

Reflections on Cultural Preferences and Internal Medicine: The Case of Jehovah's Witnesses and the Changing Thresholds for Blood Transfusions

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Published online: 29 December 2016
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Abstract Jehovah's witnesses oppose receiving blood transfusions based on religious grounds. This refusal raises complex medical, legal and ethical issues for the treating medical staff. In the past physicians attempted to force patients and children to accept transfusions when deemed medically necessary through the use of court orders. However, in recent years the threshold for blood transfusion has been gradually raised by medical experts as expressed in consensus guidelines, which means that Jehovah's witnesses' aversion to transfusion would have been partially justified medically. This article will further discuss these current trends.

Keywords Blood transfusion · Jehovah's witness · Blood aversion · Hemoglobin threshold

Introduction

Jehovah's witnesses (JW) is a restoration Christian organization, which was founded in the 1870s in Pittsburgh, Pennsylvania. It has more than 8 million members, which are led by groups of elders located in New York and based on translation and interpretation of the old and the new testaments, particularly by the new world translation of the holy scriptures. While JW accept the entire Bible, they recognize that parts of the Bible are written in figurative or symbolic language and are not to be understood literally as in other monotheist religion (Jehovah's witness official web site 2015).

Even though JW are encouraged to receive almost any form of therapy provided by modern medicine, they are well known in the medical community for their aversion to

The original version of this article was revised: The co-author name should be Leonid Barski instead of Leonid Barks. This has been corrected in this version.

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blood transfusion, even if such refusal will result in death. JW members do not accept transfusions of whole blood or any of the “four major components” of RBCs, platelets, plasma and white blood cells. In addition, JW do not consider autologous blood transfusion as an acceptable alternative, due to a belief that blood should not be taken out of the body and stored, even in a preoperative short-term period. However, if the blood circulates back into the patient (e.g., cardiopulmonary bypass, certain intra-operative and postoperative blood salvage systems), this is acceptable to many witnesses (Rogers and Crookston 2006). They will consider accepting blood products such as immune globulins, albumin, factor concentrates and recombinant alternatives, because this is left up to an individual decision before God (Questions From Readers 2015).

Despite the serious restrictions of blood transfusion, there are numerous reports regarding favorable outcomes of JW patients in several bloodless complex medical procedures: vascular and cardiac surgeries, trauma setting and complex organ transplantation (heart, lungs, liver, kidneys and ironically bone marrow) (Ballen et al. 2004; Brunetta et al. 2015; Spasovski et al. 2014; Tanaka et al. 2015; Digieri et al. 2006; Madueño et al. 2013). The mortality rates reported in a few major vascular interventions cohorts of JW were similar to non-JW (5–6%), especially if a peri-operative prepare protocol was used, in both elective and urgent situations (Tanaka et al. 2015; Jassar et al. 2012). Such preoperative measures include preoperative erythropoietin to attain a reasonable hemoglobin value, optimize renal function, minimally invasive surgical techniques, warm blood cardioplegia and implementation of fast track extubation (Vaislic et al. 2012). In a study of gynecological patients admitted with hemorrhagic shock from ruptured uterus, similar mortality, post-operative complications and length of stay were demonstrated among the JW in comparison with control group, even though JW were not transfused (Chigbu et al. 2009). Gynecological hemorrhagic JW patients can be even treated conservatively with good maternal and fetal outcomes (Weinstein et al. 2005). Not only are surgical JW patients managed well without blood transfusion, medical JW patients can also have successful outcomes. This has been reported in acute myeloid leukemia JW patients, who received aggressive chemotherapy, JW patients with thrombotic thrombocytopenic purpura unwilling to be treated with therapeutic plasma exchange and a JW patient with refractory immune thrombocytopenia and severe gastrointestinal hemorrhage responding to recombinant factor IIa (Dalal et al. 2006; Keane et al. 2011; Dabak et al. 2007; Virchis et al. 2004).

Ethical Considerations

From the medical perspective, blood aversion when needed is an irrational decision that puts the JW patient life in jeopardy. After explaining the risks of not receiving a transfusion to the patient should the physician accept this decision unquestioned, or must he or she challenge the patient’s decision? In 1995 Savulescu proposed the “rational non-interventional paternalism” which recommends that physicians form conceptions of what is best for their patients and argue rationally with them. This approach to ethical decision making differs from old-style paternalism in that it is not just that the physician decides what is best for the patient, but rejects compelling the patient to adopt that decision (Savulescu 1995). Muramoto suggested that Jehovah’s witness patients who refuse life-saving blood transfusions may not only be irrational, but may also be misinformed, misguided and, to some degree, coerced (Muramoto 1998). Firstly, it is an established practice to discuss procedures and treatments with patients and disclose all benefits, risks and alternatives in order to obtain an informed consent. When a physician is challenged by a refusal from a patient, it is

important to understand whether the decision is based on genuine knowledge of the medical, religious and ethical situation as opposed to one based on misinformation or lack of knowledge. Secondly, the JW patient can be subject to psychological coercion by his community and church, which may preclude the autonomy and privacy of his or her personal decision (Muramoto 1998). Finally, although the blood doctrine has been in place from the early 1960s, some details have undergone modifications during the past decades, including the receiving of organ donations and newer sub-fractions of blood components by JW patients. For example, in June 2000 the Watchtower Society (the main JW entity) issued a statement that the organization would no longer expel members who did not comply with the policy of refusal of blood (Watch Tower Bible and Tract Society 2015). Considering these issues, it would not be unreasonable to question the rationality of blood aversion among JW. Notwithstanding the above arguments, the consensus among ethicists is to accept the wishes of a competent adult patient not to accept blood products due to the primacy of patient autonomy and human freedom in medical decision making.

Emergencies

In the case of an emergency situation, the initiation of life-saving blood transfusion to JW patient who cannot express his or her wishes (e.g., unconscious, dementia or ongoing psychiatric condition) depends on an “advance directive.” JW may carry a “blood refusal card” stating they will not accept blood products of any kind. This topic raises ethical, legal and medical dilemmas. According to the English law for example, all patients (Adults) have the capacity to make self-decisions unless proved otherwise. The treatment of adults without capacity (as will be defined by court) must be in their best interests of the patient (White and Baldwin 2006). Having said that, it has not declared how to define “best interest” which is broader than “best medical interests” and includes factors such as the patient’s spiritual and religious welfare, their wishes and beliefs when competent, their current wishes (if expressed clearly) and their general well-being (Hegde et al. 2006). It is important to note that even in cases where the JW patient carries a blood refusal card, a comprehensive informed decision must be composed not only by information regarding to the risk of blood transfusion (which usually are provided to the JW), but should also discuss the benefit of such treatment. In addition, it is important to assure that as in any other medical decision, the refusal will be made without external influences. Unfortunately, often this is not the case since JW members who accept blood are prone to “disfellowshipping” or expelling these un-repentant members who accept prohibited blood transfusions. Other members are then instructed by the church to ostracize and shun the expelled individual (Muramoto 2001). Because of these social sanctions, relying on family members (the next of kin) in situations of emergency or JW lacking the capacity to make their own decision, may be problematic and contrary to the medical best interest. Therefore, in the emergency situation or when treating a questionably competent JW, if doubt exists about the validity of a blood refusal card, physicians should aim to preserve life and administer the necessary blood products (Woolley 2005; Dyer 2014).

Special Populations

When treating JW children, the standard of care (except in some emergencies) mandates parental inform consent. JW parent’s refusal of blood products for children is a difficult and complicated decision that may have a profound emotional impact on the family and

care providers (Bodnaruk et al. 2004). In addition, JW adolescents may express their own decisions against the advice of the medical staff in order to avoid transfusions. JW parents have expressed two main arguments when defending their right to refuse blood on behalf of their children: the parental right to raise children as they see and the right to religious freedom. However, parent's religious beliefs do not allow them to put their children in danger ("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...") (Woolley 2005). A review study which examined the attitude of legal courts in the Western countries toward blood refusal of JW has found that in most cases the court will override parents refusal: The child's interests and those of the state outweigh parental rights to refuse medical treatment, in addition to the notion that parents do not have an absolute right to refuse medical treatment for their children based on their religious beliefs (USA), parents who fail to obtain medical treatment for their children are subject to criminal liability even if their refusal is religiously based (UK), the child's welfare is paramount, meaning blood can be transfused when necessary according to the medical indication (Australia). In the case of adolescents, the court's point of view is more variable and depends on the maturity of the child, how essential is the transfusion and the potential emotional trauma of forced transfusion (Woolley 2005; Hoffman 2014). In addition to legal precedents, international treaties and local legislations are also play a fundamental role in the attitude toward JW parental blood refusal, such as the Children Act (1989), the Human Rights Act (1998) and European Convention on Human Rights (2003) (Wilson 2005).

Raised Threshold

Blood transfusion has been the accepted way to treat deficiency of blood components since the twentieth century. For many years, the "10/30 rule" has been used as a threshold in both surgical and medical patients, to maintain a blood hemoglobin concentration above 10 g/dL and a hematocrit above 30% (Wang and Klein 2010). However, a new paradigm regarding transfusion has been emerged in the past decades, whereas no single hemoglobin value is set as a criterion, but rather it is viewed as a clinical decision based on the patient's medical status, comorbidities and oxygen delivery capacity.

The utilization of blood products is complex. On the one hand, a clear association has been demonstrated between low preoperative hemoglobin and the increased risk of death and serious morbidity (Carson et al. 1996), which is higher when hemoglobin has dropped below 7 g/dL (rather than the historically 10/30) (Carson et al. 2002). On the other hand, blood transfusions can cause a variety of short- and long-term complications, such as infections, allergic reactions (minor to anaphylactic shock), hemolysis of red blood cells, transfusion-related acute lung injury, volume and iron overload, hypothermia and electrolyte disturbances (Brunskill et al. 2015). In order to balance between the pros and cons of blood transfusion, several randomized control trials in multiple clinical settings have been carried out in recent years.

In the TRICC trial of adult admitted to intensive care unit, a restrictive transfusion strategy with use of a threshold of 7 g/dL in a hemodynamically stable patient was associated with lower risk of in-hospital mortality and myocardial infarction (Hébert et al. 1999). In a study which enrolled 921 patients with severe acute upper gastrointestinal bleeding, a restrictive strategy significantly improved mortality and reduced complication and re-bleeding in comparison with the liberal strategy (Villanueva et al. 2013). The

FOCUS study examined patients with preexisting cardiovascular disease or cardiovascular risk factors, to liberal versus restrictive postoperative transfusion after hip repair surgery. Both groups had similar rates of mortality and composite outcome (Carson et al. 2011). The advantage of a restricted transfusion strategy has also been supported in several high-quality meta-analysis and systematic reviews, indicating improved survival and fewer complications among the restricted groups, adults and children (Carson et al. 2012; Salpeter et al. 2014; Holst et al. 2015). Eventually, the superiority of the restricted strategy has been translated into current transfusion guidelines, as RBC transfusion recommends that transfusion is not indicated for Hb > 10 g/dl. The raised threshold varies from 6 to 8 g/dl. But symptomatic anemia should be treated with RBC transfusion in all patients with Hb < 10 g/dl, regardless of the Hb level, if these symptoms are enough severe and life threatening for patients (Shander et al. 2014; Ferraris et al. 2007; Carson et al. 2012; Napolitano et al. 2009; Hamm et al. 2011).

Conclusion

JW religion opposes treatment of blood component transfusion. In the light of the new research regarding transfusion threshold, it appears that a restricted strategy is associated with better outcome. As mentioned above, the current literature also suggests that blood refusal by JW patients is not translated to increased mortality if the hemoglobin level is not extremely low (below 6 g/dL), partially due to improvement in other aspects of the medical therapy that ensure better outcomes with less blood (Shander et al. 2014). But it seems that simultaneously to these medical improvements, the JW have “walked an extra mile” as well. In June 2000, it has been reported that the Watchtower Society would no longer expel members who did not comply with the policy of refusal of blood, meaning that if the act of receiving blood is kept strictly confidential, then the JW member will not be sentenced to any sanction by his community (Muramoto 1998). It is important to mention that this report has not been supported by any official JW publications.

In this new era where doctors has raised the threshold for blood transfusion and JW are more willing to accept this therapy, we may see the resolution of this medical, legal and ethical issues. The story of the intersection of religious and cultural beliefs with modern medicine as expressed in the refusal of Jehovah’s witnesses to accept blood products has much relevance for the practice of medicine in an increasingly global healthcare environment. Before attempting to undermine patients’ traditional beliefs in the name of modern medicine and sanctity of life physicians, no matter how well meaning, we need to be certain that their proposed interventions are indeed evidence based and not simply “usual care” which might be amenable to another approach. The story of Jehovah’s witnesses also teaches another equally important lesson. Facing seemingly intractable medical obstacles such as how to do complex vascular surgeries without the option of transfusions might spur physicians to innovate new protocols, such as bloodless surgery, which has the potential to benefit all patients. We hope this story can serve as a warning of assuming that “doctors know best” and the ability of medicine to innovate to serve all patients no matter their cultural or religious preferences.

Compliance with Ethical Standards

Conflict of interest All authors declare no conflict of interest.

Human Rights This article does not contain any studies with human participants performed by any of the authors.

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