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ORIGINAL ARTICLE

Preferences of Jehovah's Witnesses regarding haematological supports in an obstetric setting: experience of a single university teaching hospital

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ABSTRACT

Background: Jehovah's Witnesses have been shown to be at increased risk of mortality and morbidity as a consequence of obstetric haemorrhage and refusal of blood products. Since 2004, however, Jehovah's Witnesses have been allowed to accept minor fractions of blood at their own discretion. We sought to determine the preferences of pregnant Jehovah's Witnesses regarding haematological supports since this policy change.

Methods: This is a retrospective observational study of consecutive Jehovah's Witnesses attending a university-affiliated tertiary referral centre between 1 January 2007 and 31 December 2013. The main outcome measure was the proportion of women who would be willing to accept blood products and other haematological supports in the event of life-threatening bleeding, should it occur.

Results: Seventy-six Jehovah's Witnesses attended for obstetric care during the study period. Major fractions of blood (red cells, plasma or platelets) were acceptable to 7.9% and 50% would accept some minor fractions. Some blood components were acceptable to 70.3% of nulliparous women compared to 48.9% of multiparous women. In women with advance directives some blood components were acceptable to 70.5% compared with 37.5% of those without. Recombinant factor VIIa was acceptable to 53.9%. Black African women had the lowest acceptance of any ethnic group of any blood products.

Conclusion: The spectrum of acceptance of blood products is wide ranging within our obstetric Jehovah's Witnesses population. Recombinant factors are not universally acceptable despite their identification as non-blood products. A multidisciplinary approach with individualized consent is recommended.

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Keywords: Obstetric haemorrhage; Blood products; Jehovah's Witnesses; Consent

Introduction

Haemorrhage is one of the most common causes of serious obstetric morbidity and mortality and accounts for 27% of all direct maternal deaths.^{1–7} Haemorrhage occurs in approximately 5% of deliveries and, if severe, may require administration of blood products to maintain oxygen carrying capacity and prevent coagulation dysfunction. When obstetric patients refuse blood products, it may be a challenge to provide appropriate care as their mortality rate is higher than those who accept blood products.⁸ Among such patients are Jehovah's Witnesses who may refuse transfusion on the basis of

religious beliefs. Watchtower, the overseeing body of the society, allows patient autonomy regarding the acceptance or refusal of blood products. However, members who accept blood transfusion may be disfellowshipped or disassociated from the organisation. Recently, the attitude of Watchtower towards minor fractions of blood has changed. Since 2000, individuals are permitted to make their own decisions regarding these blood products, a stance that was further clarified in 2004.⁹ Major blood fractions comprise red cells, plasma and platelets while minor fractions include fibrinogen, albumin, factor concentrates and erythropoietin. In view of these policy changes we performed this study to determine the preferences of Jehovah's Witnesses who attended our hospital for antenatal care regarding blood products and other haematological supports.

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Methods

Following institutional ethics board review (Rotunda Hospital Research Ethics Committee Reference RAG-2014-008; date of approval 29 July 2014) we conducted a retrospective observational study of consecutive patients attending the Rotunda Maternity Hospital between 1 January 2007 and 31 December 2013. Data were obtained by chart review and 76 women were identified. The information of primary interest was the attitude of Jehovah's Witnesses toward blood products. We ascertained their willingness to accept blood components of any type, as well as other haematological supports, such as cell salvage, should life-threatening haemorrhage occur. This information was available from a standardised document in the patient's chart which was filled out by a physician during clinic consultation. Major fractions were defined as red cell concentrate, plasma and platelets. Minor fractions were defined as fibrinogen, individual clotting factors and recombinant activated FVIIa (rFVIIa). Additional data collected included the use of an advance directive regarding blood products, acceptance of cell salvage, maternal age, parity, region of origin and ethnicity. Advanced directives are documents which are provided by the Jehovah's Witnesses Society to their members on which their individual decisions regarding specific blood products are listed. We also recorded the mode of delivery, peripartum blood loss, and discharge haemoglobin. Actual use of blood products, haematinics and cell salvage was also documented.

Statistical analysis

SigmaStat statistics software version 3.5 (Systat Software, Inc. Chicago, IL, USA) was used to perform statistical analysis in this study. Categorical data are reported as numbers and percentage. Continuous data are reported as mean and standard deviation (SD) or median and interquartile range. The Chi square and Fischer exact test were performed to evaluate the statistical differences for categorical data.

Results

During the study period, 76 Jehovah's Witnesses attended the assessment clinic (Table 1). Region of origin data were missing for two women and individual preferences for individual blood components were missing for major fractions in eight women and minor fractions in 14 women. Risk factors for haemorrhage were present in a number of women. Forty-three of the 76 women (56.6%) presented a written advance directive which outlined the blood products they would accept or refuse (Table 2). Twenty-five women (32.8%) indicated that they would be unwilling to accept any blood components whatsoever. Only six women (7.9%)

Table 1 Patient characteristics

Age (years)	29.7 ± 5.9
Parity	1 [0–2]
Body mass index (kg/m ²)	25.7 ± 5.2
Unemployed	27 (35.5%)
Region of origin*	
European (excluding Irish)	32 (42.1%)
African	21 (27.6%)
Irish	13 (17.1%)
Asian	6 (7.8%)
South American	2 (2.6%)
Birth weight (g)	3300 ± 900
Risk factors for haemorrhage	
Coagulation disorder	4 (5.3%)
Fetal macrosomia	7 (9.2%)
Placenta praevia	2 (2.6%)
Preeclampsia	1 (1.3%)
Maternal age >35 years	17 (22.4%)
Twin pregnancy	1 (1.3%)

Data are mean ± standard deviation, median [IQR] or number (%).

*Region of origin data missing for two women.

indicated willingness to accept major fractions and 38 (50%) indicated that they would accept some minor fractions of blood (Table 3). Some blood components were acceptable to 70.3% of nulliparous women compared to 48.9% of multiparous women. In women with advance directives some blood components were acceptable to 70.5% compared with 37.5% of those without a directive. Black African women had the lowest acceptance of any blood products of any ethnic group (Table 3).

There were 61 (80.3%) vaginal deliveries and 15 caesarean sections, (eight elective, seven emergency). Overall, mean blood loss was 265 ± 132 mL [range 100–600 mL]. Mean blood loss at caesarean section was 300 ± 138 mL for elective cases compared to 438 ± 130 mL for emergency procedures. No woman received a blood transfusion during their hospital admission. Cell salvage blood was not transfused on any occasion. Anti-D was administered to four women (5.3%). Oral iron was prescribed to 41 women (53.9%) during pregnancy.

Complications occurred in nine women (11.8%); postpartum haemorrhage >500 mL ($n=2$), placental abruption ($n=1$), perineal injury ($n=5$), retained placenta ($n=1$). There were no maternal deaths. Mean discharge haemoglobin was 12.0 g/dL [range 7.6–13.9 g/dL]. The option of a return visit to the anaesthetic clinic was taken up by 15 women (19.7%). Transfusion preferences changed in seven women (9.2%) following initial outpatient consultation and these women were willing to accept some additional blood products if required.

Discussion

Data from our study illustrate a number of important issues. The dominant finding is that there is considerable

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