

Jehovahs Witnesses

Jehovah's Witnesses (JW) are a Christian faith with > 1 million members in the United States, with strong convictions against acceptance of blood or blood products and its products for medical care, including surgery, occasionally, they accept reinfusion of autologous blood via a cell saver during surgery.

Case series

2016

Sixty-eight JW patients including 23 males and 45 females (mean age 53 +/- 12 years) who underwent a variety of cranial (n=19) and spinal (n=49) neurosurgical procedures over a 5-year period were identified retrospectively and their hospital charts, anesthetic records and operative reports reviewed. A concurrent cohort of sex - age- and procedure-matched non-JW controls also was identified.

Among JW patients a cell-saving system was used in 27 cases, with blood re-transfused in 13 cases. Lactated Ringers solution was used extensively intra-operatively; albumin was given to 15 patients. The median decrease in Hgb was 2.1 g/dL. One patient had a postoperative Hgb value < 7 g/dL. One patient returned to the operating room to revise a lumbar pedicle screw, and one patient had postoperative seizures. No cardiopulmonary complications, sepsis, pneumonia, or [wound infection](#) were observed. When compared to the matched control group, similar outcome results were observed. Blood loss and operative time also were similar in JW patients and controls.

Neurosurgical procedures in Jehovah's Witnesses are feasible, safe, and have similar outcomes to patients willing to accept transfusion when managed within a multidisciplinary blood management program ¹⁾.

Acute isovolaemic haemodilution

Two cases of JWS, aged 24 and 19 years old, who had craniectomy for trauma and craniotomy for tumour excision, respectively. A team approach was employed in the care of both patients. During exhaustive preoperative discussions they re-affirmed their religious convictions but agreed to some modifications. Both patients accepted Acute Isovolaemic Haemodilution (AIH). However one of them insisted on non-discontinuation of the line used in collecting the blood from the vein, as that would constitute blood storage. The preoperative Packed Cell Volume (PCV) was 45% and 41% for the trauma and the tumour patients respectively. Two units of blood (1000 ml) were collected from each patient resulting in post donation PCV of 40% and 33%. The intraoperative blood loss was 300 ml and 2000 ml, respectively, and the units and crystalloid fluids were transfused for replacement. Postoperative PCV were 42% and 25%. The latter improved to 30% over the following two weeks with oral haematinics. The two cases are discussed in the light of the experience gained ²⁾.

The management of Jehovah's Witnesses suffering from severe haemorrhage can be very difficult. Those patients who are taking oral anticoagulant therapy pose an additional risk and the difficulty may be compounded by the development of coagulopathy.

Several alternatives to blood products have been reported to be useful:

Beriplex (a concentrate of factors II, VII, IX and X).

A patient, who was taking warfarin, presented 10 days after an elective laminectomy with significant bleeding from the surgical wound and coagulopathy. Despite early surgical measures, there was continuing haemorrhage. This was arrested by giving Beriplex intra-operatively ³⁾.

A retrospective audit of the medical records of all Jehovah's Witnesses who underwent neurosurgical procedures at a institution, from January 1st 2000 to December 31st 2006, was carried out. The parameters investigated included demographics, pre and post operative diagnosis, type of neurosurgical procedure and complications.

Nineteen patients (fifteen male, four female; male/female 3.8:1) constituted the series. The mean age was 45.8 (range: 20-65) years. A total of 21 procedures were performed; intracranial surgery (33%), spinal surgery (67%). No autotransfusion of blood was given. Lumbar laminectomy for stenosis was the commonest spine procedure, ten (71.4%); craniotomy for tumor excision was the commonest intracranial procedure, six (85.7%). With respect to the whole series, the morbidity rate was 4.7% and the mortality rate was 4.7%; both were from intracranial surgery.

It is possible to perform certain types of neurosurgical procedures in Jehovah's Witnesses without increasing the mortality and morbidity rate ⁴⁾.

Recombinant activated factor VII (rFVIIa) (NovoSeven; Novo Nordisk A/S, Bagsvaerd, Denmark) is a haemostatic agent first developed for bleeding associated with haemophilia and trauma, but for which the indications continue to expand. Recent reports have suggested efficacy for various types of intracranial haemorrhage and for patients with abnormalities of coagulation. We report a warfarin-anticoagulated Jehovah's Witness patient with an acute subdural haematoma for whom rFVIIa was used perioperatively. The haematoma was surgically evacuated without excessive blood loss and the patient eventually made a good recovery, returning to independent self-care ⁵⁾.

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²⁾

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