

Blood Transfusions, ENT Surgery, and Jehovah's Witnesses

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ABSTRACT:

Blood transfusions are frequently necessary during otolaryngology surgical operations. Homologous blood transfusions pose dangers and may be unsuitable for certain patient populations. The Jehovah's Witnesses are well-known for their stance on blood products. The refusal of potentially lifesaving therapy presents treating professionals with ethical issues. Witnesses of Jehovah have battled globally for the freedom to refuse blood products. This article explores the need for blood in otolaryngological treatments, surgical measures to decrease blood loss, Jehovah's Witnesses' beliefs regarding the acceptance of blood, and the procedures and legal stances followed while treating Jehovah's Witnesses.

Keywords: Otolaryngology; Jehovah's Witnesses; Surgery; Blood

INTRODUCTION:

Jehovah's Witnesses are Christians who believe that the Bible is the authentic word of God. [1] The Jehovah's Witness Society is the largest religious organisation in the world. A fast expanding religious organisation in the western world, with an estimated six million active members (one hundred fifty thousand in the United Kingdom) and more than nine million affiliated people.[2,3] Most healthcare professionals are most familiar with the Society's refusal to accept blood products in life-threatening situations. This objection stems from the view that transfused blood is a nutrient⁵ and that three biblical passages (Genesis 9:4, Leviticus 17:11–14, and Acts 15:20,29) prohibit transfusion.[6] Acceptance of blood products results in the loss of Jehovah's favour and the possibility of eternal life.[7]

The denial of potentially life-saving blood products presents moral and legal complications. For treating clinicians, there is a conflict between the desire to respect patient autonomy (it is immoral to disregard a first-party refusal of treatment) and the need to provide good medical care (it is immoral to risk death for a patient whose life-threatening condition is treatable with appropriate medical therapy). Blood transfusions may be required in otolaryngology due to acute haemorrhage or difficult surgical procedures requiring enough haemoglobin levels for

systemic oxygenation, flap survival, and wound healing. Alternative tactics must be employed when normal treatment is refused. This article explores the beliefs of Jehovah's Witnesses, the rights of individuals to refuse prescribed medical treatment, the need for blood in head and neck surgery, and hypothetical surgical procedures that might eliminate the need for blood.

Jehovah's Witness beliefs

The denial of blood products was not a fundamental concept of the society's initial leader; rather, it evolved over time as a potential means of protecting the group's identity. Cohesion within an international group. The prohibition was initially enacted in 1944, but it did not become illegal to accept blood products until 1961. According to the concept that blood is a nutrition, three biblical verses prohibit transfusions. [6] Genesis 9:4 expressly prohibits transfusion, Leviticus 17:[11–14] prohibits blood storage, and Acts 15:[19–21] purports to expressly prohibit the use of blood products.

Members of the Society reinforce the taboo, and the penalty for consuming blood products without repentance is "disfellowshipping," a form of excommunication.

Excommunication with severe repercussions. Friends and relations of the disfellowshipped person must fully reject them or risk being disfellowshipped themselves. [11] There are numerous fallacies about forced transfusions. Children who are transfused against their will are not abandoned by their family; patients who are transfused while unconscious are not relieved of emotional agony, and even if every attempt is taken to avoid transfusion, the individual will still feel violated. [13] The forced transfusion of blood is perceived as a violent assault on the individual and his or her values. [12] Individuals and their families experience emotional, spiritual, and psychological pain despite the community of Jehovah's Witnesses providing support. 3 Patients may feel embarrassment, injustice, guilt, or extreme melancholy. Memories of the compelled transfusion may elicit significant psychological responses. 3 Therefore, it is possible that baptised Jehovah's Witnesses will refuse all blood products, even in life-threatening situations.

Surgical considerations

Blood transfusions in ENT surgery

What does an otolaryngologist do if a Jehovah's Witness needs blood during surgery? In the first case, it is crucial to establish the probability that blood products may be needed during a surgical procedure. In otolaryngology, haemorrhage (often epistaxis) and surgery for head and neck cancer are the two circumstances in which blood products are most likely to be required. It is difficult to estimate the requirement for blood transfusion in cases of epistaxis, however one study suggests that 45 percent of hospitalised patients with epistaxis will require blood transfusions, with or without surgery. [15]

The majority of research on blood transfusions in head and neck cancer surgery has focused on the correlation between tumour recurrence and blood transfusion. However, a 1998 study [16] explicitly examined the need for blood transfusions after head and neck surgery. The scientists discovered that surgery for head and neck cancer could be split into three primary categories based on the possibility of transfusion, which could aid in surgical planning. This may be especially crucial when dealing with Jehovah's Witnesses. Regarding blood products, Jehovah's Witnesses rely on the Watchtower and Bible Tract Society publication *How Can Blood Save Your Life?*

Although some may claim that the content in this leaflet is selective,¹⁷ the medical hazards indicated (i.e., blood transfusions suppress the immune system, are associated with a significant risk of infectious problems, and are riddled with illnesses) are true. Approximately 0.5 to 3% of all transfusions result in an adverse event, the majority of which are mild responses with no serious effects.^[18]

It is well established that individuals with head and neck cancer have impaired immunity, and that this has prognostic importance. Deficits include impaired lymphocyte proliferation, delayed cutaneous hypersensitivity, and a diminished subset of T helper inducer cells that produce interleukin 2. [21] These disorders are treated with surgical procedures and radiotherapy, which exacerbate immunosuppression. [22,23] Blood transfusions' immunosuppressive effects were initially described in 1973,⁴⁴ in patients having kidney transplantation. Those who received blood transfusions appeared to have a higher allograft survival rate. This impact was attributed to immunosuppression brought on by exposure to antigens expressed by transfused white cells.

Subsequent trials on patients undergoing surgery for colorectal,¹⁵ lung,¹⁶ breast,¹⁷ and extremities malignancies⁴⁸ revealed an increase in cancer recurrence in patients who received blood intraoperatively. The data in head and neck surgery is not as conclusive. Four studies (49–52) imply that blood transfusions increase the probability of recurrence, while three (53–55) demonstrate that transfusions have no negative effect on survival. With the possibility of recurrence still in the ascendant, blood should be used with caution.

Paediatric considerations

Epistaxis and post-operative bleeding are the most common causes of haemorrhage in paediatric ENT patients. Despite an exhaustive search of the literature, no papers analysing blood transfusion in paediatric otolaryngology patients were located. A 10-year retrospective research published in 2004⁵⁶ analysed admissions for epistaxis in children who were otherwise healthy. In ten years, just 14 (out of 545) of these youngsters were hospitalised, and only one had a blood transfusion (following nasal trauma). Children with post-surgical epistaxis were excluded. This single study reveals that transfusions following epistaxis in children are uncommon.²⁵⁶⁷ children (aged six months to fourteen and a half years) who had undergone tonsillectomy with or without adenoidectomy were identified in a 2002 research of

post-tonsillectomy bleeding in children and adults.16 (0.87%) of children undergoing adenotonsillectomy and 23 (3%) of children undergoing tonsillectomy alone experienced bleeding. Only one youngster (0.04%) required a blood transfusion. Unfortunately, the research listed in this article vary significantly, and there are little absolute statistics on the prevalence of paediatric post-operative bleeding needing blood transfusion.

Recombinant human erythropoietin may be required under specific conditions. Erythropoietin is a hormone largely generated in the liver. The kidney is responsible for erythropoiesis, and hypoxaemia stimulates its production. Recombinant human erythropoietin has been utilised in renal patients for many years, and is now approved for use pre-operatively and in patients receiving pre-operative autologous blood donation. Following injection of recombinant human erythropoietin, erythropoiesis occurs within three days, with the production of one blood unit in seven days and five units in 28 days. [12]

Hypertension, flu-like symptoms, seizures, and thrombotic events are among the adverse effects. Concomitant iron supplementation enhances the erythropoietic response in anaemic patients, especially when administered intravenously, although its effect on healthy individuals is still debatable. [23] It is vital to note that some formulations are stabilised with albumin; consequently, individual Jehovah's Witnesses' acceptance must be considered.

The greatest strategy to avoid the need for blood in otolaryngology is to prevent acute haemorrhage. Careful tissue manipulation, detection and avoidance of potential sources of bleeding, and prompt control of haemorrhage are the most effective means of achieving this objective. Positioning of the patient, local vasoconstrictors, topical haemostats, direct control of bleeding, and electrocautery are all effective techniques for reducing excessive blood loss.[24-25] Due to the length of certain head and neck surgeries, anaesthetic techniques such as controlled hypotensive anaesthesia, regional anaesthesia, maintenance of normothermia, and blood cell salvage may also be utilised.

Postoperatively, thorough monitoring for postoperative bleeding, proper oxygenation, the avoidance of unneeded intravenous fluids, early nutritional intake, and minimal phlebotomy all contribute to the prevention of postoperative blood loss. Following certain head and neck procedures, parenteral nutrition may be necessary to maintain enough iron, folate, and vitamin B12 reserves. If significant acute haemorrhage occurs, the first objective is to halt the bleeding. In the initial instance, direct pressure must be applied.[26-28]

Systemic haemostatic agents (tranexamic acid, aprotinin, and vasopressin), drugs that enhance clotting activity (desmopressin, vitamin K, and recombinant clotting factors), topical haemostatic agents (fibrin glue, topical thrombin, oxidised cellulose haemostat, gelatine foam, and calcium alginate), and vasoconstrictors (adrenaline, The application of these agents is contingent upon the location of bleeding and the availability of the product.

CONCLUSION:

Particularly in emergency situations, the treatment of Jehovah's Witnesses presents ethical and legal challenges for medical doctors. Bleeding in the ENT It is not uncommon for patients to require blood transfusions, but thorough assessment of an individual's risk permits surgical planning to eliminate the need for transfusions. If the need for blood products arises, their usage should be carefully evaluated; competent Jehovah's Witness adults can decline medical treatment, and while parents cannot deny treatment for their children, alternatives to blood should be investigated first.

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