Ref: MM217

Guideline for the Management of Antepartum Haemorrhage

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Guidelines Definition

Clinical guidelines are systematically developed statements that assist clinicians and patients in making decisions about appropriate treatments for specific conditions.

They allow deviation from a prescribed pathway according to the individual circumstances and where reasons can be clearly demonstrated and documented.

Minor Amendments

If a minor change is required to the document, which does not require a full review please identify the change below and update the version number.

Type of change	Why change made	Page number	Date of change	Version 1 to 1.1	Name of responsible person

Related Guidelines

- Anti D
- Antenatal Corticosteroids
- Preterm Labour
- Placenta Praevia

Contents

1. Introduction

Ante partum haemorrhage (APH) is defined as bleeding from the genital tract occurring from 24+0 weeks of pregnancy and prior to the birth of the baby (PROMPT, 2017).

The most common causes of major (measured blood loss greater than 1500mls) APH are placenta praevia and placental abruption. Uterine rupture can also lead to massive haemorrhage. Ruptured Vasa Praevia is not associated with major maternal blood loss, but it can cause catastrophic APH for the fetus, which can result in acute fetal anaemia and risk of death for the fetus (PROMPT, 2017).

APH complicates 3–5% of pregnancies and is a leading cause of perinatal and maternal mortality worldwide. Up to one-fifth of very preterm babies (birth between 28 - 32 weeks gestation) are born in association with APH, and the known association of APH with cerebral palsy can be explained by preterm delivery (RCOG, 2011).

In the UK, although deaths from obstetric haemorrhage are uncommon, it still emerges as the major cause of severe maternal morbidity in almost all 'near miss' audits in both developed and developing countries. APH has a heterogeneous pathophysiology and cannot reliably be predicted.

2. Women on Anti-coagulant therapy

Women receiving antenatal anticoagulant therapy (usually low molecular weight heparin or Enoxaparin) should be advised that if they have any vaginal bleeding, they should not take any more doses of anticoagulant medication. They should attend hospital urgently, be assessed on admission and further doses should only be administered after consultation with medical staff.

If a woman develops a haemorrhagic problem while on anticoagulant therapy, the treatment should be reviewed urgently and expert haematological advice sought.

3. Placental Abruption

When a woman is attending with placental abruption, possible presenting features include bleeding (although this may be concealed), constant pain, shock and fetal compromise may be noted during Cardiotocograph (CTG). The uterus may be irritable, or it may be tender, hard and appear woody on palpation (PROMPT, 2017).
Abruption is usually a sudden and unexpected obstetric emergency, not predictable by means of known risk factors. Approximately 70% of cases of placental abruption occur in low-risk pregnancies. The most predictive indicator is abruption in a previous pregnancy. Abruption recurs in 19–25% of women who have had two previous pregnancies complicated by abruption (RCOG, 2011).

Other risk / contributory factors for placental abruption include:

- pre-eclampsia,
- fetal growth restriction,
- non-vertex presentations,
- polyhydramnios,
- advanced maternal age,
- multiparity,
- low body mass index (BMI),
- pregnancy following assisted reproductive techniques,
- intrauterine infection,
- premature rupture of membranes,
- abdominal trauma
- smoking and drug misuse (cocaine and amphetamines) during pregnancy

- Maternal thrombophilias

4. Placenta Praevia

Possible presenting features of placenta praevia may include painless vaginal bleeding, high presenting part or transverse lie, or shock. The uterus would be non-tender and soft or irritable (PROMPT, 2017).

Risk / contributory Factors for placenta Praevia

- Previous placenta praevia
- Previous caesarean sections
- Previous termination of pregnancy
- Multiparity
- Advanced maternal age (>40 years)
- Multiple pregnancy
- Smoking
- Deficient endometrium due to presence or history of:
- uterine scar
- endometritis
- manual removal of placenta
- curettage
- submucous fibroid
- Assisted conception

5. Vasa Praevia

Possible presenting features of vasa praevia include variable fresh vaginal (PV) blood loss after rupture of membranes, acute fetal compromise with no maternal shock. Uterus would feel normal (PROMPT, 2017).

Risk / contributory Factors for Vasa Praevia

- Low lying placenta
- Succenturiate lobe

6. Uterine rupture

Possible presenting features of uterine rupture include the sudden onset of constant sharp pain, peritonism, abnormal or pathologic CTG, high or unreachable presenting part, bleeding (may be concealed), shock, haematuria. Women that were contracting may find that the contractions cease (PROMPT, 2017).

Risk / contributory Factors for Uterine Rupture

- Previous uterine surgery
- Parity of 4 or more
- Trauma
- oxytocin infusion during labour

7. Maternal and Fetal Complications of APH

- Anaemia
- Fetal hypoxia
- Infection
- Small for gestational age and fetal growth restriction
- Maternal shock
- Prematurity (iatrogenic and spontaneous)
- Renal tubular necrosis
- Fetal death
- Consumptive coagulopathy
- Postpartum haemorrhage

- Prolonged hospital stay
- Psychological sequelae
- Complications of blood transfusion (RCOG, 2011)

8. Management of APH (Refer to Appendix 1)

Women presenting with a major or massive haemorrhage that is persisting or if the woman is unable to provide a history due to a compromised clinical state, an acute appraisal of maternal wellbeing should be performed and resuscitation started immediately. The mother is the priority in these situations and should be stabilised prior to establishing the fetal condition. Regardless of the gestation, the mother's life should take priority. She should be resuscitated and stabilised before any decision is made regarding delivery of the baby.

8.1 Initial Assessment

If Staff are aware of a major APH attending staff should be ready as it will require a muiti-disciplinary (Obstetrics, Anaesthetics, Paediatric and Haematology) approach. Equipment should also be made ready for assessment and treatment. If a woman walks in with an APH help should be summoned. A scribe should be assigned to capture events (Please refer to Appendix 2).

The aim of clinical assessment in women presenting with APH is first to establish whether urgent intervention is required to manage maternal or fetal compromise. The following clinical requirements happen simultaneously by the MDT. Closed loop communication should be used by the team to indicate to the scribe when these tasks have completed.

8.2 Administer oxygen

If there is suspected, or known, major APH woman should lie in the left lateral position and high flow oxygen should be administer via a non-rebreathe mask.

8.3 Observations

A full set of maternal observations should be carried out and documented on a MEWS chart.

8.4 Abdominal palpation

The woman should be assessed for tenderness or signs of a tense abdomen. The tense or 'woody' feel to the uterus on abdominal palpation indicates a significant abruption. Abdominal palpation may also reveal uterine contractions. A soft, non-tender uterus may suggest a lower genital tract cause or bleeding from placenta or vasa praevia.

8.5 Speculum examination

A speculum examination must be carried out on the first occasion a woman presents with even a small amount of vaginal bleeding or spotting in pregnancy, to ensure that the cervix is seen and cervical malignancy is excluded. Speculum examination on subsequent occasions can be useful to identify cervical dilatation or visualise a lower genital tract cause for the APH.

8.6 Vaginal examination

If placenta praevia is a possible diagnosis (for example, a previous scan shows a low placenta, there is a high presenting part on abdominal examination or the bleed has been painless), digital vaginal examination should **not** be performed until an ultrasound has excluded placenta praevia.

Careful vaginal examination may be performed to provide information on cervical dilatation only if APH is associated with pain or uterine activity.

8.7 Blood tests for major APH:

- Two large bore cannulae should be sited.
- Full blood count, coagulation screen, kleihauer, renal and liver function test should be sent urgently.
- 4 units of blood cross-matched.

8.8 Blood tests for minor APH:

- Full blood count
- Kleihauer in rhesus D (RhD)-negative women
- Coagulation is only required if platelet count is abnormal

8.9 Rapid Fluid replacement

Two litres of crystalloid should (Compound Sodium Lactate (Hartmann's) or 0.9% Normal Saline) should be administered rapidly as required in women with major APH. Cell salvage should be considered if available. Blood loss should be measured and fluid balance should be monitored.

8.10 Ultrasound scan

Ultrasonography will fail to detect three-quarters of cases of abruption. However, when the ultrasound suggests an abruption, the likelihood that there is an abruption is high.

Ultrasound can be used to diagnose placenta praevia but does not exclude abruption. Placental abruption is a clinical diagnosis and there are no sensitive or reliable diagnostic tests available.

Ultrasound has limited sensitivity in the identification of retroplacental haemorrhage.

8.11 Fetal investigation

APH, particularly major haemorrhage can result in fetal hypoxia and abnormalities of the fetal heart rate pattern. Therefore, an assessment of the fetal heart rate should be performed via CTG if appropriate gestation, or by auscultating the fetal heart if not.
Ultrasound should be carried out to establish fetal heart pulsation if fetal viability cannot be detected using external auscultation to exclude fetal death.

9. Ongoing Care

9.1 Admission

Women presenting with spotting who are no longer bleeding and where placenta praevia has been excluded can go home after a reassuring initial clinical assessment.

All women with APH heavier than spotting and women with ongoing bleeding should remain in hospital for close observation for at least 24 hours after the bleeding has stopped.

Each woman must be assessed on an individual basis and clinical judgment applied.

9.2 Antenatal corticosteroids

Clinicians should offer a single course of antenatal corticosteroids to women between 24+0 and 33+6 weeks of gestation at risk of preterm birth. Between 34+ and 35+6 consider maternal corticosteroids. When offering or considering use of steroids discuss

with the woman, how corticosteroids may help and the potential risk associated with them (NICE NG 25 2015).
Betamethasone 12mg for two doses should be administered between 24+0 and 33+6 weeks gestation and offered between 34+ and 35+6 weeks gestation.

In women presenting with spotting, where the most likely cause is lower genital tract bleeding, where imminent delivery is unlikely, corticosteroids are unlikely to be of benefit, but could still be considered.

In women with APH and no immediate indication to deliver the baby, an assessment should be made in each individual case. If bleeding is associated with pain suggestive of uterine activity or abruption, the risk of preterm birth is increased and therefore steroids may be of benefit.

Women presenting with spotting which has stopped (particularly an identified lower genital tract cause such as post-coital from and cervical ectropion) and no abdominal pain or tenderness may not require steroids.

9.3 Anti D

Please refer to CTMUHB Anti D Guideline.

9.4 Tocolysis

Tocolysis should not be used to delay birth in a woman presenting with a major APH, or who is haemodynamically unstable, or if there is evidence of fetal compromise.

A Senior Obstetrician should make any decision regarding the initiation of tocolysis in the event of an APH.

The calcium antagonist nifedipine has been associated with cases of maternal hypotension and is probably best avoided.

If tocolysis is employed, then the drug of choice in a woman with a history of APH should have fewest maternal cardiovascular side effects. Please refer to the CTMUHB Pre-term Labour Guideline for tocolysis and dosage regime.

9.5 Follow on care

Following single or recurrent episodes of minor APH from a cervical ectropion, subsequent antenatal care need not be altered.

Following APH from placental abruption or unexplained APH, the pregnancy should be reclassified as 'high risk' and antenatal care should be consultant-led. Serial ultrasound for fetal growth should be performed.

If placenta praevia is diagnosed, subsequent antenatal care should be Consultant Led.

10. Labour and Birth

APH associated with maternal or fetal compromise is an obstetric emergency. Management should include maternal resuscitation and in cases of maternal, or fetal compromise, birth should be expedited. Birth in this situation will usually be by caesarean section, unless vaginal delivery is imminent.

In women presenting with APH before 37+0 weeks of gestation, where there is no maternal or fetal compromise and bleeding has settled, there is no evidence to support elective premature birth of the baby.

If the woman presents after 37+0 weeks of gestation, it is important to establish if the bleeding is an APH or blood stained 'show'. If the APH is spotting or the blood is streaked through mucus it is unlikely to require active intervention.

In the event of a minor or major APH with a stable mum and baby, induction of labour with the aim of achieving a vaginal delivery should be considered in order to avoid adverse consequences potentially associated with a placental abruption.

10.1 Monitoring in Labour

Women in labour with active vaginal bleeding require continuous electronic fetal monitoring, therefore the Normal Labour Pathway should NOT be used. All care should be recorded in the high risk obstetric notes.

Women with minor APH with evidence of placental insufficiency (such as fetal growth restriction or oligohydramnios) should be recommended to undergo continuous electronic fetal monitoring.

In women who have experienced one episode of minor APH, in which there have been no subsequent concerns regarding maternal or fetal wellbeing, intermittent auscultation is appropriate and therefore the Normal Labour Pathway can be used.

10.2 Anaesthesia

Regional anaesthetic is recommended for operative delivery unless there is a specific contraindication.

In a case of APH where maternal or fetal condition is compromised and caesarean section required, a general anaesthetic should be considered to facilitate control of maternal resuscitation and to expedite delivery.

The choice of anaesthesia for each case requires an individual assessment by a senior anaesthetist; if the woman is haemodynamically stable, the magnitude of active bleeding should determine the appropriateness of regional anaesthesia.

A consultant anaesthetist should be involved in the intrapartum care of women with APH with associated compromise.

10.3 Third Stage Management

APH arising from placental abruption and placenta praevia is associated with an increased risk of postpartum haemorrhage, therefore active management of the third stage of labour should be strongly advised.

Consideration should be given to the use of Oxytocin and Ergometrine combined to manage the third stage of labour in women with APH resulting from placental abruption or placenta praevia in the absence of hypertension. A Prophylactic Oxytocin 40IU in 500mL infusion over 4 hours (125mL/hr) should also be considered for the postnatal period. Please refer to the All Wales OBS Cymru guidance for the management of post-partum haemorrhage.

11. Post Natal Management

The postnatal management of pregnancies and births complicated by massive APH should include thromboprophylaxis, debriefing and clinical incident reporting.

12. Documentation

All events should be carefully documented.
A Datix Clinical Incident Form should be complete for all cases of major haemorrhage. **RCOG Greentop Guideline Haemorrhage**

13. Audit

- The administration of corticosteroids to women presenting with APH less than 34+6 weeks of gestation.

- Administration of anti-D Ig to non-sensitised RhD-negative women presenting with APH.

- Percentage of women with APH (recurrent episodes of minor APH, a major APH that has resolved or unexplained APH) referred for serial growth scans.

- Management of the third stage of labour in women who had a major APH.

- Appropriate training of the multidisciplinary team.

14. References

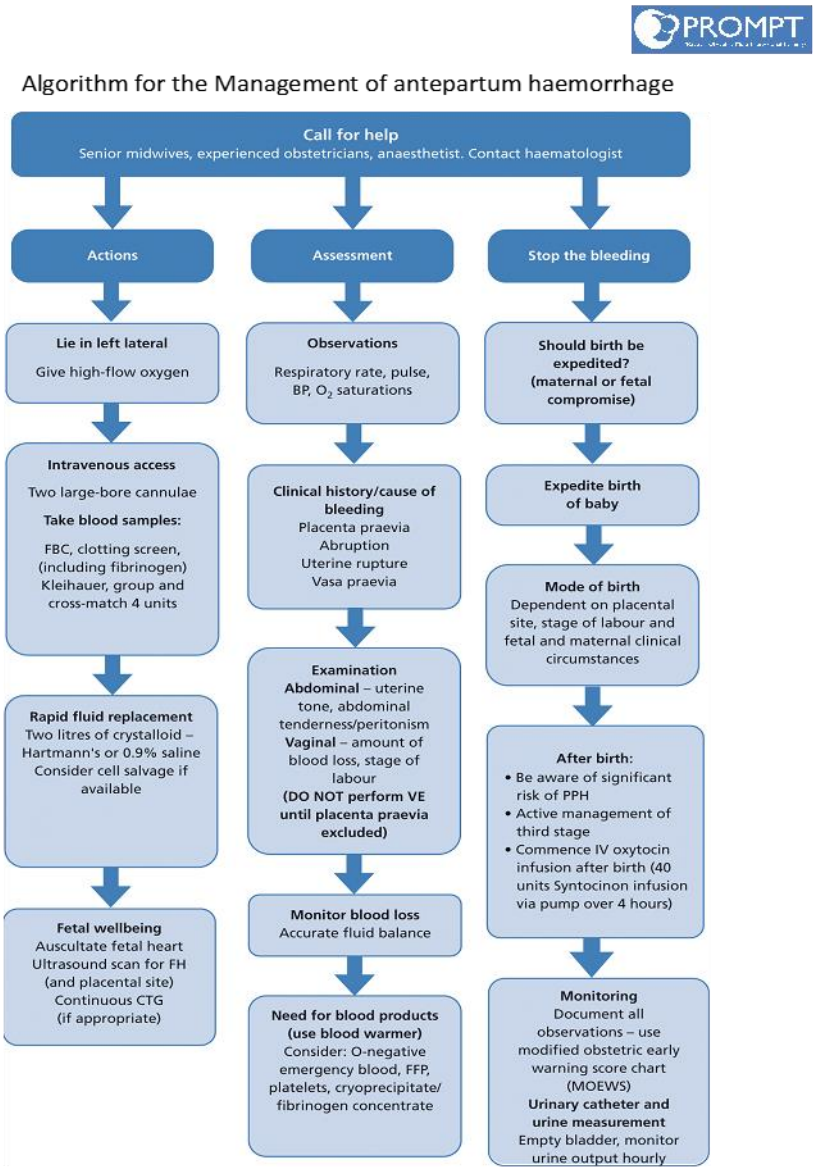
- NICE guideline [NG25] Preterm labour and birth Published date: 20 November 2015 Last updated: 02 August 2019

- PROMPT. (2017). Course Manual 3rd edition.

- RCOG. (2011). Green Top Guideline no. 63 Antepartum haemorrhage https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg63/ (Updated 2014)

- RCOG.(2016) Green-top Guideline No. 52 Prevention and Management of Postpartum Haemorrhage. https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg52/

Appendix 1. Algorithm for the Management of Antepartum Haemorrhage



Appendix 2. Antepartum Haemorrhage Checklist

PROMPT

Antepartum haemorrhage Scenario: Clinical Checklist

		Time	✓
Recognise	Recognise constant abdominal pain		
	Recognise abnormal fetal heart rate pattern		
	Abdominal assessment		
	Vaginal assessment **ONLY** after confirming fundal placenta		
	Recognise risk factors in clinical history		
	Recognise antepartum haemorrhage caused by placental abruption		
Call for help	Summon appropriate help urgently		
	Call for experienced help (including neonatologist once decision made to expedite birth)		
Management	Woman in left-lateral position		
	Administer high-flow facial oxygen		
	IV access and blood for FBC, clotting and cross-match (4 units of blood depending on blood loss)		
	Commence 2 litres IV crystalloid as quickly as possible		
	Decision to expedite birth		
	Plan for category 1 caesarean section		
	Emergency transfer to theatre		
	Decision re appropriate anaesthetic		
	Continuous fetal monitoring until birth		
	Use of MOEWS chart		
Documentation	Timings of events/pro forma		
	Consent		
	Medication administered		
	Persons present		