‘No Transfusion’ approach to massive haemorrhage

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30th AC of BBTS
Sept 2012

Case- background

- 40 year old, G3P2
- Jehovah's Witness
- PMH of malaria
- Allergic to choloroquine
- Two NVD in 2002 & 2003

Case- presentation

- Pre labour rapture of membrane in 37th week
- Augmented with syntocinon
- Uncomplicated delivery (2.7 Kg baby)
- Pre-labour Hb: 12.4 g/dl

Case-complications

- Retained placenta Removed manually in theatre- 1 lit Blood loss
- More Syntocinon to prevent uterus atonia
- More haemorrhage of 3-4 lit due to atonia
- Misoprostol, Carboprost and Tranexamic acid

Case- surgical management

- Decision to do a hysterectomy
- Pre-hysterectomy HB: 3.8 g/dl
- TAH through mid line incision
- Through cell saver, 300 ml of blood returned
- A dose of factor VII before admission to ITU

Case- ITU

- Extubated on the day of hysterectomy
- CVS stable
- High dependency care with HF O2 & NG feeding
- Tazocin for 5/7 and sub-cutaneous heparin

Case- medical management

- Nadir of Hb: 2.5 g/dl in arrival to ITU
- did not receive any blood or blood products
- Supported by
  - Weekly erythropoietin (30000 u)
  - daily venofer (200 mg)
  - folinic acid (15 mg, IV)
  - Vit B12 (1 mg)
- Good response with high reticulocytosis and increase in Hb
- Discharged from ITU after 10/7

Case- ward management

- Stayed in ward for further 7/7
- Not for surgical removal of drain
- Fully mobile before discharge
- Last Hb before discharge: 7.5 g/dl
- Discharged on oral iron, folic acid and multi vitamins and one further dose of epo

Case- summary

- Multidisciplinary approach
- We follow the guidelines
- Modification in clinical decision making
- 5 g/dl increase in Hb in 16 days

Blood conservation strategies

- **Minimizing blood loss**
- **Restoration of red cell mass**
- **Support anemic patients**
  - Maximize O2 delivery (intensive monitoring, high flow O2 and inotropic agents)
  - Minimize O2 demand (neuromuscular blockade, mechanical ventilation and hypothermia)

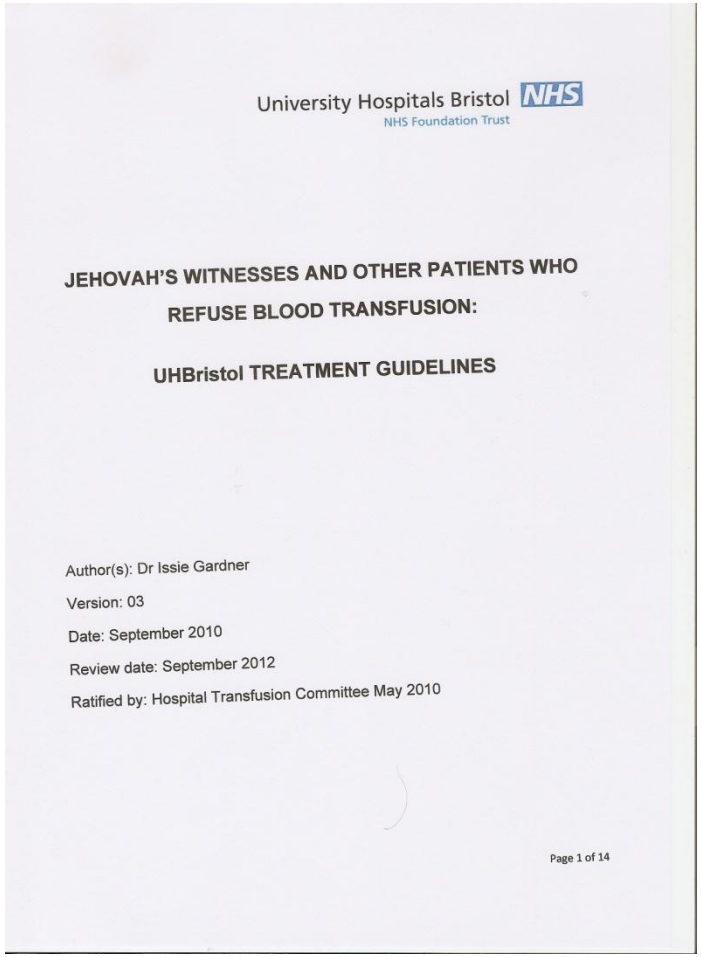
Minimizing blood loss

- Alter operative technique:
  - Use cell saver auto transfusion
  - Consider hypotensive anesthesia
- Prompt operative / angiography with embolization for hemorrhage in patients with GI bleeding or solid organ injury
- Staging of complex procedures
  - Allow time for re-accumulation of red cell mass between procedures if able
- Earlier use of pharmacologic agents for hemostasis
  - Recombinant Factor VII a
  - Tranexamic acid
- Limit phlebotomy: blood sampling ONLY when clinically justified
  - No daily lab orders
  - Utilize pediatric tubes for sampling when necessary
- Start progesterone in menstruating females

Restoration of red cell mass

- Aggressive nutritional support
  - Parenteral or enteral feed
  - Folic acid, Vit B12 and other vitamins
- Iron supplementation
  - Parentral Iron preparations
  - Consider PO supplementation
- Erythropoietin

Local guidelines



University Hospitals Bristol NHS
NHS Foundation Trust

JEHOVAH'S WITNESSES AND OTHER PATIENTS WHO REFUSE BLOOD TRANSFUSION:

UHBristol TREATMENT GUIDELINES

Author(s): Dr Issie Gardner

Version: 03

Date: September 2010

Review date: September 2012

Ratified by: Hospital Transfusion Committee May 2010

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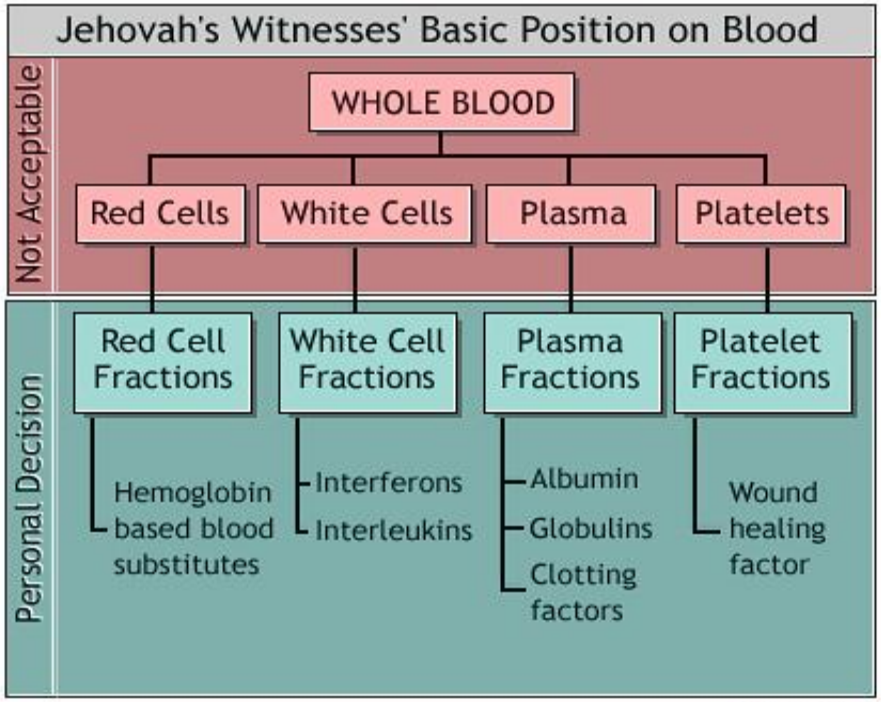
Highlights of guidelines

- Threshold for surgical intervention should be altered
- Matters of patient choice
- Main decision by a senior member of medical staff
- Wrist band
- Referring to experienced consultants


Jehovah's Witnesses' Basic Position on Blood
Not Acceptable
WHOLE BLOOD
Red Cells
White Cells
Plasma
Platelets
Personal Decision
Red Cell Fractions
White Cell Fractions
Plasma Fractions
Platelet Fractions
Hemoglobin based blood substitutes
Interferons
Interleukins
Albumin
Globulins
Clotting factors
Wound healing factor
A.D.A.M.

Acceptability of blood products

Not acceptable	May accept	Is acceptable
Whole blood Red cells Platelets White cells Plasma (FFP) Pre-deposit autologus deposit	Albumin Immunoglobulin Vaccines Coagulation factors (non-recombinant) Haemodilution Crystalloids Intraoperative cell salvage Post operative cell salvage Organ transplantation	Crystalloids Gelatins (haemaccel) Recombinant products (Epo, coagulation factor)

- Treatment Plan: I the above named patient/parent/guardian agree with the following treatment plan during my hospital stay and/or before, during and after my operation or delivery. Treatment Option Accept? Comment
- *Red Cells YES/NO
- *Fresh Frozen Plasma (FFP) YES/NO
- *Platelets YES/NO
- #Cryoprecipitate YES/NO

- #Immunoglobulins including anti D YES/NO
- #Prothrombin Complex Concentrate eg Beriplex YES/NO
- #Plasma derived individual clotting factors eg Fibrinogen concentrate YES/NO
- #Human Albumin Solution YES/NO
- #Cell salvage YES/NO
- #Acute normovolaemic haemodilution YES/NO

- #Peripheral blood stem cell/bone marrow harvest and transplantation YES/NO
- autologous YES/NO
- *allogenic YES/NO

- #Gels, glues and or topical haemostats generated intraoperatively from the patient's own blood YES/NO
- Other (please state)
- *Normally unacceptable to Jehovah's Witnesses
- # Matter of individual choice for Jehovah's Witnesses

- **CHECKLIST FOR JEHOVAH'S WITNESSES AND OTHER PATIENTS WHO DECLINE BLOOD TRANSFUSION SURGICAL ACTION PLAN –**
- Date of Surgery:
- Is the patient taking:
- Warfarin YES/NO
- Aspirin YES/NO
- Clopidogrel YES/NO If so, when will drug be stopped?
- Current Haemoglobin: If anaemic, discuss pre optimization with clinical haematologist.
- Case Discussed? YES/NO Details of plan agreed
- Who has been informed?
- Consultant Surgeon/Obstetrician YES/NO
- Consultant Anaesthetist YES/NO
- Theatre Scheduler YES/NO
- Date/Comment
- For **elective adult surgical patients: Form faxed to haematology secretaries on 0117 928 4036 to enable the haematology registrar covering the day of planned surgery to be informed YES/NO**
- For **emergency patients contact on-call haematology registrar or consultant YES/NO**

conclusion

- Ensure the policy is enacted
- Write a specific plan for the affected patient
- Such policies can help raise awareness of blood conservation for all
- Ensure to have completed advanced declaration & consent

Current national practice (1)

- Management of patients who decline blood transfusion –an OAA-approved national survey
- Aim to establish current UK practice
- 52% of units treated <10 patients annually
- 84% of units have guideline
- 23% have reliable out-of-hour cell salvage service.
- Recommendation on creation of centres of excellence to manage difficult cases.
- AP Jennings, C Brennan , Dudley, 2011, UK

Current National practice (2)

- Sixty percent of gynaecologists and 85% of obstetricians reported having a protocol for the management of JW women.
- Forty-six percent of consultants adopt a multi-disciplinary approach which include anaesthetists and haematologists.
- A small but substantial proportion of consultants do not have protocols

- Gupta et al, 'blood transfusion' 2012

summary

- Have generic policy for all patients who refuse blood
- Consult with experienced consultant to enact this policy
- Many of ‘patients who refuse blood’ are salvageable even with extreme anaemia.
- Remember good documentation and seek early legal aid

acknowledgment

- Dr Edwin Massey, NHSBT, Bristol
- Miss Bryony Strachan, University hospital of Bristol