Cell salvage for obstetric patients who decline blood transfusion – a national survey†

Dear Sir,

Parturients who decline blood transfusion are encountered and managed in all UK obstetric units. The majority are Jehovah’s witnesses (JWs) who refuse transfusion of blood and it’s major components due to religious belief, even when transfusion would be life saving. Major obstetric haemorrhage remains a leading cause of peripartum morbidity and mortality (Centre for Maternal and Child Enquiries, 2011). Refusal of blood products is associated with a six times increased risk for maternal death, and a 130 times increased risk for death due to obstetric haemorrhage (Van Wolfswinkel et al. 2009). This risk is greatest when operative delivery is required.

There are many guidelines on the management of JW patients presenting for surgery. Specific to obstetrics is the recently updated care plan produced by the Hospital Information Services for Jehovah’s Witnesses (2011). Guidance universally advocates the use of cell salvage. The acceptability of autologous transfusion and the various forms of perioperative cell salvage is a personal decision for each JW. Some may specifically request that the system be set up to allow for continuous connectivity. This requires the system to be fully primed and the reinfusion bag to be connected to the patient via a cannula throughout (UK Cell Salvage Action Group, 2008). In this way, the JW’s blood does not lose continuity with the circulation. When no such specific request is received, cell salvage may be used in the usual way.

Cell salvage can usually be organised for elective surgery, but the challenge is in providing a service to JW parturients when obstetric surgery is often emergency in nature, out-of-hours and haemorrhage rapid. This difficulty is exacerbated when obstetric theatres lie remote from a hospital’s main theatre complex. Significant resources in terms of equipment, training and personnel are required and this is unlikely to be available in all units. We sought to establish current UK obstetric cell salvage clinical practice when managing JWs.

The survey was approved by the Obstetric Anaesthesia Association (OAA) Survey Subcommittee and subsequently distributed in December 2011 to all registered obstetric lead consultant anaesthetists through the OAA electronic survey tool (survey number 122). Questions were posed on unit practice when managing JW parturients, including the use of cell salvage.

One hundred and forty five completed responses were received from 207 invited participants (response rate 70%). Half of obstetric units encounter fewer than 10 JW patients per annum (38% 10–20 JWs year$^{-1}$; 12% >20 JWs year$^{-1}$). A specific ‘no blood’ consent form is used in 83% of units. JWs are routinely seen in an anaesthetic antenatal clinic in 70% of units. Fifty-three percent routinely discuss the different modes of cell salvage including continuous connectivity. In the experience of respondents, approximately 70% of JWs are prepared to accept cell salvage.

Two hypothetical caesarean section cases in JWs were posed: one with a low bleeding risk, and one high-risk (example given placenta praevia). Respondents were asked if they would utilise cell salvage for either or both cases (assuming consent was forthcoming). For the low-risk caesarean, 60% would set up cell salvage. For the high-risk caesarean, 79% would use cell salvage. However, in terms of service provision, only 21% of obstetric anaesthetic leads said that their unit was able to offer 24-h cell salvage, despite 47% always having access to the equipment. No out-of-hours cell salvage is available in 24%. The remaining units can only offer an inconsistent out-of-hours service. This lack of service provision may explain why 20% of units would seek to transfer high-risk JW parturients to a tertiary centre. Forty-three percent of lead obstetric anaesthetists stated JW parturients should be managed in specified regional centres that are appropriately resourced.

These results suggest that the majority of obstetric units are not equipped to provide cell salvage to a consenting JW when faced with haemorrhage out-of-hours, despite the majority of anaesthetists stating they would want to use it. This standard of care is below that suggested in national guidance. Equipment provision is not causative as nearly half of units have access to a cell salvage machine. A lack of trained personnel is likely contributory. All operating department practitioners (ODPs) must be trained to use cell salvage, including continuous connectivity mode, to facilitate usage and the possibility of achieving a 24-h service. Furthermore, these skills can be transferred to benefit other specialty areas beyond the maternity unit. When faced with a major obstetric haemorrhage, the ODP is likely to be helping the anaesthetist deliver anaesthesia and there is an opportunity for cell salvage to be neglected. Midwives and other theatre support staff could also be trained to set up cell salvage, at least for blood collection, for this eventuality. Large units may be able to utilise a second ODP.

Correspondence: A. Jennings, Russells Hall Hospital, Pensnett Road, Dudley, West Midlands DY1 2HQ, UK.
Tel.: 01384 456 111; fax: 01384 255051;
e-mail: ajennings@doctors.org.uk
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In addition to cell salvage, it is likely other facilities for managing haemorrhage in those who refuse transfusion will be absent in some units, for example, 24-h interventional radiology and consultant-delivered care. There is some support for the centralisation of services for JWs to tertiary centres. This would be difficult to achieve in geographically remote areas and transferring bleeding women is unsafe. Care providers should strive to provide these facilities in all obstetric units as they are of benefit to all parturients. This will ensure JWs have the opportunity to deliver in their local units and can expect to receive the highest standard of care.

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CONFLICT OF INTEREST
The authors declare that they have no conflict of interest.

A. Jennings & C. Brennan
Russells Hall Hospital, Dudley, West Midlands, DY1 2HQ, UK

REFERENCES

