Evidence-based patient blood management guidelines for obstetric and maternity patients

Savoia H, [a] Roberts J, [b] Weragoda A, [c] Challis D, [d] Clarke M, [e] Earnshaw L, [f] Farmer S, [g] French C, [h] McLintock C, [i] Permezel M, [j] Pollock W, [k] Rowlands S, [l] Thomson A, [m] Whitby C, [n] **Abstract 1131**

Introduction

The National Blood Authority, Australia, is managing a comprehensive review and update of the 2001 National Health and Medical Research Council/Australasian Society of Blood Transfusion (NHMRC/ASBT) Clinical Practice Guidelines on the Use of Blood Components. Six evidence-based Patient Blood Management (PBM) Modules will replace the 2001 Guideline. The modules are being developed by clinical experts for specific populations: Critical Bleeding/Massive Transfusion (2011), Perioperative (2012), Medical (2012), Critical Care (2013), Obstetric and Maternity (2014) and Paediatric/Neonatal populations.

PBM minimises the need for transfusion by improving red cell mass, conserving the patient's own blood and improving tolerance of anaemia. This poster presents a selection of findings of Module 5 – Obstetrics and Maternity.

Discussion

The low number of recommendations (4) in Module 5, compared with other modules, Medical (8), Perioperative (22), reflects the paucity of quality evidence in this population. Evidence gaps and areas for future research have been identified including;

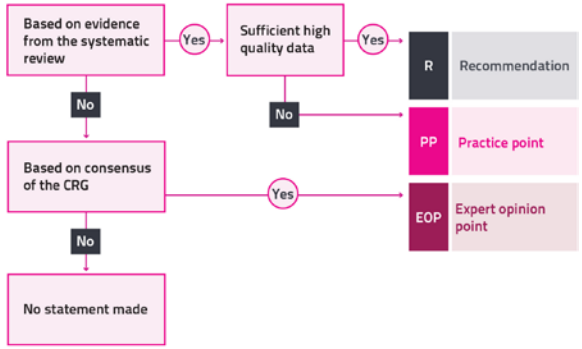
- Hb and ferritin levels that are associated with optimal maternal and fetal outcomes
- the degree of anaemia that is clinically relevant
- optimal strategies for using blood components and plasma products in the management of obstetric haemorrhage
- the role, safety and efficacy of various interventions (e.g. interventional radiology, cell salvage, tranexamic acid) in selected high risk maternity populations

Methods

Clinical/Consumer Reference Group (CRG) with experts from clinical colleges and societies was established and defined the scope of the questions for systematic review for Module 5. These questions included:

- the effect of red cell and other blood component transfusion on patient outcomes
- the effect of non-transfusion measures on haemoglobin
- the effect of non-obstetric strategies to minimise maternal blood loss on transfusion and clinical outcomes

The NHMRC guideline development process was used to develop the research protocol, conduct the systematic reviews and generate guidance as follows:

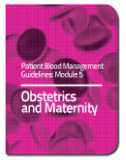


Results

Submitted to NHMRC and approved in December 2014.

Received an Appraisal of Guidelines for Research & Evaluation (AGREE) II methodological assessment rating of 6/7 from two independent assessors.

Contains four evidence-based Recommendations, 31 Practice Points and 18 Expert Opinion Points; those related to iron, massive transfusion protocols and haemorrhage/critical bleeding are presented here.



Conclusion

If blood components are likely to be indicated, transfusion should not be a default decision. Instead, the decision on whether to transfuse should carefully consider the specific patient circumstances, preferences, and the full range of available therapies, balancing the evidence for efficacy and improved clinical outcome against the potential risks. Future research should be directed to addressing evidence gaps.

Oral and/or parenteral iron

R1 (Grade C)	The routine administration of iron supplementation to all pregnant women is not recommended.[a] [a] in accordance with *Clinical practice guidelines: Antenatal care – Module 1*
R2 (Grade C)	The administration of iron to pregnant women with iron deficiency anaemia is recommended; IV iron is preferred when rapid restoration of Hb and iron stores is required.
R3 (Grade C)	In maternity patients who require iron therapy for the treatment of anaemia, the routine addition of folic acid is not recommended.[a] [a] Folic acid should be administered for the prevention of neural tube defects, in accordance with *Clinical practice guidelines: Antenatal care – Module 1*
PP9	In maternity patients with iron deficiency anaemia, a therapeutic dose of elemental iron (100–200 mg daily) should be prescribed, and the response to therapy monitored. If the response to oral iron is inadequate, IV iron should be used.
PP10	In maternity patients with iron deficiency without anaemia, a low dose of elemental iron (e.g. 20–80 mg daily) may be considered, and may be better tolerated than higher doses.
PP11	In maternity patients requiring iron, IV iron is preferred when oral iron is poorly tolerated (affecting compliance), or absorption is likely to be impaired.
PP12	When IV iron is prescribed, calculation of the dose should take into consideration the iron deficit.
PP13	The routine use of IM iron is not advised where alternatives are available.

Massive transfusion protocol for maternity care

EOP8	It is strongly advised that maternity services develop an MTP that includes access to RBC and the dose, timing and ratio of blood component therapy, for use in maternity patients with critical bleeding requiring massive transfusion.
EOP14	In the maternity population, activate MTPs early.
EOP15	The MTP should be modified for the maternity patient, because fibrinogen levels approaching 2 g/L are indicative of critical physiological derangement and are associated with severe haemorrhage.

Obstetric haemorrhage/critical bleeding

PP1	Major blood loss can develop rapidly around the time of giving birth in the absence of haemodynamic compromise; hence, close monitoring of all women, and early recognition and rapid response, are critical.
PP2	In maternity patients requiring massive transfusion, the use of RBC and other blood components may be life-saving. However, in non-maternity patients, transfusion of RBC and other blood components is independently associated with increased morbidity and mortality.
PP3	In maternity patients with critical bleeding, a structured approach to patient care that includes escalation procedures, and timely and appropriate use of RBC and other blood components (e.g. an MTP), may reduce the risk of morbidity and mortality.
PP15	All providers of birthing services should develop a plan to manage obstetric haemorrhage. The plan should give consideration to local resources, transport and access to relevant specialist advice, blood products and equipment.

[a] Royal Australian and New Zealand College of Obstetricians & Gynaecologists, [b] National Blood Authority, [c] Australian and New Zealand College of Anaesthetists, [d] Royal Australian and New Zealand College of Obstetricians and Gynaecologists and Perinatal Society of Australia and New Zealand, [e] Independent Indigenous representative, [f] National Blood Authority, [g] Independent Patient Blood Management Consultant, [h] Australian and New Zealand Intensive Care Society, [i] Australasian Society of Thrombosis and Haemostasis and Society of Obstetric Medicine of Australia and New Zealand, [j] Royal Australian and New Zealand College of Obstetricians and Gynaecologists, [k] Australian College of Midwives, [l] Royal Australian and New Zealand College of Obstetricians & Gynaecologists and Perinatal Society of Australia and New Zealand, [m] Australian and New Zealand Society of Blood Transfusion, [n] Independent Consumer representative