Improving outcomes for major obstetric haemorrhage in London

Background and rationale

Major obstetric haemorrhage is still a cause of serious maternal morbidity and mortality, accounting for over 30% of all obstetric related admissions to intensive care. This toolkit has been produced as part of the London Maternity SCN's strategy to facilitate a systematic approach throughout the network. The aim is to implement excellent practice across all units to ensure equally good outcome for all women with major haemorrhage. Standardisation of health care processes and reduced variation in practice has been shown to improve outcomes and quality of care.

London wide definition

There is a large variation in how major obstetric haemorrhage is defined. To be able to compare outcome data a standardised definition should be adopted by all units.

Definition major obstetric haemorrhage

- Objectively recorded blood loss equal or exceeding 1.5 litres (swabs, pads etc. weighed, liquor deducted). The basis for this definition is that a total blood loss of 1.5 litres equals one quarter to a third of maternal blood volume and is the point at which patients start to develop physiological signs of impaired organ perfusion.

- All cases requiring blood transfusion of 4 units or more.

- All cases requiring unplanned interventional radiology to control haemorrhage.

Quality standards

It is assumed that all units have local guidelines for the management of major obstetric haemorrhage. The remit for this toolkit is to ensure that important quality indicators are represented within the local guideline to ensure equally excellent care throughout London.

Guidelines must include

- Maternal blood loss $\geq$ 1.5 litres should activate a major haemorrhage protocol. Within the protocol there must be clear determination of individual responsibilities.

- The suggested time frame for escalation to consultant level should be in accordance with consultant attendance for other emergencies. Early escalation to senior level should be encouraged.

- Additional physiological triggers based on defined MEOWS chart criteria (e.g. HR increase, fall in BP and O_2 Sats) should be included, as well as measured blood loss.

- Each obstetric unit must have access to on-site blood banking and O neg blood 24/7. This includes immediate support from consultant haematologists.

- There must be a protocol for the treatment of ante-partum anaemia with support from haematology.

- All women with a previous Caesarean section must have their placental site determined to detect abnormal placentation, if necessary with MRI scan. There must be an ante-partum assessment tool to identify women at risk for haemorrhage.

- Evidence of regular participation of all staff in multidisciplinary skills and drills sessions (at least once/year); organised as a core component of mandatory training and including training in quantitative measurement of blood loss.

- Evidence of regular multidisciplinary mortality and morbidity meetings to discuss learning points from major haemorrhage cases to share good practice.

Referral pathways

Protocols must identify clear lines of communication with haematology, intensive care and interventional radiology in case of unexpected obstetric haemorrhage. If a hospital does not provide services like cell salvage or interventional radiology, referral pathways must be easy to activate and include contact details. Pathways should be defined for the following scenarios:

- For women identified as high risk for major obstetric haemorrhage; they should be managed in an appropriate centre with early referral to achieve this as necessary.

- Women who refuse blood products and need access to cell saving facilities.

- Rapid access to interventional radiology, including emergency transfer.

- For women with morbidly adherent placenta who need delivery at a regional centre.

- For access to level 3 intensive care facilities for the critically ill mother.

Auditable standards: Each obstetric unit should audit their management of obstetric haemorrhage as part of a multidisciplinary morbidity and mortality review. The aim is to develop a London wide dashboard to compare outcomes, share examples of good practice and to reduce variations in outcome within London maternity services.

. *London maternity dashboard data*

- Overall number of cases of major obstetric haemorrhage (according to London wide definition) and blood transfusion requirements for each individual case.

- Number of cases requiring unplanned interventional radiology.

- Peri-partum hysterectomy.

- Number of cases admitted to level 3 ITU care with major obstetric haemorrhage as the reason for admission.

- Number of cases referred to tertiary centre for the management of acute major obstetric haemorrhage.

Further reading

1. Saving Mothers Lives: Reviewing maternal deaths to make motherhood safer CEMACE, BJOG 118 (Suppl 1), 1 – 203

2. National Patient Safety Agency and RCOG-Placenta praevia after caesarean section care bundle: background information for health professionals. London: NPSA 2010

3. Knight M et al Trends in postpartum haemorrhage in high resource countries: a review and recommendations from the International Postpartum Haemorrhage Collaborative Group. BMC Pregnancy Childbirth 2009;9:55

4. Prevention of postpartum haemorrhage. Clinical Guideline No 52 RCOG London 2009

5. The role of emergency and elective interventional radiology in postpartum haemorrhage. Good Practice Guideline No 7 RCOG London 2007

6. Intrapartum Care. National Institute for Health and Clinical Excellence (NICE) CG55; 2007

7. Caesarean section. NICE CG132; 2013