Antepartum Haemorrhage - Full Clinical Guideline

Reference No.: UHDB/Obs/12:23/H3

Contents

1. Introduction

Antepartum haemorrhage (APH) is defined as all bleeding from the genital tract after 24^{+0} weeks gestation until the birth of the baby.

APH complicates 3-5% of pregnancies, and is a leading cause of perinatal and maternal mortality / morbidity worldwide. 2010-2012 data (MBRRACE-UK) shows there were 0.46 maternal mortalities per 100,000 maternities in the UK from haemorrhage, and is therefore uncommon. In the developing world up to 50% of annual maternal deaths are caused by bleeding. APH is a factor in up to 20% of very-preterm births. APH is associated with Cerebral palsy due to its association with prematurity. Haemorrhage is still the major cause of maternal morbidity in both the developing and developed world.

An effort to quantify the amount of blood loss is necessary, although this is frequently underestimated, particularly in the case of concealed abruption.

CAUSES OF APH:

- Placental abruption
- Placenta praevia
- Vasa praevia

- Local causes (bleeding from Cervix, Vagina, Vulva)
- Bloody show – Labour
- Rupture Uterus -
- Unexplained causes

An effort to quantify the amount of blood loss is necessary, although this is frequently underestimated, particularly in the case of concealed abruption.

Definitions used to describe the severity of APH are as followed, but these are not consistently used in the literature:

Spotting – staining, streaking or blood spotting noted on underwear or sanitary protection.
Minor haemorrhage – blood loss less than 50 ml that has settled.
Major haemorrhage – blood loss of 50–1000 ml, with no signs of clinical shock.
Massive haemorrhage – blood loss greater than 1000 ml and / or signs of clinical shock.

Recurrent APH is the term used when there are episodes of APH on more than one occasion.

2. Context of this Guideline

This is a combined Guideline for Derby and Burton sites at UHDB Trust.

There are specific Guidelines for the following conditions:

Post-Partum Haemorrhage (Reference no: OBST/03:18/H6),

Massive Haemorrhage (Reference no: CG-HAEM/2017/005),

Blood Transfusion Major Haemorrhage (Reference no: POL-CL/2842-304/2018),

Placenta praevia / accreta Guideline (Reference no: OBST/05:15/P9) which focusses on antenatal diagnosis of Placenta praevia / morbidly adherent placenta / Vasa praevia and management.

3. Abbreviations

APH	-	Antepartum Haemorrhage
BP	-	Blood Pressure
ECG	-	Electrocardiograph
ECU	-	Emergency Care Unit
FBC	-	Full Blood Count
FFP	-	Fresh Frozen Plasma
G&S	-	Group and Save
Hb	-	Haemoglobin
ICU	-	Intensive Care Unit
IOL	-	Induction of Labour
IU	-	International Units
IUFD	-	Intrauterine Fetal Death
IUGR	-	Intrauterine Growth Restriction
IV	-	Intravenous
LFTs	-	Liver Function Tests
LSCS	-	Lower Segment Caesarean Section
MOEWS	-	Modified Obstetric Early Warning Score
PPH	-	Post Partum Haemorrhage
RCOG	-	Royal College of Obstetricians and Gynaecologists
Rh	-	Rhesus (group)
ROM	-	Rupture of Membranes
U&Es	-	Urea and Electrolytes

4. Clinical Assessment of Antepartum Hemorrhage

Women should be encouraged to report all APH. Although it can represent minor problems (labour, bleeding from Ectropion), life threatening situations such as Abruption, Placenta praevia or Vasa praevia need to be ruled out.

The purpose of the clinical assessment is to establish the cause, diagnosis and the severity of bleeding, cardiovascular condition of the mother, and an assessment of fetal wellbeing. A CTG should be commenced once the mother is stable or resuscitation has started to aid decision making in the mode of delivery.

Senior available Obstetrician (Registrar / Consultant) must be urgently summoned if:
- Blood loss, heavy or continuous
- Associated with abdominal pain
- Evidence of fetal or maternal compromise

In all these situations, a decision needs to be made as to whether urgent delivery is necessary for maternal or fetal resuscitation.

Escalation to Senior Obstetrician is also needed if there is ambiguity regarding the cause and / or management of APH. (Recurrent or Unexplained APH)

HISTORY:

PRESENT SITUATION:

- Onset, duration, amount, colour and consistency of vaginal bleeding.
- Provocating factors (Sexual intercourse, VE, Trauma).
- Associated events: Uterine activity, Pain abdomen, Backache, Rupture of membranes.
- Fetal movements.
- Previous scans in the current pregnancy showing placental location.

BACKGROUND HISTORY:

- Any previous APH or hospital admission.
- Associated conditions: Advanced age, Low BMI, Multiparity, Fetal growth restriction, Pre-eclampsia, (P)PROM, Smoking, Drug abuse (Cocaine / Amphetamine), abdominal trauma (accidental or resulting from domestic violence), first trimester bleeding, maternal thrombophilias.
- Previous pregnancy: Previous Caesarean section, Previous Abruption or Placenta praevia.
- Haematological disorders.
- Use of antenatal Clexane.
- RhD factor status.
- Cervical smear status.
- Social factors: Domestic violence

EXAMINATION:

General Examination:

- ABC (if airway / breathing not compromised focus on circulation), Maternal pulse, Blood pressure, Temperature, Respiratory rate.
- Overall condition: Pallor, Level of consciousness.
- Estimated blood loss: Visible loss, Observe sanitary pads.

Note: *Women can lose up to 1/3rd of blood volume prior to displaying signs of hypovolemic shock*

Abdominal examination:

- Lie, presentation.
- Tenderness, a tense, woody feel to uterus (S\o Abruption).
- Uterine activity: strength, frequency of contractions.
- A soft, non-tender uterus (s\o Placenta praevia, lower genital bleed or Vasa praevia).

Speculum examination:

- Quantify bleeding, colour of bleeding (old / new).
- Cervical changes.
- Presence or absence of liquor.
- Any lesion on cervix (any suspicious lesion needs Colposcopy referral).
- Any evidence of infection (triple swabs to be taken).

Vaginal examination:

- RCOG recommends avoiding digital examination if Placenta praevia is a possible diagnosis. Eg: if suggested on previous scan, or in context of painless unprovoked bleeding / high presenting part.
- Cervical dilatation / Effacement / Station – particularly in context of uterine activity.

Fetal assessment:

- CTG monitoring to consider from 26 completed weeks gestational age to assess viability & / or fetal compromise. Click here to open full Fetal Monitoring guideline
- Elevated resting tone, low amplitude, frequent contractions in uterine activity is suggestive of Abruption.
- 24-25^{+6} weeks gestational age: Fetal heart auscultation for a minimum of 60 seconds.
- Below 24 weeks, seek senior advice (ST3 or higher) on appropriateness of fetal heart monitoring.

INVESTIGATIONS:

Minor APH

- Full Blood Count.
- If any ongoing bleeding, G & S needs to be done.

Major APH / Significant bleeding:

- IV Access – Establish IV Access in all significant bleeding with the use of 2 large bore (Grey in usual Obstetric practice) cannulas.
- Full Blood Count, G & S, LFT, U&E, Coagulation screen (suspected Coagulopathy or known reduced Platelet counts).
- Cross match 4 units of blood (FFP, Platelets, Cryoprecipitate if required).

In all women who are Rh negative, a Kleihauer test to quantify Fetal-maternal haemorrhage and allows dose of Anti-D to be determined.

ULTRASOUND

- In women presenting with APH and the placental site is not known, a USS need to be done to confirm or exclude Placenta praevia.
- The sensitivity of USS for the detection of retroplacental clot is poor.
- Fetal growth monitoring is required if recurrent or unexplained APH.

5. MANAGEMENT OF ANTEPARTUM HAEMORRHAGE

At UHDB Trust, women are encouraged to contact Pregnancy Assessment Unit (PAU) RDH / Maternity Assessment Unit (QHB). Referrals will also be done via GP, A and E, midwifery unit and through Antenatal clinic.

Major APH, ongoing APH or cases where there is a known placenta praevia / Morbidly adherent placenta should be referred directly to the Labour ward.

5.1 MINOR APH

- The diagnosis of minor APH should not be just based on amount of bleeding but take into consideration maternal and fetal condition as well, as in Concealed Abruption, the amount of external bleeding is unreliable, and a high level of clinical suspicion is necessary.

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

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

- Each woman must be assessed on an individual basis and sound clinical judgement applied. E.g. If a woman presents with spotting and has past history of IUFD resulting from Abruption, then hospitalization would be appropriate.

- Offer single course of Corticosteroids for women between 24-34^{+6} weeks of gestation at risk if preterm birth is anticipated. However, in patients presenting with spotting and the cause of bleeding is likely the lower genital tract, where imminent delivery is unlikely, corticosteroids are unlikely to be beneficial, but could be considered.

- Consider MgSO4 for neuroprotection, if preterm birth<32 weeks is anticipated (refer to Preterm guidelines for more details)

- Tocolysis should not be used to delay delivery in a woman presenting with a major APH or who is haemodynamically unstable, or there is evidence of fetal compromise. However, a senior obstetrician should make the decision regarding the initiation of tocolysis in the event of APH.

- Injection Anti-D has to be given to all Rh negative pregnant women with APH as per RhD negative Guidelines: Click here to open full Anti-D Administration in Pregnancy guideline

- Following single or recurrent episodes of 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. Antenatal care should be consultant-led and serial Ultrasound fetal growth is recommended.

5.2 MAJOR APH

Many principles of management of APH are similar to management of any Obstetric haemorrhage. Here we focus on APH, see separate Guideline on Postpartum haemorrhage / Massive haemorrhage / Blood Transfusion.

Jehovah's Witness (follow separate trust products on patient declining blood and blood products)

5.3 PERSONNEL REQUIRED

Call for help:

- S enior Midwife
- O bstetricians
- A naesthetist
- P aediatrician (if relevant)
- S cribe

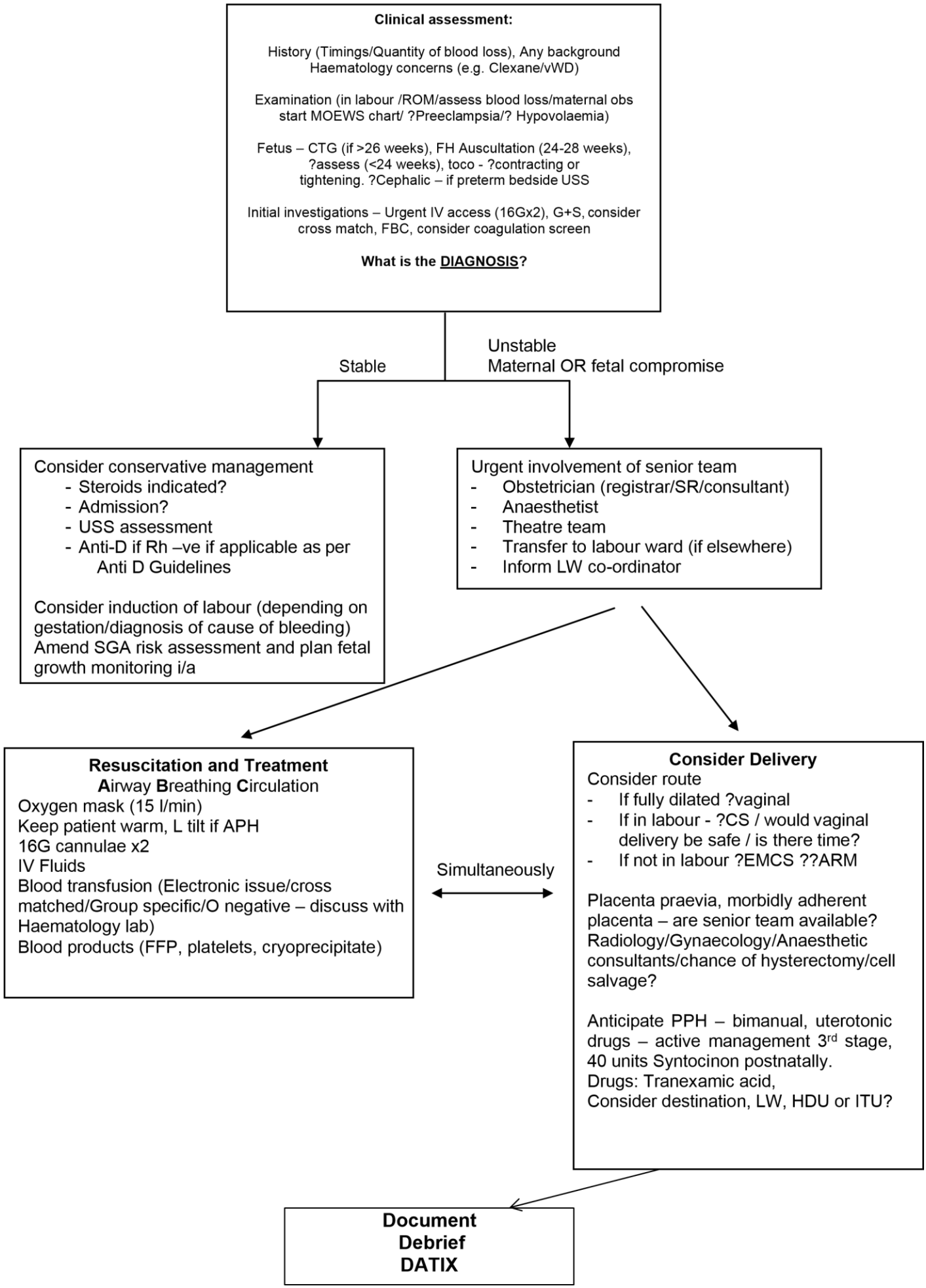
The most appropriate person will inform;

- Theatre Team
- Consultant Obstetrician
- Consultant Anaesthetist
- Blood Bank (Haematology BMS) and possibly Haematology Consultant

Portering and Collection Arrangements for Blood

A staff member who has undergone blood product training must collect blood required for transfusion and complete the paperwork.

5.4 FLOWCHART FOR MANAGEMENT OF APH



5.5 TIMING AND MODE OF DELIVERY

- Regardless of the gestation, the mother's life should take priority and she should be resuscitated and stabilised before any decision is made regarding delivery of the baby.

- In women presenting with APH <37 weeks of gestation where there is no maternal / fetal compromise and bleeding settled, there is no evidence to support elective premature delivery of fetus and any decision for premature delivery should be discussed with the consultant.

- In women presenting after 37 weeks of gestation with minor / major APH and bleeding settled, where there is no maternal or fetal compromise, IOL with the aim of achieving a vaginal delivery should be considered in order to avoid adverse consequences potentially associated with a placental Abruption.

- Emergency Caesarean section may be indicated if there is ongoing bleeding and / or other signs of abruption. Timing should be individualised according to the clinical situation. Women with APH and associated with maternal or fetal compromise are required to be delivered immediately by CAT-1 LSCS (or vaginal birth if vaginal delivery is imminent) along with maternal resuscitation.

- The optimum timing of delivery of women presenting with unexplained APH and no associated maternal or fetal compromise is not established. A senior Obstetrician should be involved in determining the time and mode of delivery. (preferred IOL at term).

- If fetal death is diagnosed, vaginal birth is the recommended mode of delivery for most women (provided maternal condition is satisfactory) but Caesarean birth will need to be considered for some.

5.6 CONTINOUS ELECTRONIC FETAL MONITORING:

Required:

- In women in labour with active vaginal bleeding
- In women who are in preterm labour whose pregnancy have been complicated by major APH or recurrent minor APH, or if there is any clinical suspicion of an Abruption
- In women with minor APH with E \ O placental insufficiency (FGR)

Not required:

- At gestation <26 weeks
- In women who have experienced one episode of minor APH, in which there have been no subsequent concerns regarding maternal / fetal wellbeing, intermittent auscultation is appropriate.

5.7 Neonatal concerns:

- With ongoing bleeding in a minor APH, it would be appropriate to request paediatric support at the time of delivery.
- Massive APH can lead to fetal anaemia and compromise. Hence the neonate should be assessed by a senior paediatrician/ neonatologist.

6. ANTEPARTUM HEMORRHAGE SPECIFIC POINTS

6.1 PLACENTAL ABRUPTION

This is defined as the premature separation of the normally implanted placenta. The incidence of Abruption is 1-2%, with severe Abruptions resulting in fetal loss in about 0.2% of pregnancies.

Recurrence risk is 4.4% with 1 previous Abruption and 19-25% with 2 previous Abruptions.

Abruption is more common with: PET/PIH, increased parity, Past history Abruption, Advanced maternal age, smoking, drug abuse, trauma, IVF.

CLINICAL PRESENTATION OF ABRUPTION

- Vaginal bleeding, but sometimes no or mild bleeding in Concealed Abruption
- Acute constant abdominal pain and tenderness (the level of pain is variable ranging from that similar to mild menstrual cramps to severe abdominal pain)
- Associated low amplitude frequent contractions
- Reduced or no fetal movements.

RISKS WITH ABRUPTION

PPH, Prematurity, Fetal growth restriction, Fetal death, Anaemia, Coagulopathy, AKI (due to hypovolemic shock).

All women with significant Abruption should be transferred for ongoing care to High Dependency Unit at RDH and for enhanced care at QHB Delivery Suite.

Do not underestimate fluid and blood replacement in cases of Placental Abruption and remember, since it more commonly occurs in women with hypertension, that maternal blood pressure may be normal in the presence of profound hypovolemia.

The management of women with Abruption depends on amount of bleeding, maternal condition, fetal viability / compromise and any complications. E.g.: coagulopathy.

As outlined under timing and mode of delivery, an urgent Caesarean section should be arranged if there is evidence of maternal or fetal compromise.

In severe Abruption resulting in fetal death, the average blood loss is 2500ml and the risk of coagulopathy is 30%.

6.2 PLACENTA PRAEVIA

Please refer to Placenta Praevia specific guideline. Click here to open full Placenta Praevia guideline

6.3 VASA PRAEVIA

Vasa praevia describes fetal vessels coursing through the membranes over the internal cervical os and below the presenting part. This can be associated with Umbilical cord abnormalities like Velamentous cord insertion or placental abnormalities like Succenturiate lobe / Bilobed placenta.

Unlike Placenta praevia, Vasa praevia carries no major maternal risk, but is associated with significant risk to fetus. When the fetal membranes are ruptured spontaneously or artificially, the unprotected fetal vessels are at risk of disruption with consequent fetal haemorrhage.

Vasa praevia can be accurately diagnosed by TVS Colour Doppler at fetal medicine centre.

In undiagnosed cases, a high index of suspicion is needed if a woman presents with APH, following rupture of membranes and rapid fetal compromise showing sinusoidal pattern or bradycardia.

Mode of delivery is by caesarean section.

In antenatally diagnosed cases, elective caesarean section needs to be done at 34-36 weeks.

6.4 UNEXPLAINED APH

In women with unexplained APH, there is a high risk of preterm labour, fetal growth restriction, Neonatal admissions to neonatal unit and neonatal hyperbilirubinemia. Hence all cases of unexplained APH should be considered as high risk and needs:

- Consultant led care

- Ultrasound fetal growth monitoring
- Decision by Consultant regarding timing and mode of delivery

7. POSTPARTUM HAEMORRHAGE (PPH)

Antepartum haemorrhage (APH) is a significant risk factor for postpartum haemorrhage. Any woman with a history of APH should be considered for active management of the third stage of labour, with a low threshold for use of 40 iu Syntocinon 4-hour IV infusion postnatally.

Click here to open full PPH guideline

8. POST NATAL MANAGEMENT

- Observe for complications: (VTE – Thrombo-prophylaxis, Coagulopathy, AKI and correction of anaemia).
- Debriefing and Critical Incident Reporting to be considered in cases of significant abruption with massive haemorrhage, ECU admissions, blood transfusions, IUFD or Stillborn, neonatal admission.

9. Monitoring Compliance and Effectiveness

Monitoring requirement	All major and massive APH cases to be reviewed on individual basis through DATIX reporting
Monitoring method	Continuous reporting form, DATIX and Maternity Dashboard
Report prepared by	Risk Co-ordinator and Consultant Lead for Risk
Monitoring report sent to:	Maternity Risk Meeting
Frequency of report	Monthly

10. Training

All obstetric, midwifery and anaesthetic staff will have annual multidisciplinary training in Major Obstetric Haemorrhage at PROMPT training.

11. References

Royal College of Obstetricians and Gynaecologists. Green-top Guideline No. 63, Antepartum Haemorrhage. London: RCOG. November 2011

MBRRACE-UK. Saving Lives, Improving Mothers' Care. National Perinatal Epidemiology Unit, Oxford, 2014

Royal College of Obstetricians and Gynaecologists. Placenta Praevia, Placenta Praevia Accreta and Vasa Praevia: Diagnosis and Management. Green-top Guideline No. 27A (2018), 27B (2011). London: RCOG.

Documentation Control

Reference Number: UHDB/Obs/12:23/H3		**Version: UHDB 2**	**Status: FINAL**
Version	Date	Author	Reason / amendments
1	November 2017	Dr G Geary ST6 Obstetrics and Gynaecology Trainee	Creation of APH Guideline from Massive Obstetric Haemorrhage Guideline (H1)
1.1	September 2020	C Meijer Risk support midwife	Replaced Anti D information with link to full Guideline that was reviewed and uploaded
UHDB 1	December 2020	Dr Arunasree Bammidi Trust Specialty Registrar, O&G, QHB, Burton Dr Thangavelu – Consultant and Labour Ward Lead at QHB, Burton	Combined UHDB Guideline for APH
2	November 2023	Dr Gunjan Bahuguna - Senior Clinical Fellow O&G Miss A Joshi - Consultant Obstetrician	Triannual Review

Intended Recipients: All staff with responsibility for caring for women in the AN period	
Training and Dissemination: Cascaded through lead midwives/doctors / Published on Intranet NHS mail circulation / Article in BU newsletter	
To be read in conjunction with: CG-HAEM/2017/005 – Major Haemorrhage (Trust) Obst/09:15/P9 – Placenta praevia (also covers accrete / vasa praevia) A PPH-specific Guideline is under development	
Consultation with:	Obstetricians and Midwifery staff
Business Unit sign off:	24/11/2023: Maternity Guidelines Group: Miss A Joshi – Chair 04 /12/2023: Maternity Governance Committee/CD - Mr R Deveraj
Notification Overview sent to TIER 3 Divisional Quality Governance Operations & Performance: 19 /12/2023	
Implementation date:	21 /12/2023
Review Date:	December 2026
Key Contact:	Joanna Harrison-Engwell