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TITLE: Antepartum Haemorrhage - (excludes Placenta Praevia/Accreta)

Contents

1. Purpose

Obstetric haemorrhage (both antepartum and postpartum) is a leading cause of maternal and perinatal mortality and morbidity throughout the world. Women who have an antepartum haemorrhage (APH) are at risk of pregnancy complications, including postpartum haemorrhage. APH occurs in 3-5% of all pregnancies.

This document is to provide guidance to all care providers of pregnant women who present with vaginal bleeding after 20 weeks' gestation.

In recognition of Te Tiriti o Waitangi (the Treaty of Waitangi) and the Crown's special relationship with Maori, Te Whatu Ora – Lakes, is committed to acknowledging the Treaty by working in partnership with Maori. Staff involved in implementing this policy should be aware of the Tiriti o Waitangi Policy (EDMS 40583).

2. Scope

All Te Whatu Ora Lakes medical and midwifery staff, Lead Maternity Carers (LMC), and nursing staff working in the Emergency Department, Birthing Unit, or Perinatal Unit at both Rotorua and Taupo Hospitals.

3. Glossary

APH	Antepartum Haemorrhage
CTG	Cardiotocograph
FBC	Full Blood Count
IDC	Indwelling Urinary Catheter
IUGR	Intrauterine Growth Restriction
IV	Intravenous
LMC	Lead Maternity Carer
LFT	Liver Function Tests
MEWS	Maternity Early Warning Score
MTP	Massive Transfusion Protocol
MVA	Motor Vehicle Accident
NICU	Neonatal Intensive Care Unit
U & E	Urea and electrolytes

4. Definitions

APH	Any bleeding from the genital tract after the 20th week of pregnancy, prior to the onset of labour. Some causes of APH may also cause intrapartum bleeding, such as placental abruption or placenta praevia. Recurrent APH is episodes of APH on more than one occasion.
Blood Loss	Spotting: staining, streaking, or blood spotting noted on underwear or sanitary protection Minor haemorrhage: blood loss of <50mls that has settled Major haemorrhage: blood loss of 50-1000mls, with no signs of clinical shock Massive haemorrhage: blood loss of >1000mls and/or signs of clinical shock RCOG (2011)
Placental Abruption	When the placenta separates from the inner wall of the uterus before birth
Placenta Praevia	Where the placenta is wholly or partly in the lower segment of the uterus and close to or covering the internal cervical os. See Placenta Praevia and Accreta Guideline 2651616.
Placenta Accreta	An abnormality of placental implantation where the placenta is morbidly adhered to the uterine wall. See Placenta Praevia and Accreta Guideline 2651616.
Vasa Praevia	Fetal vessels coursing through the membranes over or within 2 centimetres of the internal cervical os and below the fetal presenting part, unprotected by placental tissue or the umbilical cord.

5. Causes of Antepartum Haemorrhage

Diagnosis	Presentation	Uterus	Risks to Fetus	Maternal Risk Factors
Cervical and lower genital tract bleeding (45% of APH)	Heavy show, cervical lesions/polyps, trauma, carcinoma, ectropion, vaginal tumours, vulval/vaginal varices. May be spontaneous or following sexual intercourse or clinical examination. Haematuria, anal or rectal bleeding to be excluded.	Normal	Rarely affected	Cervical pathology Genital tract infections Domestic violence/sexual assault
Placenta Praevia (30% of APH)	Painless bleeding per vagina (PV), high presenting part, abnormal lie, maternal shock.	Non-tender and soft. Irritable uterus.	Prematurity. Dependent on amount of blood loss	Previous uterine surgery (e.g. LSCS, MROP), fibroids, IUGR, advanced maternal age, high parity
Placental Abruption (25% of APH)	PV bleeding - may be revealed or concealed. Constant abdominal pain (but can also be painless), back pain. Maternal shock/collapse. May present as intrauterine fetal demise (IUFD).	Tender/woody/ hard uterus. Irritable uterus.	Dependent on amount of blood loss and pre-existing co-morbidities. Normal or abnormal CTG. Fetal demise	Previous abruption Sudden reduction in size of distended uterus, Prolonged rupture of membranes, Chorioamnionitis, Pre-eclampsia/ hypertension, IUGR, Substance abuse, smoking, Abdominal trauma, motor vehicle accident (MVA), Advanced maternal age, Grand multiparity, Thrombophilia, External cephalic version (ECV) Domestic violence/assault.
Uterine Rupture (rare)	Bleeding - may be concealed. Sudden onset of constant sharp abdominal pain. Very high presenting part. Maternal shock.	Contractions may stop. Peritonism.	Likely to be abnormal fetal heart rate (FHR) with acute fetal compromise.	Previous uterine surgery, Parity 4 or greater, Trauma, Oxytocin infusion, Domestic violence/assault.
Vasa Praevia (rare)	PV bleeding – with/without rupture of membranes. No maternal shock. Acute fetal compromise. Vessel may be palpable on vaginal examination.	Normal	Acute fetal compromise, bradycardia/ sinusoidal CTG trace	Low-lying placenta, Succenturiate lobe, bipartite placenta, Velamentous insertion of cord. IVF pregnancy
Unclassified bleeding	Often painless Circumvallate placenta	Normal	Perinatal morbidity and mortality if associated with preterm birth	IUGR, Abruption, preterm birth, preterm rupture of membranes.

6. Assessment and Management

Consultation with the obstetric team is required in cases of APH according to the Ministry of Health (MOH) Guidelines for Consultation with Obstetric and related Medical Services (Referral Guidelines).

- Taupo Hospital: If a woman presents to Taupo Hospital with an APH;
  - assess, stabilise, consult, and transfer via ambulance as soon as possible, to either a secondary or tertiary unit depending on gestation.
  - Refer to the 'Transfer from Taupo Maternity Unit – Adult & Inutero – 301800' guideline.

- Rotorua Hospital Emergency Department (ED): If a woman presents with an APH;
  - triage in ED and if triage category 1 or 2 keep woman in the resuscitation area for review by the Obstetric team in conjunction with the ED team.

- Rotorua Hospital Maternity Unit: If a woman presents with an APH, management as follows (see over page).

(N.B.: The response should be appropriate to the degree of compromise to the mother or fetus.)

Assessment/Management Table

Initial Assessment

- **Assess**: woman's general condition - use 'A, B, C' method & **Monitor**: vital signs and document on MEWS Chart
- **Estimate blood loss**: visualise, weigh pads etc. & document – *remember blood loss may be concealed inutero*

If haemodynamically unstable;

- **Call for help:** Dial 777, state 'Obstetric Emergency', also ask for anaesthetist
- **Establish an airway**: administer O_2 or assist ventilation at 15L/minute
- **Insert X 2 IV lines** & **Send urgent bloods:** for FBC, clotting, U&E, LFT, fibrinogen, Kleihauer (if RH Neg.), group and cross match a minimum of 4 units.
- **IV Fluids:** Commence 2000mls crystalloid IV
- **Consider IV Tranexamic Acid:** 1 gram in 100 mls saline @700mls per hour
- **Activate the massive transfusion protocol** (MTP): request desperate units if required
- **Delivery:** Consider the need for immediate delivery to stabilise the mother
- **Staff:** Early involvement of Obstetrician, Anaesthetist, Paediatrician & Haematologist is advised

Assessment

History:
- Past medical, obstetric, gynae, smear & surgical history, including any bleeding in the current pregnancy
- EDD & review USS reports, perform USS if any doubt re placental location
- Provoking factors e.g. trauma, coitus, MVA

Physical Assessment:
- Abdominal exam: pain, fundal height, contractions, tone, lie, guarding, and fetal parts
- Speculum exam: assess amount of bleeding, cervical dilatation, membrane rupture.
  DO NOT perform digital exam before excluding placenta praevia/vasa praevia.

Fetus:
- Fetal heart rate (FHR)
- ≥26 weeks: continuous CTG (Fetal Heart Monitoring Guideline 2499498). Consider USS if FHR cannot be heard
- Ask about fetal movements

Observe woman closely as pain, distress, tachycardia, and CTG changes may be more reliable indicators of worsening bleeding that may be concealed.

Restore Circulating Volume

IV access:
- x2 large IV cannulae
- Obtain bloods for FBC, clotting, U&E, LFT, fibrinogen, Kleihauer (if RH Neg.), group and cross match minimum 4 units (if minor APH - group & hold)
- Chase blood results and correct any deficiencies i.e. coagulation etc.

Restore Volume:
- Commence crystalloid replacement of 2000mls
- Inform the blood bank early if need for blood products

Monitor input/output:
- Keep 'Nil by Mouth'
- Insert IDC with urometer and record urine output hourly on fluid balance chart. Output should remain ≥ 30 mls per hour

Control Bleeding

- Consider mode of delivery
- If maternal haemodynamic state can only be improved by delivery this should be considered irrespective of gestational age.
  See later section on 'Timing and Mode of delivery'.

Transfer to Tertiary Unit

- Escorted transfer to tertiary unit once mother stabilised if; <32 weeks (singleton) or <34 weeks (multiples)
- Consider Nifedipine tocolysis to enable transfer and for completion of steroids in stable patients without any evidence of fetal distress. N.B.: use is controversial in the setting of placental abruption/placenta praevia

Ongoing Treatment

Major APH
Admission for 4 hrly observations, regular review of vaginal loss, fetal movements, daily CTG, routine Antenatal care.

Minor APH
Once bleeding abated & if observations & fetal monitoring satisfactory, woman can be discharged with routine Antenatal care.

Maternal

- Close monitoring of vital signs;
  beware of 'normal' blood pressure with massive haemorrhage/ hypovolaemia, as this does not exclude Pre-eclampsia (PET) or HELLP syndrome
- Debrief the woman & family
- All Rh negative women should receive 625IU of Anti-D initially with additional Anti-D given later if needed, depending on Kleihauer test result

Fetal

- Consider giving corticosteroids if gestation is ≤34+6/40 (11.4mg Betamethasone IM, with repeat dose at 12- 24 hours)
- If birth is imminent or considered likely in the next 24 hours and the gestation is ≤30 weeks, Magnesium Sulphate for Neuroprotection is recommended (see Guideline 2396297)

Consider the Need for Delivery

Timing of Birth

Consider maternal condition, gestation, fetal condition, severity of blood loss (including signs and symptoms of haemovolaemic shock, uterine tenderness etc.), other conditions e.g. pre-eclampsia, IUGR etc.

- In women with APH of unknown origin, in the presence of normal maternal and fetal assessment, consider expectant management (Ministry of Health, 2019).
- **If maternal haemodynamic state can only be improved by delivery, this should be considered irrespective of gestational age.**
- At earlier gestations, timing of birth will be decided on a case-by-case basis and depending on whether there are signs of fetal compromise.

Mode of Birth

- Mode of delivery should be considered based on the overall situation, cause of APH, and careful clinical assessment.
- If the bleeding is significant but the women is stable, the CTG normal and the possibility of there being a placenta praevia has been excluded then vaginal birth may be attempted with the following management;
    - Continuous electronic fetal heart rate monitoring is indicated (see Fetal Heart Monitoring Guideline - 2499498).
    - The availability of blood products in the event of catastrophic bleeding.
    - Active management of the third stage of labour- due to the significant risk of postpartum haemorrhage.
    - The use of an oxytocin infusion post-partum.
    - Liaise with anaesthetist regarding the use of Tranexamic Acid.
- If there is evidence of maternal or fetal compromise delivery should take place promptly, with concurrent stabilisation. This is usually by urgent caesarean section unless vaginal birth is imminent and can be achieved safely.
- A consultant obstetrician should make the recommendation for mode of birth.

Paediatric Involvement

- In cases of major or massive APH prior to delivery, fetal anaemia and fetal compromise may result. The neonate should be assessed by a Paediatrician at birth when there has been a major or massive APH necessitating delivery.
- Consideration should also be given to requesting support from the Paediatric team in cases of minor APH.

Post Delivery

- Women with major/massive APH are at risk of thrombosis and a risk assessment and decision regarding thromboprophylaxis should occur immediately postnatally.
- Women who have experienced major or massive APH should be reviewed postnatally and debriefed by the treating team.

Post APH Pregnancy Management

Women with APH in pregnancy may remain under the care of their LMC if they are discharged antenatally from hospital, however, an APH in pregnancy increases the pregnancy to the 'high risk' category and all women should be followed up in antenatal clinic by an Obstetrician.

a) Growth:

All women with APH in pregnancy are at risk of intrauterine growth restriction (IUGR);

a. Customised growth charts should be used in conjunction with population charts to diagnose IUGR.
b. 2 - 4 weekly growth scans are recommended for women with a history of APH, with the ultrasound schedule to be decided by the responsible Obstetric Consultant.
c. The NZMFM Small for Gestational Age (SGA) surveillance guidelines should be followed if there are any concerns with growth or doppler measurements.

b) Haemoglobin and ferritin:

Aim to maintain stable and normal haemoglobin and ferritin levels throughout the remainder of the pregnancy;

- Consider the use of transfusions, especially in the case of placenta praevia at early gestations, where it may be of benefit to prolong the gestation.
- Optimise iron stores using either oral or IV iron preparations (see Maternal Iron Optimisation Guideline – 1401933.

c) Fetal Heart Monitoring:

All women with a history of APH in pregnancy should have continuous CTG monitoring in labour as per the RANZCOG recommendation.

d) Management of the Third Stage:

- Active management of the third stage is recommended when there has been a history of APH in pregnancy given the increased risk of Postpartum haemorrhage (PPH).
- Consideration should be given to the use of Syntometrine to manage the third stage of labour in women with a history of APH in the absence of hypertension.

7. Placental Abruption

- For clinically significant abruptions (e.g. tense uterus with vaginal bleeding), delivery as soon as possible is recommended, even if the CTG is normal, as a high risk of clinical deterioration.
- For smaller abruptions with no evidence of maternal or fetal compromise, a more conservative approach should be considered on a case-by-case basis.
- Thrombophilia testing should be considered after delivery for women presenting with an abruption at <30 weeks.

8. Points to Note

- Clinicians should be aware that domestic violence in pregnancy may result in APH. Every woman who presents for assessment of APH should be screened for domestic violence.
- Previous cervical smear history may be useful to help assess the possibility of a cervical neoplasm as the cause for APH. The presentation of cervical cancer in pregnancy depends on the stage of diagnosis and the lesion size- most women with stage 1 cancer are asymptomatic but they may present with APH (usually postcoital) or vaginal discharge. Any woman with a clinically suspicious cervix who presents with APH in pregnancy should be referred for colposcopy.
- Women who are likely to benefit from tocolysis are those who present with APH very preterm, those needing transfer to another facility with a NICU, and those who have not yet completed a full dose of steroids. Tocolysis is considered to be contraindicated in placental abruption and "relatively contraindicated" in mild haemorrhage due to placenta praevia due to the risk of underlying abruption. Unfortunately, there is limited data to guide either of these recommendations. Tocolytics that can result in maternal hypotension (such as nifedipine) are best avoided in women with active bleeding.

9. Related Documents

- Anti D Administration Guideline - 245330
- Fetal Heart Monitoring Guideline - 2499498
- Fluid Balance Chart
- Magnesium Sulphate for Pre-eclampsia and Neuroprotection in Preterm Birth >30 weeks Guideline - 2396297
- Massive Transfusion Protocol (MTP) (Adult) Rotorua Hospital - 585349
- Maternity Early Warning Score Chart
- NZMFM SGA guidelines https://www.healthpoint.co.nz/public/new-zealand-maternal-fetal-medicine-network/?solo=otherList&index=5
- Prenatally Diagnosed Vasa Praevia Care Pathway - 2155916
- Placenta Praevia and Accreta Guideline (incl. care pathway) - 2651616

10. References

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11. Audit

- Percentage of women with major or massive APH who received care from pregnancy through to postnatal according to this guideline.
- Percentage of women with minor APH who received care from pregnancy through to postnatal according to this guideline.

Authorised by: **Maternity Clinical Quality Improvement (CQI) Meeting**