Achieving Sustainable Quality in Maternity Services

Antepartum Haemorrhage (APH) Guideline

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Contents

1. PURPOSE OF THE GUIDELINE

The purpose of this guideline is to provide current information to midwives and medical staff to ensure the provision of consistent, high quality evidence based management of Antepartum haemorrhage (APH), at the University Hospital of North Staffordshire (UHNS).

Evidence and recommendations from the following sources have also been incorporated within this guideline:

- Saving Mothers' Lives: Reviewing maternal deaths to make motherhood safer: 2006–2008 Published by Royal college of Obstetricians and Gynaecologists March 2011[1]

- National Service Frameworks For Children, Young People and Maternity Services[2]

- The Report from the Joint Working Party of the Royal College of Gynaecologists and Obstetricians and the Royal College of Midwives, 'Towards Safer Childbirth,[3]

- Managing Obstetric Emergencies and Trauma (MOET) Manual[4] published by the Royal College of Obstetricians and Gynaecologists

- The National Confidential Enquiry into Patient Outcome and Death[5] (NCEPOD).

1.1 Issues outside the scope of this guideline

The following will be referred to, but have been individual subjects of other ASQUAM clinical guidelines at the UHNS which need to be read in conjunction with this guideline:

- Placenta praevia
- Placental Abruption
- Primary Postpartum Haemorrhage, which includes the management of massive obstetric haemorrhage
- Obstetric Haemorrhage In Women Who Refuse Blood Transfusion,
- High dependency care in Obstetrics
- Maternal collapse
- Haemorrhage from ectopic pregnancy

2. BACKGROUND

The recognised definition of APH is 'bleeding from or into the genital tract after 24 weeks gestation and prior to the birth of the baby [6]. The incidence of APH is 3 – 5 %, 1% from placenta praevia, 1% from placental abruption and 1% from other causes.[4.] Up to a fifth of premature births are associated with APH [7]

The severity of APH is classified as follows [6]

Spotting – streaking, staining, blood spotting on underwear or sanitary protection

Minor Haemorrhage – Blood loss less than 50 mls

Major Haemorrhage – Blood loss between 50-1000mls with no signs of shock

Massive Haemorrhage – blood loss more than 1000mls and or signs of shock [6]

The overall aims of management are to get help immediately, resuscitate the patient and identify and treat the cause of the bleeding quickly.

2.1 Vaginal bleeding may be due to:[6]

- Haemorrhage from the placental site and uterine cavity
- Lesions of the vagina / cervix including cervical cancer
- Fetal bleeding from a vasa praevia
- Vulval varicosities

2.2 The main causes of uterine bleeding are: [6]

- Placenta praevia
- Placental abruption
- Uterine rupture
- Unknown aetiology

2.3 The main complications of APH are: [4, 6, 7]

Maternal

- Anaemia
- Haemorrhagic shock
- Disseminated intravascular coagulation (DIC)
- Renal failure
- Post partum haemorrhage
- Rhesus isoimmunisation
- Complications of blood transfusion

Fetal

- IUGR
- Fetal Hypoxia
- Prematurity (spontaneous/iatrogenic)
- Fetal death

2.4 Spotting and Minor Haemorrhage

Establish the cause and manage appropriately:

- Admit to Maternity Assessment Unit (MAU)
- Confirm presence of fetal heart
  Less than 26 weeks gestation use Pinnards or Hand held Doppler (CTG only at specific request of Obstetrician)
  Greater 26 weeks gestation use electronic fetal monitoring
- Speculum examination: cervical erosion is a common cause of post-coital bleeding. Vaginal infections such as vaginal candidiasis or trichomoniasis may cause blood stained vaginal discharge and once the diagnosis is made should be treated with the appropriate therapy. Cervical polyps, benign lesions of the cervix may also cause bleeding. Carcinoma of the cervix is occasionally found in pregnancy.

- Document history of cervical smears

- Ultra-sound scan to establish placental site, if no recent scan

- If Rhesus negative, give 500 units of Anti-D if over 20weeks. Give 250 units if less than 20 weeks gestation. Additionally, a Kleihauer should be carried out to determine if a further dose of Anti D is required [7]

- In the event of recurrent vaginal bleeding after 20+0 weeks of gestation, anti-D Ig should be given at a minimum of 6-weekly intervals. [7]

- Antenatal admission especially if active bleeding

- In cases where bleeding has resolved or the loss is brownish indicating absence of an active bleed and placenta praevia has been excluded women can be discharged after a reassuring clinical examination[6]

Management decisions for women with placenta praevia are based upon clinical and ultra sound findings and must be discussed with the woman's Consultant. Hospitalisation is preferred when bleeding occurs. Women who refuse hospital admission are fully counselled regarding the risks involved, all issues discussed must be documented and the woman is asked to sign a self discharge form.

2.5 Major Haemorrhage

- Admit to the Delivery Suite following discussion with Consultant/ SpR/ Delivery Suite co-ordinator (once major haemorrhage is diagnosed)

- All women should be admitted and monitored for nature and amount of blood loss and should stay in till bleeding has resolved

- Assess maternal well being, record blood pressure (non-invasive monitoring), pulse rate, oxygen saturation, respiratory rate and temperature. (MEWS)

- Perform abdominal examination.
  - A tense or woody feel indicates significant abruption
  - A soft non tender abdomen may suggest a genital tract aetiology or bleed from placenta or vasa praevia

- Assess fetal well being
  - Less than 26 weeks gestation use Pinnards or hand held Doppler (external fetal monitoring at specific request of obstetrician)
  - Greater than 26 weeks gestation use external electronic fetal monitoring (Cardiotocogram) (following Pinnads auscultation)

- Vaginal examination – perform gentle speculum examination, avoid digital vaginal examination in placenta praevia

- Check placental site using ultrasound if not known

- Even if mother stable, insert large bore cannula for IV access

- Commence IV fluids if required (Crystalloids or Colloids)

- Obtain blood for full blood count, full clotting screen, urea and electrolytes and send urgently

- **Cross match at least 2 units of blood**, more may be needed

After 24 weeks gestation

- Fetal viability is an issue, therefore close liaison with paediatricians is essential

- Consider maternal Betamethasone to facilitate lung maturity before 34+6 weeks gestation (RCOG). Administer 2 doses of Betamethasone, 12mg via intra-muscular injection (24hours apart).[10]

- Steroid administration in diabetic women will need additional monitoring of blood sugars and these women usually commence a sliding scale insulin regime in addition to their usual s/c insulin (refer to Diabetic guideline, ASQUAM number 66)

    - If Rhesus negative, give Anti D (500iu). Additionally, a Kleihauer should be carried out to determine if a further dose of Anti D is required [7]

2.6 Massive haemorrhage.

The patient may be shocked. Immediate resuscitation and delivery will be required if the bleeding doesn't settle or it is causing maternal and/or fetal compromise.

Attendance of senior Obstetric and anaesthetic staff as soon as possible is mandatory,[1-6,8,9] and liaison with consultant obstetricians, anaesthetists, and haematologists for the planning and conduct of the delivery is essential. Refer to ASQUAM guideline number 24 primary postpartum haemorrhage and maternal collapse both of which cover in detail resuscitative management in obstetrics the former being particularly focused upon massive obstetric haemorrhage.

Signs of Maternal Shock[4]

- Tachycardia (on occasions pulse rate may be normal or even bradycardic)
- Hypotension
- Tachypnoea
- Poor peripheral perfusion
- Confusion or unresponsiveness
- Requiring more than 2 litres of colloid to maintain BP
- Oligouria
- Unexplained metabolic acidosis

2.7 Immediate care

- **Call for urgent attention**

  - Obstetric crash call via 2222 should be sent out to include Senior registrar, registrar, SHO**,** Anaesthetist and ODP
  - Inform Consultant Obstetrician on call
  - Alert anaesthetist and operating department practitioners
  - Insert 2 wide bore cannulae and send blood for full blood count, full clotting screen, urea and electrolytes and liver enzymes (Cross Match)

- Alert haematologist on call and blood bank and consider activating major haemorrhage protocol (dial 15038). Arrange at least 6 units blood (Blood transfusion will be needed for life threatening haemorrhage and potential need for Fresh Frozen Plasma (FFP), Cryoprecipitate and or platelets)

- Liaise with paediatricians
- Identify 'runners' to obtain equipment, drugs/fluids/blood and to alert specified team of clinicians
- Identify person to record events using designated scribe sheet where available (in all delivery rooms on the Delivery Suite and Midwife Birth Centre)
- Identify someone to attend to relatives

- **Resuscitate** (the best resuscitation for the fetus in utero is to resuscitate the mother)[4]
  - Assess and maintain the patency of the **airway**, administer 15 litres oxygen via tight fitting face mask with reservoir bag (non re-breathe mask) and attach a pulse oximeter to the patient
  - Assess **breathing**, ventilate if necessary, protect the airway and regularly monitor the respiratory rate
  - **Circulation**; position the women in the left lateral position, commence cardiopulmonary resuscitation if necessary, treat peri-arrest arrythmias, assess volume loss by overt losses, peripheral perfusion, pulse, blood pressure and measuring urine output hourly. Insert Foleys indwelling catheter and aim for urinary output of at least 0.5 ml/kg/hr (Maintain MEWS)

- **Replace volume loss**

  - The MOET course manual[4] reveals that a placental abruption resulting in fetal death often requires maternal transfusion. At least 1 litre of blood will have been lost, although this is likely to be concealed bleeding. Clinicians are advised to **estimate the blood loss as accurately as possible, measure all swabs and do a haemacue and make allowance for unrevealed loss in cases of placental abruption**

- Replace intra-vascular volume: Until blood is available transfuse in turn as rapidly as required. Do not give over 3.5 L of clear fluids (up to 2 L Hartmann's and 1.5 L colloid) while waiting for blood

- **Avoid Hypothermia**

- Then whole blood or packed cells as soon as they are available. Use group O negative blood if necessary. Also consider asking the haematologist to send over type specific blood for transfusion, whilst the full cross match is continued. Major haemorrhage replaced by red cells and artificial plasma substitutes will result in a dilutional coagulopathy. Fresh Frozen Plasma (FFP) provides all the clotting factors required and may be needed at the rate of 1 unit for each 6-8 units of rapidly transfused blood. The other trigger for administering FFP will be laboratory coagulopathy identified by INR > 1.5 and APPTT > 1.5. Cryoprecipitate contains more fibrinogen than FFP but lacks anti-thrombin III (coagulation inhibitor), which is depleted in obstetric related coagulopathies. Cryoprecipitate may be useful if the patient develops profound hypofibrinoginaemia.[4]

- Use NIBP machine

- Consider Central Venous Pressure and Arterial Pressure Monitoring

- Listen for fetal heart sounds and commence external fetal monitoring if possible. Use ultra sound scan to identify fetal heart if necessary, also useful to locate the site of the placenta. Never take an unstable woman to USS. A portable scan machine is located in the scan room in MAU

- Have strong suspicion for a coagulopathy and treat aggressively in consultation with the haematologist[4]

- Check FBC, haematocrit, full clotting screen, urea and electrolytes and arterial blood gases at regular intervals as appropriate

- **Diagnose and treat the source of bleeding**. Vaginal examination should not be carried out until maternal records have been examined and an ultra sound carried out

- **Consider immediate delivery if the fetus is viabl**e. This is almost always by caesarean section (CS). Induction of labour may be considered if the cervix is dilating rapidly and the fetal heart is satisfactory. Continual monitoring of the fetal heart rate is essential and a fetal scalp electrode should be applied. A consultant obstetrician and anaesthetist should be informed and their presence sought if it still an ongoing bleed or if the haemorrhage is due to placenta praevia.

- If the fetus is dead, a vaginal delivery is usually possible; labour tends to progress quickly following rupture of membranes.[4] The woman must receive high dependency care throughout on the Delivery Suite and be carefully monitored for hypovolaemia. A CS should be considered if labour does not progress quickly[4] or if maternal condition requires

- Early delivery protects against the severity of disseminated intra-vascular coagulation (DIC) which results in part, due to the massive release of thromboplastins in the damaged uterus[4]

Be aware of the potential for massive postpartum haemorrhage [4,6,10]

- Make provisions for the continuum of high dependency care

- Consider transfer to the intensive care unit, (ITU) liaise with the Consultant Anaesthetist on call for ITU as appropriate. Refer to ASQUAM guideline on High Dependency Care in obstetrics

Tocolysis

- A senior obstetrician should make any decision related to initiation of tocolysis.

- It is not advised in cases of massive obstetric haemorrhage or if patient is unstable or fetal compromise is suspected

- It may be considered in cases of minor bleed at extremely premature gestations or when an IUT is required and when the course of steroids is not completed (RCOG 2011). Consultant Obstetrician needs to take the decision

Remember, it is the APH that weakens and the PPH that kills[6]

2 units of O negative blood are kept in CDS fridge at all times

- Following single or recurrent bleed from cervical ectropion subsequent antennal care need not be altered

- In presence of unexplained or recurrent APH the pregnancy should be reclassified as high risk and care should be consultant led

3. DOCUMENTATION

Accurate record keeping is paramount and must include the following:

- A record of maternal observations

Blood pressure
Pulse
Respiratory rate
Oxygen saturations
Central venous pressure (if CVP line sited)
Hourly urine output
Temperature

- All drugs administered, and fluids/blood infused, remember to document the routes used and who administered the drugs/fluids
- Laboratory and radiological results
- Fetal heart
- Staff present
- Remember dates times signatures and clear printed identification
- Initiate a datix

4. TRAINING

APH training will be included within skills drills training for midwifery and medical staff.

5. MONITORING AND AUDIT

The need to monitor/audit the standards set out below will be considered alongside other Directorate requirements and prioritised accordingly. The Directorate Clinical Audit programme is drafted by the Directorate Clinical auditor, in liaison with clinical staff, and approved by the Directorate.

Element to be monitored	Lead	Tool	Frequency	Reporting arrangements	Acting on recommendations and lead(s)	Change in practice and lessons to be shared
Guideline content	Guideline Co-ordinator	Guideline Review	Every three years	Labour Ward Forum Subgroup: Guideline Meeting	Required changes to practice will be identified and actioned with the release of the updated guideline.	Required changes to practice will be identified and actioned with the release of the updated guideline.
Clinical standards within guideline	Directorate Clinical Audit	Clinical Audit	As required in relation to other Directorate priorities	Directorate Business, Performance and Clinical Governance Meeting	Required actions will be identified and completed in a specified timeframe as per the audit action plan.	Required changes to practice will be identified and actioned within a specific timeframe as per the audit action plan and, in addition, lessons will be shared with relevant stakeholders as per audit action plan.

6. REFERENCES

1 Saving Mothers' Lives: Reviewing maternal deaths to make motherhood safer: 2006–2008 Royal college of Obstetricians and Gynaecologists RCOG press London March 2011

2 Department of Health (2004)
National Service Frameworks for Children, Young People and Maternity Services
Maternity Services
Department of Health Publications

3 Royal College of Gynaecologists and Obstetricians, Royal College of Midwives
Towards Safer Childbirth: Minimum Standards for the Organisation of Labour Ward
RCOG, London

4 Johanson R, Cox C, Grady K and Howell C (2007)
Managing Obstetric Emergencies and Trauma, The MOET Course Manual
RCOG Press, London

5 Culliane M, Findlay G, Hargraves C and Lucas S. (2005)
National Confidential Enquiry into Patient Outcome and Death
An Acute Problem
National Confidential Enquiry into Patient Outcome and Death, London

6 Royal College of Obstetricians and Gynaecologists (2011)
Antepartum Haemorrhage
RCOG Guideline Number 63
RCOG, London

7 Royal College of Obstetricians and Gynaecologists (2011)
Use of Anti-D immunoglobulin for Rhesus Prophylaxis
RCOG Guideline Number 22
RCOG, London

8 Royal College of Obstetricians and Gynaecologists (2011)
Placenta Praevia and Placenta Praevia Accreta and Vasa Praevia: Diagnosis and Management
RCOG Guideline Number 27
RCOG, London

9 Arulkumaran S, Symonds I and Fowlie A (2004)
Oxford Handbook of Obstetrics and Gynaecology
Oxford University Press
Oxford

10 Royal College of Obstetricians and Gynaecologists (2011)
Antenatal Corticosteroids to Prevent Respiratory Distress Syndrome
RCOG Guideline Number 7
RCOG, London+

This ASQUAM Guideline, has been peer reviewed by Consultant Obstetricians and Ward and Departmental Managers.