POST PARTUM HAEMORRHAGE 3.0

Definition

Primary postpartum haemorrhage (PPH) is the loss of 500ml or more of blood from the genital tract within 24 hrs of the birth of a baby via normal vaginal delivery (NVD) or more than 1000ml following Caesarean Section

Secondary PPH occurs between 24 hours and 6 weeks post-delivery

Accuracy of the amount of PPH can be improved with the use of the MATERNAL WELL TRAY or calibrated drapes and outcomes can be improved with the implementation of the E-MOTIVE bundled approach.

E – Early detection and Trigger Criteria
M – Massaging of uterus
O – Oxytocic drugs
T – Tranexamic Acid
IV– Intravenous fluids
E – Examination of genital tract and escalation of treatment when necessary

See algorithm at end of document

Antenatal risk factors

High risk:

- Suspected or proven abruptio placentae
- Placenta praevia
- Placenta accreta spectrum
- Multiple pregnancy
- Polyhydramnios

Moderate risk:

- Previous PPH
- Obesity (BMI > 35kg/m2)
- Anaemia (Hb < 9g/dL)
- Grande multiparity (P5 or more)

Intra-partum risk factors

- Caesarean delivery (emergency > elective)
- Induction of labour
- Retained placenta
- Operative vaginal delivery
- Prolonged labour (> 12hours)
- Big baby (> 4kg)
- Pyrexia in labour

Preventative measures

- Active management of 3rd stage labour including
- Prophylactic uterotonics: Carbetocin or Syntocinon® or Syntometrin (the latter NOT FOR patients with hypertension or cardiac disease) during the 3rd stage labour. Preferably Carbetocin due to its long half-life (10 x that of Syntocinon) as well as its non-sensitivity to temperature and lack of side effects. Syntocinon is heat sensitive and the cold chain must be maintained from manufacturing until usage and has a half-life of only 4 minutes.
    - vaginal birth: Carbetocin (PABAL®) 100µg IV bolus **OR** 10 IU Syntocinon IMI bolus after a second fetus is excluded
    - caesarean section: Carbetocin (PABAL®) 100µg IV bolus **OR** 5-10 IU Syntocinon IV bolus
- Patients with placenta praevia should be assessed carefully for placenta accreta spectrum antenatally, including MRI if adequate ultrasound examination is unavailable (see PLACENTA ACCRETA SPECTRUM DISORDERS GUIDELINE)
- Iron supplementation antenatally for women with iron deficiency anaemia (see Iron Deficiency Anaemia in Pregnancy guideline)

Causes (4 T's)

- Tone: Uterine atony
- Trauma: Trauma to genital tract, uterine inversion
- Tissue: Retained products of conception, abnormal placentation (placenta praevia/accreta/percreta)
- Thrombin: Coagulation defects

Goals of management

- Control haemorrhage
- Restore or maintain adequate circulatory volume to prevent hypovolaemic shock (hypoperfusion of vital organs), restore and maintain adequate tissue oxygenation, reverse or prevent coagulopathy
- Treat the obstetric cause of PPH

Management of PPH

Resuscitate

- Call most senior midwife and notify obstetrician
- Call Emergency Centre Doctor if no Gynaecologist on site, or activate hospital response
- Assess CAB (Circulation, airway and breathing) - Start facemask O2 immediately, if breathing spontaneously OR begin bag-mask-ventilation if not breathing spontaneously
- Get IV access (2 x large bore cannulas).
- Send blood for FBC/renal functions/clotting profile incl. fibrinogen/cross-match
- Order 2 units red packed cells and 2 units fresh frozen plasma (FFP) (alert blood bank to possible major transfusion protocol and stress urgency)
- Administer Tranexamic acid (Cyklokapron®) 1g (100mg/ml) IVI @ 1ml/min (i.e., 10 mls given over 10 minutes) and second dose after 30 minutes if bleeding continues.
    - Must be given as soon as possible and not later than within 3 hours in all cases of post-partum haemorrhage, regardless of whether the bleeding is thought to be due to genital tract trauma or for other reasons, including uterine atony.
    - Tranexamic acid must be given for all “clinically diagnosed PPH” as defined above or any blood loss that is sufficient to compromise haemodynamic stability.
- Start transfusion as early as possible, but in meantime infuse warm fluids
    - 2-3 litres crystalloids (Normal saline, Ringers Lactate) OR
    - 1-2 litre colloids (Voluven®, Gelofusion®)
- Keep patient warm on flat surface with legs elevated.
- If a cell saver is available, set up and start collection
- Continuous blood pressure, pulse, respiratory rate measurements. Monitor temperature every 15 minutes
- Assign one nurse/sister to record events/fluid administration and vital signs.
- Insert Foley’s urinary catheter and monitor in and output closely.
- Give pooled platelets if platelet count < 50
- Give cryoprecipitate if fibrinogen < 1g/l

Establish and treat the cause of PPH (4 T’s)

TONE:

If atonic uterus:

- Rub uterus to stimulate contractions
- Empty bladder
- Repeat Carbetocin (PABAL®) 100µg IVI bolus **OR** 10 IU Syntocinon infusion/slow IV bolus injection. If none of above available, give 1000µg Misoprostol (Cytotec®) rectally
- ALL DRUGS MUST BE AVAILABLE IN THE FRIDGES OF THEATRE AND LABOUR WARD AT ALL TIMES (carbetocin does not need to be in the fridge)

TRAUMA:

- Examine vagina, perineum and cervix for tears and suture where appropriate
- For uterine inversion: replace the fundus of the uterus as soon as possible
    - Discontinue oxytocic drugs
    - Keep placenta in situ if still undelivered

- Immediately attempt to manually reduce the fundus by placing a hand in the vagina and pushing the inverted fundus (with palm and fingers) along the long axis of the vagina in the direction of the umbilicus (and often passing the level of the umbilicus to generate traction from the uterine ligaments)
- If a constriction ring has already formed around the inverted fundus (which may become edematous), attempt to replace the part closest to the ring first, gradually easing the rest through the ring
- If this fails, administer an acute tocolytic to cause uterine relaxation and attempt again or prepare for theatre with inhalation agents to cause relaxation
- Alternatively, use hydrostatic method (O'Sullivan): Make sure uterine rupture is excluded, prepare warm normal saline with biggest giving set available, and insert in the vagina. Let sterile fluid (2-5 litres may be needed) run rapidly into vagina from a height of 100 – 150 cm while closing off the introitus manually or with a silastic ventouse cup.
- If this fails or if the patient is unstable, prepare for theatre and laparotomy
- After reduction, start oxytocin infusion as atony or recurrent inversion occur frequently after reduction
- Administer antibiotics

TISSUE:

- Attempt manual removal of placenta or book theatre for removal of placenta ± evacuation of uterus
- If still bleeding, insert uterine balloon catheter (Bakri®, Ellavi®) (or glove/catheter if unavailable) for intra-uterine tamponade If still bleeding, arrange theatre.

Intra-operative: (drape patient in the modified lithotomy/Lloyd-Davis position)

- Consider Examination Under Anaesthesia – repair any genital tract trauma; explore uterus for retained products of conception and evacuate if appropriate
- Laparotomy – try B-lynch suture (compression suture)
- Bilateral ligation of uterine and ovarian arteries
- Bilateral ligation of internal iliac arteries (last resort and requires surgeon with the necessary skill)
- Hysterectomy (ideally involve second consultant obstetrician)

Transfer patient to ICU post-operatively or as soon as patient stable enough to transport.

Continue to monitor for recurrent PPH.

Debrief the patient and family.

References:

1. Adam, S. Soma-Pillay, P. Obstetric Essentials. 2023. 4rd Edition. University of Pretoria
2. Singata-Madliki, M. Fawcus, S. Moran, N. F. Arends, E. Muller, E. Mandondo, S. Hofmeyr, G,J (2023) Implementing E-MOTIVE for detection and treatment of postpartum haemorrhage in South Africa. 113(12):e1164. SAMJ

Authorship

These guidelines were drafted by a clinical team from Mediclinic and were reviewed by a panel of experts from SASOG and the BetterObs clinical team in 2019 and revised by the Scientific Committee of BetterObs in 2023. All attempts were made to ensure that the guidance provided is clinically safe, locally relevant and in line with current global and South African best practise. Succinctness was considered more important than comprehensiveness.

All guidelines must be used in conjunction with clinical evaluation and judgement; care must be individualised when appropriate. The writing team, reviewers and SASOG do not accept accountability for any untoward clinical, financial or other outcome related to the use of these documents. Comments are welcome and will be used at the time of next review.

Released on date: 20240610

Management of PPH