

The Respect for Different Beliefs as Incentive for Progress: Successful Orthotopic Heart Transplantation in a Jehovah's Witness

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Abstract

We present the case of a 37-years-old female, Jehovah's Witness (JW), with nonischemic cardiomyopathy. We successfully performed a heart transplantation without blood transfusion using methods and precautions for blood conservation.

The JW case stimulated the research for techniques to avoid transfusions in any kind of intervention, in particular in major procedures like transplantation, to minimize the related infectious and immune-modulation risks. More effort put in the discussion concerning an agreed conduct complying with all the demands, that is religious beliefs, medical ethics and law, would be beneficial for all the parties involved and for scientific progress.

Keywords: Cardiac Transplantation; Jehovah's Witness; Blood Transfusion; Ethical Issue; Blood Storage

Abbreviations

JW: Jehovah's Witness; CPB: Cardio-Pulmonary Bypass

Introduction

Jehovah's Witnesses refuse the transfusion of blood products, based on Biblical passages citing to "abstain from food polluted by idols, from sexual immorality, from meat of strangled animals and from blood" (Acts 15:19-20) [1].

In 1945 the governing body of the Jehovah's Witnesses, the Watchtower Society, introduced a ban on accepting blood transfusion, even in life-threatening situations.

Autologous blood must also be refused if it is pre-deposited, thus excluding preoperative auto-donation. Autologous blood is acceptable if it is not separated from the patient's circulation at any time [2].

Fractions of blood such albumin and clotting factors as well as techniques such as cardiopulmonary bypass, dialysis, the intraoperative use of blood salvage and autologous blood transfusion devices in continuity with the patient's circulation, are accepted by some individuals [3].

Before major surgery, these patients are confronted to the stress of both the operation and the potential need for transfusion. The role of the health care provider is to assure the physical and psychological welfare of patients while respecting their philosophical and religious beliefs [1].

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It is important for a surgeon to understand these tenets to allow for an informative and detailed discussion of the available options with their patients preoperatively [2].

After the discussion with the patient, the surgeon needs to develop a meticulous hemostasis surgical technique and call for a multidisciplinary consultation to manage the risk in an optimal way.

Case Report

We report the case of a 37-years-old woman, Jehovah's Witness, hyperthyroid by Cordarone and with a non-ischemic dilated cardiomyopathy with a very low ejection fraction of about 20%. Multiple arrhythmias. Defibrillator implant after a cardiac arrest during her second pregnancy. Euroscore 2: 2,93%.

We gathered a multidisciplinary team to discuss all available options. Despite the patient's religious beliefs we decided to put her on transplantation waiting list.

We accepted a compatible heart iso-group, withdrawn in our hospital. The surgery went smoothly with a global ischemia time of 88 min. Cardio-Pulmonary Bypass (CPB) Time of 93 minutes and cross clamp time of 66 minutes. No transfusion. We used Confidex at the output of CPB, cell saver, accurate hemostasis and every surgical precaution.

During her stay in Intensive Care there was no hemorrhagic complications. Rapid weaning from inotropic medicaments and mechanical ventilation. We noticed an initial degradation of renal function, that had recovered quickly.

Leukopenia in J4 post-operative forced the shutdown of the Cellecept. Normocytic anemia of 7,7 g/dl for which a therapy with Ferritin injection was initiated. The value of Hemoglobin at discharge was 12,5 gr/dl.

Discussion

Although the first transplantation in a JW took place as early as 1986 in the University of California Los Angeles, 18 years after Barnard performed the first human heart transplantation, this intervention has been described till date in only seven JW patients [3].

Despite the important evolution of blood preservation techniques, there is still a great risk for transfusion in cardiac surgery, especially for major procedures like transplantation.

Transfusions have been identified by some multivariate statistical analysis studies [1] as an independent factor for long term mortality. Blood reserves are under continuous demand with increasing costs. Therefore, transfusion avoidance strategies are desirable on a medical, financial and logistic level. Interestingly enough some studies suggest that half of these transfusions are unnecessary and can be avoided.

The cardiac transplantation in Jehovah's Witnesses represents a real challenge. The investigation of surgical outcomes in this group of patients helps to evaluate the limits and thresholds of blood transfusion safety. This important point helps to introduce and improve precautions related to all surgical intervention implying the possible need for blood transfusions [4,5].

Besides the scientific aspects of the issue, surely challenging and stimulating, in this paper we want to open a discussion. The lack of a proper legal protection of the health care giver affect the attitude of the physician towards these cases and slow down the advancements. The physician should be fully aware of the answer to the following questions while facing all possible eventuality during the intervention. What a physician can do facing a complication unmanageable without blood transfusion? Which are the agencies or ethical and religious committees that should be in charge of the last decision, sharing the responsibility with the physician? And in which way the informed consent form should be written, to be acceptable both for the patient's religious belief and the integrity of the physician, who would never lose his patient by an avoidable cause?

Respect for everybody, the endless questioning ourselves and a tenacious research are the keys for progress.

Conclusion

In conclusion, with good preoperative preparation, concerted cooperation between different teams and attention to details during the intervention and in the intensive care unit, a major procedure such as transplantation can be performed in JW. In fact if operation is swift, the hemostatic technique is meticulous and the duration of cardiopulmonary bypass is as short as possible, blood loss can be kept at a minimum. The discussion is in progress to agree on a ultimate line of conduct regarding the ethical issue.

Disclosure

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