which was then known "Russellites", expanded and later, was named Zion's Watch Tower Tract Society. In 1896, Zion was dropped from the name and it became Watch Tower Tract Society. With wider international acceptance, it was changed to International Bible Students Association.

After the death of Russell in 1916, Joseph Franklin Rutherford took over the presidency of the sect.[4] In 1931, the name was changed to Jehovah's Witness, which was based on Isaiah 43:10 "Ye are my witnesses says the lord, and my servant whom l have chosen".[5]

DOCTRINE AND BELIEF

Jehovah's Witnesses acknowledge allegiance solely to the kingdom of Jesus Christ. Consequently, they refuse to salute any national flag, vote, perform military service, or signify allegiance to any government. This policy has brought them into conflict with governmental authorities in many countries.

For the doctor, refusal of blood transfusion even in life-threatening conditions, constitutes a major source of concern and often, misunderstanding. This belief is based on the following Biblical verses:

1. Genesis 9:3-4: "Every moving thing that liveth shall be meat for you; even as the green herb have I given you all things. But the flesh with the life thereof, which is the blood thereof, ye shall not eat."
2. Leviticus 17;10: "…..and whatsoever man there be of the house of Israel, or of the strangers that sojourn among you, that eateth any manner of blood; l will even set my face against that soul that eateth blood, and l will cut off from among his people.
3. Acts 15:19-21: "For it seemed to the Holy Ghost, and to us, to lay upon you no greater burden than these necessary things; that ye abstain from meats offered to idols, and from blood, and from things strangled, and from fornication: from which if ye keep yourselves ye shall do well."[6]

Of these verses, Leviticus 17:10 has the most profound effect on the sustenance of the doctrine of refusal of blood transfusion. The fear that the offender will not only lose God's favours but will be 'banished' from his people forms the basis for the sustenance doctrine.

ARTICLE OF FAITH

The Jehovah's Witnesses, therefore, believe**:**

1. That Blood represents life and is sacred to God
2. After removal of blood from a creature, the only use that God authorized is the atonement of sin
3. When Christians abstain from blood, they are in effect expressing faith that only the shed blood of Jesus Christ can truly redeem them and save their life
4. Therefore, blood must not be eaten nor be transfused even in medical emergencies.[7]

A baptized Witness who unrepentantly accepts transfusion is deemed to have disassociated himself from the religion by

abandoning its doctrine and he is subsequently subjected to organised shunning by members. This has profound psychological effect on members at the point of decision making. Many authors have argued that this infringes on the patient's autonomy.

CONTROVERSIES

Jehovah's Witnesses do not argue that blood transfusions have not kept alive patients who otherwise might have died. "But to them, such lives are vacuous". Most people criticize the sect because its doctrine is contrary to the principles of Pikuach Nefesh. This is the Rabbinic principle which dictates that the Law be superceded if it would result in loss of life.

Jesus appealed to this principle in Matt 12:11 when the Pharisees confronted Him for healing a man with shriveled hand on a Sabbath day and He said. "If any of you has a sheep and it falls into a pit on the Sabbath, will you not take hold of it and lift it out? How much more valuable is a man than a sheep! Therefore, it is lawful to do good on the Sabbath" (NIV). This principle describes how dearly life must be nurtured and protected. It is against this backdrop that most people deride the sect on issues concerning blood transfusion.

HEALTH ISSUES

The Jehovah's Witnesses are not immune to any health challenge that may affect man; be it surgical, medical or trauma. Quite often, treatment of these conditions may require blood transfusion and, therefore, the issues of patient's wish and autonomy come to play.

Most members of this sect carry with them a "durable power of attorney for health" which clearly states his/her refusal to accept blood transfusion even at the point of death. The attending physician must seek and obtain this document and have it filed in the patient's folder. The physician must appraise the patient's condition vis-a-vis his expertise and the institutional support facilities. It must be borne in mind that their refusal to accept blood transfusion is not borne out of their desire for martyrdom but faith which is tied to the expectation of eternal salvation. Therefore, if the Doctor has accepted to treat, he must take all necessary measures to safe-guide the life of the patient. The principles of best practices must be applied or the patient must be referred.

IS SURGERY POSSIBLE?

There is relevant literature in respect of this topic. Ott and Cooley reported on 542 cardiovascular operations performed on Witnesses without blood transfusion and concluded that the procedure can be done "with an acceptably low risk".[8] In that report, there were 51 deaths and 15 of them were related to blood loss. Bonnett, *et al*, also reported 90 cases of total hip replacement with one death related to blood loss.[9] Nelson and Bowen published 100 cases of total hip replacement with no death. Both studies were noted to have lower blood loss compared to the control.[10]

A report of 165 cases of major obstetrics and gynecologic surgeries showed no difference in morbidity and mortality.[11] In Sagamu, Nigeria, blood loss in 23 patients who had total abdominal hysterectomy was less, though operation time and average hospital stay were longer than that of control.[12] Udosen, *et al*, reported non-transfusion in two complicated orthopaedic cases by staged surgery, preoperative build-up of haemoglobin and post-operative erythropoietin injection.[13]

These findings were attributed to the approach such as hypotensive anaesthesia and proper haemostatic control. There were no differences in morbidity. Therefore, it is possible to operate, most especially, planned elective procedures.

The alternative to blood transfusion can be achieved through the following means:

1. Optimizing hematocrit
2. Minimizing blood loss
3. Optimizing tissue oxygenation.[14]

1. Optimizing the Hematocrit

This increases the tolerable blood loss or the margin of safety in the event of blood loss in surgery. This can be achieved by the following methods:

a. Oral iron therapy given daily was reported in some studies to increase red cell mass.[15,16]. Other adjuncts are vitamin C, vitamin B12, folic acid, multivitamins and nutritional support.

b. Parenteral iron therapy corrects anaemia more rapidly.[15,16] May be administered in the form of iron dextran or iron sucrose.

c. Erythropoietin alfa, given subcutaneously once to trice a week stimulates the production of red blood cells up to 4 times the basal marrow rate. Reticulocyte count increases by day 3 and haemoglobin typically increases at 1g/dl every 4-7days.[17]

2. Minimizing Blood Loss

Efforts towards minimizing blood loss in the surgical patient starts from the first contact and span through the entire peri-operative period.

a. Good history, physical examination and laboratory investigations, taking note of the following among others:

i. history of bleeding disorders
ii. anticoagulant therapy
iii. site of external haemorrhage
iv. estimate of blood loss
v. full blood count
vi. clotting profile, etc.

b. Pharmaceutical agents that can be used to reduce haemorrhage include[18]:

i. Vitamin K (increase production of factors II, VII, IX, X, protein C & S)
ii. Tranexamic acid (antifibrinolytic)
iii. Epsilon Amino Caproic Acid (antifibrinolytic)
iv. Desmopressin (increases production of factors VIII & Von Willebrand)
v. Recombinant factor VIIa (stimulates the extrinsic coagulation pathway),etc.

c. Non-invasive monitoring such as pulse oximetry.

d. Restriction of diagnostic phlebotomies. The use of microsampling equipment is a better recent technique.

e. Intraoperative strategies to minimize blood loss include:

i. Provision of normothermia - noted to avert coagulopathy due to hypothermia. This can be achieved by *warming the IV fluids, arm blankets and maintaining room temperature above 27^{0}C.*[16,18]

ii. *Acute normovolemic haemodilution (ANH)* is known to reduce the need for blood transfusion. This technique involves the withdrawal of patient's own blood immediately before incision and replacing with either crystalloids (3:1) or colloids (1:1) so that intra-operatively patient loses dilute blood with less effect on total red cell mass.[19] Some Jehovah's Witness patients accept ANH once is not stored in the bank.

iii. Regional anaesthesia reduces blood loss by an uncertain mechanism.

iv. Hypotensive anaesthesia, is a deliberate attempt by which hypotension is created intra-operatively and hence leading to reduced blood loss at the surgical site.

v. Positioning of the bleeding site above the level of right atrium minimizes blood loss especially in managing a patient in shock.

vi. Meticulous haemostasis and good operative technique can save up to 1 or more units of blood.[18] Surgical techniques available include use of diathermy, tourniquet, topical adhesives like oxidized cellulose (surgical), bone wax, and gelfoam and others.

vii. Minimally invasive surgery and interventional radiology can effectively reduce blood loss in many surgical procedures.

3. Optimizing Tissue Oxygenation

One of the major functions of blood is tissue oxygenation. Many clinicians

transfuse blood in the hope of improving tissue oxygenation. However, allogenic blood transfusion has been shown in some studies not to improve but to decrease tissue oxygenation.[20,21,22] The levels of ATP and 2,3-diphosphoglycerate decline progressively in stored blood and hence the affinity of oxygen to haemoglobin increases leading to relative tissue hypoxia. Studies showed that oxygen delivery can be improved by improving cardiac output and arterial oxygen content.

Methods of improving tissue oxygenation include:

a. Volume replacement reduces blood viscosity and improves cardiac output. The fluid may be crystalloids and/or colloids.
b. Oxygen therapy increases the oxygen content of the blood. Intra-operative hyperoxic ventilation improves tissue oxygenation and can be used to augment ANH.[16,23] Hyperbaric oxygen may be used when indicated.[16,23]
c. Minimizing oxygen consumption; this can be achieved by providing adequate analgesia, treatment of sepsis, and mechanical ventilation (to reduce work of breathing).
d. Treating causes of tissue hypoxia (pneumonia, bronchial asthma).
e. Inotropic and Vasoactive agents may be used to improve cardiac output.
f. Artificial oxygen carriers such as perflurocarbon emulsion and haemoglobin based solutions are still experimental red cell substitutes that can be used to improve oxygen delivery.[16,23] They can be used to augment ANH.

The doctor must know that serendipitous transfusion is unethical and may be legally suicidal.

WHAT WE CAN LEARN FROM TREATING JEHOVAH'S WITNESS?[24,25]

Jehovah's Witnesses are exercising a fundamental right of any adult with capacity to refuse medical treatment. This is properly captured as "patient's autonomy". The attending clinician must respect that.

Secondly, there is no conclusive evidence that Jehovah's Witnesses have a higher mortality rate after traumatic injury or surgery despite their refusal to accept blood transfusion. Transfusion benefits appear, therefore, often overestimated. Increased morbidity and mortality is rarely observed in patients with a haemoglobin concentration >7g/dL, and the acute haemoglobin threshold for cardiovascular collapse may be as low as 3g/dL to 5 g/dL

Thirdly, as a result of these findings, an increasing number of patients are refusing blood transfusion for non-religious reasons. In addition, blood stores are decreasing, and costs are increasing. Transfusion avoidance strategies are, therefore, desirable. This refers to the co-ordinated peri-operative care of patients aiming to avoid blood transfusion, and improve patient outcomes. These principles are likely to gain popularity, and become standard practice for all patients.

The cornerstones of this concept are: 1. education of the patient about blood conservation techniques generally accepted by Jehovah's Witnesses 2. pre-operative optimization of the cardiopulmonary status and correction of pre-operative anaemia and coagulopathy 3. peri-operative collection of autologous blood 4. minimization of peri-operative blood loss and 5. utilization of the organism's natural anaemia tolerance and its acute accentuation in the case of life-threatening anaemia.

ETHICAL CONSIDERATIONS

Medical ethics include the virtues of professional self-respect, collegiality and competence, as well as the principle of respect for patient's confidentiality, beneficence, non-malfeasance, respect for life and egalitarian treatment.[26] It is a declaration of the International code of medical ethics that "a physician shall act only in the patient's interest when providing medical care which

might have the effect of weakening the physical and mental condition of the patient".[27] It is based on the foregoing that a surgeon might be in a dilemma when treating a patient that is not willing to accept a procedure he considers beneficial. Physicians experience a conflict of conscience when they are constrained to stand by and allow patients to die for want of a life-sustaining blood transfusion.[28]

Physicians may not be inclined to proceed with care which in their judgment is sub-standard.[29] and on the other hand, they are bound to respect the wish of their patient. Herein lays the dilemma. Gardner, *et al*, further noted; "Who would benefit if the patients corporal malady is cured but the spiritual life with God, as he sees it, is compromised, which leads to a life that is meaningless and perhaps worse than death itself".[30]

Witnesses realize that their belief might add a risk to their care and that physicians are at liberty to choose to treat them.[31] They equally have a link to those who are willing to face the challenge with them. A Jehovah's Witness is not on a suicide mission. Their religion actually forbids suicide the same as it forbids transfusion.[32] The norms of contemporary medical ethics are often interpreted by courts in order to determine the professional standard of care, or to assist in resolving difficult cases, where no settled and definitive legal rule exists.[33] This often is the case with blood transfusion and Jehovah's Witnesses.

LEGAL ISSUES

There are several legal dimensions thrown up with regards to administering or withholding blood.[1] There is lack of statutory law covering this matter.[1] The court's interpretation of a patient's right to treatment is based on common law. Variations abound with regards to factors of incompetency, minors and emergency situations. A properly signed and dated "Refusal to accept blood products" form is a contractual agreement and is legally binding.[31] Although there is a dearth of local authorities in this area of our law, there are ample provisions of our Constitution which show the basis on which the court should proceed in these matters.[34]

Relevant Medical Laws

A. Competent Adults

A doctor is not liable in law or under duty to administer blood transfusion to an unconscious patient in a potentially life-threatening emergency situation when the patient has expressly rejected that modality of treatment under any circumstance. (Malettee V Schulman)

In Schloendorff vs Society of New York Hospital 1914, a woman consented for examination under anaesthesia but not for operative procedure.[35] While under anaesthesia, surgery was performed. She had brachial plexus injury as a complication and eventually had some fingers amputated. She lost the case on the ground that the hospital was a charity institution but the presiding judge stated that ''every human being of adult years and sound mind has a right to determine what should be done with his own body" It is this case that established the underlying premise of informed consent and right to choose.[28]

In Nigeria, in the case Medical and Dental Practitioners Disciplinary Tribunal vs Dr John Emewulu Nicholas Okonkwo death occurred following refusal of blood in a woman with bleeding after delivery. The Justice of Supreme Court ruled that "the patient's constitutional right to object to medical treatment, or, particularly, as in this case, to blood transfusion on religious grounds is founded on fundamental rights protected by the 1979 Constitution as follows: (i) right to privacy: section 34; (ii) right to freedom of thought, conscience and religion. All these are preserved in section 37 and 38 of the 1999 Constitution, respectively". He further noted that where, however, the direct consequence of a decision not to submit to medical treatment is limited to the competent adult patient alone, no injustice can be occasioned in giving individual right primacy.[34] The

jurists further stated that "No medical doctor can forcibly proceed to apply treatment to a patient of full sane faculty without the patient's consent especially if the treatments of a radical nature such as surgery or blood transfusion."

In another unusual case of aggressive judicial intervention, John F. Kennedy Memorial Hospital vs Heston, 279 A. 2d 670 (1971), the New Jersey Supreme Court approved ordering a life-saving blood transfusion for a young Jehovah's Witness injured in an automobile accident and suffering from a ruptured spleen. A lower court in New Jersey had appointed a guardian who consented to the transfusion; thus, the victim's life had been saved by a means repugnant to her religious beliefs. The State Supreme Court upheld the decision, asserting that the interest of the state in the preservation of the lives of its citizens had justified the interference with religious freedom.

B. Incompetent Adults

It may appear in literature that there is no controversy here. The case of John F. Kennedy Memorial Hospital vs Heston is a reference point in this case.[36] Surgical operation and transfusion of blood were directed by the court on a comatose patient over the objection of the patient's family based on their religious belief as Jehovah's Witnesses. The court based their decision on "There is no constitutional right to choose to die."

C. Minors

Considerations for underage (below 18 years) are at time left to their parents in decision making. The court, however, has not accepted the recognized right of the loving concerned parents as claimed by the Witnesses.[1] This is so, especially, when the child is clearly in danger.

The landmark case in minors was Prince vs Massachusetts in 1944.[37] In the ruling, the Supreme Court stated the following: "Parents may be free to become martyrs themselves. But, it does not follow that they are free in identical circumstances to make martyrs of their children before they have reached the age of full and legal discretion when they can make a choice for themselves."

In cases where the child's life is not in danger the court has generally ruled that "the State does not have an interest of sufficient magnitude outweighing a parent's religious beliefs precluding medical treatment".[38]

WHAT DO WE LEARN FROM THESE CASES AS PRACTITIONERS?

- Respect for patient's wish and autonomy is sacrosanct.
- Where a sane adult has expressly rejected a particular treatment option, applying the same option in whatever guise is unethical and legally damaging.
- Where in doubt, especially in the minors, the doctor should obtain a court order before administering the life-saving treatment.
- Every hospital must have institutional protocol for managing these patients.

LOOKING FORWARD

Just as the Watchtower in the 1980's, revoked its ruling that organ transplants were wrong, over the last few years it has made significant changes to the acceptable use of blood. Perhaps, as the future unfolds, further modifications on the use of blood transfusion may happen.

Nonetheless, it will be wise to note the words of Justice Ayoola that the courts are the institution society has agreed to invest with the responsibility of balancing conflicting interests in a way as to ensure the fullness of liberty without destroying the existence and stability of society itself.[34]

CONCLUSION

Surgery in a Jehovah's Witness requires a multi-disciplinary approach. The decision to care for a patient refusing necessary blood transfusion has to be made by each individual surgeon according to his conscience and capability. The doctor must know that serendipitous transfusion is unethical and

may be legally suicidal. This is why, if a decision to override the decision of an adult competent patient not to submit to blood transfusion or medical treatment on religious grounds is to be taken on the grounds of public interest or recognized interest of others, such as dependent minor children, it is to be taken by the courts.

The Ethics Committee of every hospital must formulate hospital policy concerning the Jehovah's Witnesses and blood transfusion. The mechanism for contacting the appropriate court or judge should also be available in the hospital emergency room and operating room.

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