

Assessment and management of emergency obstetric conditions

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The Objectives:

1. Describe anti partum and post-partum Hemorrhage
2. Identify obstructed labor and infection.

Obstetric emergencies are existence of sudden obstetrical events which require immediate action

Minor Antepartum Haemorrhage Episode of bleeding of less than 500mls from the genital tract during pregnancy (after 24 weeks gestation) and prior to birth of the baby.

Major Antepartum Hemorrhage Episode of bleeding of more than 500mls from the genital tract during pregnancy (after 24 weeks gestation) and prior to birth of the baby or when clinical signs are suggestive of significant concealed bleeding.

Minor Primary Postpartum Haemorrhage The loss of 500-1000mls of blood from the genital tract within 24 hours of the birth of a baby

Major Primary Postpartum Haemorrhage The loss of over 1000mls of blood from the genital tract within 24 hours of the birth of a baby.

Massive Primary Postpartum Haemorrhage Blood loss >2000ml or rate of blood loss of 150ml/min, or 50% blood volume loss within 3hrs. It may result in a decrease in haemoglobin (Hb) >40g/l, or an acute transfusion requirement of >4 units. An MOH that triggers the 'Massive Obstetric Haemorrhage' protocol is defined as blood loss that is 'uncontrolled' and 'on-going' with a rate of blood loss of 150mls or more per minute or >2L .

Secondary Postpartum Haemorrhage Abnormal or excessive bleeding from the birth canal between 24 hours and up to 12 weeks post-delivery

Predisposing risk factors for Obstetric haemorrhage:

- Multiple pregnancy
- Previous PPH
- Pre-eclampsia
- Fetal macrosomia
- Failure to progress in Second stage
- Prolonged third stage
- Retained placenta
- Placenta accreta
- Episiotomy
- Perineal tear

Causes

The main differential diagnoses to consider in all APHs are:

- Placenta praevia
- Placental abruption
- Vasa praevia
- Local conditions of cervix, vagina and vulva including malignancies and benign lesions such as polyps and cervical ectropion
- Mild trauma caused by e.g. sexual intercourse and cervical sweeps

Risk factors for APH include:

Increased maternal age and parity, multiple pregnancy, smoking and cocaine abuse. Placenta Praevia, previous caesarean section, Placental Abruption, pregnancy Induced Hypertension, preterm rupture of membranes, fibroids, previous abruption, external trauma, substance abuse, polyhydramnios, low BMI, and maternal thrombophilia

Initial measures Assess mother and fetus BP, pulse, pallor Pain Extent of bleeding Fetal heart rate presence or absence Intra-venous (IV) infusion Bloods for FBC (full blood count), group and antibody screen and Kleihauer. If clinically a placental abruption or massive haemorrhage, request an urgent coagulation screen Order appropriate blood (group O negative, group specific or cross matched blood) and/or blood products for transfusion as necessary

Diagnosis

1. History Ask about events leading up to the onset of bleeding Try to estimate blood loss
2. Clinical records: (it is important that all records are available) Previous ultra-sound scans – dating, any evidence of placenta praevia
3. Risk factors for placental abruption Hypertension/pre-eclampsia Smoker Previous abruption IUGR (intra uterine growth restriction) Domestic violence Accurate gestation Blood group, including evidence of antibodies. If positive antibody screen, request urgent manual cross match
4. General examination, besides the initial assessment Abdominal examination, assess Uterine tone and tenderness Uterine activity Fundal height Nature of presenting part Relation of presenting part to pelvic brim
5. If there has been no recent ultra sound scan, do a portable scan to assess placental position. Request departmental scan, urgency should depend on the clinical situation. An unstable patient should not transfer to the ultrasound department
6. Gentle speculum examination Exclude vaginal or cervical bleeding Note whether membranes ruptured or not.

Management of APH

There are few high quality clinical trials to guide the management of antepartum hemorrhage, If there are signs of fetal or maternal compromise, consider immediate delivery. Once placenta praevia has been excluded it is safe to do a vaginal examination. A patient in advanced labour with imminent delivery expected may be delivered vaginally, otherwise urgent caesarean section once the mother has been stabilised. Transfusion should be used as appropriate to stabilise the patient, especially in the case of placenta praevia at early gestation where it may be of benefit to prolong gestation. Anti-D gamma globulin must be administered to all Rhesus negative patients. If bleeding settles and patient stable: $\geq 37/40$ – usually safer to deliver baby placenta praevia, delivery by caesarean section small abruption and patient stable and reassuring CTG or bleeding of indeterminate cause, induction of labour is appropriate If undetermined origin, recommend IOL at 38+ weeks

give steroids for fetal lung maturity if any uterine activity or other concern regarding risk of preterm birth. Treat localised vaginal or cervical bleeding appropriately and either admit or discharge patient depending on diagnosis and extent of bleeding

Follow up The patient should be counselled regarding the risks of preterm labour and growth restriction after APH. Ensure a customised growth chart has been generated and serial growth scans arranged.

Placenta praevia Inpatient management is recommended for patients with major placenta praevia for bleeding in the third trimester. After a first bleed, the patient may be discharged at the discretion of the consultant in charge of her care, however if there is recurrent bleeding in the third trimester then admission is usually advised for the remainder of the pregnancy and a date for caesarean arranged.

Elective CS should be planned for 38 weeks for an uncomplicated placenta praevia. Operating room management of placenta praevia Prior to delivery all patients with placenta praevia, and their partners, should have had antenatal discussions about delivery, possible blood transfusion requirements, anaesthetic and surgical measures and contingencies. The patient's wishes for future fertility should be clearly documented and possibility of hysterectomy discussed. On the basis of the above discussions, a clear surgical and anaesthetic plan should be made and documented. Current blood group and screen should be continuously available for the peripartum period. In any case where a patient with placenta praevia is being delivered in the ADHB facility, the consultant on call for labour and birthing should be informed. An experienced obstetrician and anaesthetist should attend any patient going to the operating room with known placenta praevia. The consultant responsible needs to be in the operating room for the delivery. Consideration should also be given to having a second obstetrician available to assist. Patients with higher risks of complications, namely previous uterine scars, anterior placenta praevia or associated placenta accreta, need to be delivered by an experienced specialist not a trainee, and the assistant should also be experienced. Intra-operative cell salvage should be arranged for all placenta praevia cases in the ADHB facility. The surgical manoeuvres required in the face of massive haemorrhage associated with placenta praevia caesarean

sections should be performed by appropriately experienced surgeons and calling for extra help early should be encouraged and not seen as "losing face". The choice of anaesthetic technique for caesarean sections for placenta praevia must be made by the anaesthetist conducting the procedure, after full prior discussion of the surgical plan with the primary surgeon.

Placenta accreta/increta/percreta

All patients booked for the operating room at ADHB with a known or suspected placenta accreta/increta/percreta should have the Placenta Accreta/Percreta checklist completed in advance. This should form part of the Surgical Safety checklist. Patients who have had a caesarean section in a previous pregnancy and who have an anterior placenta praevia subsequently should be considered at high risk of having a morbidly adherent placenta. In such cases particular attention should be focused on confirming this diagnosis using ultrasound imaging and MRI if necessary. It should be noted that the sensitivity of imaging (whether ultrasound or MRI) is about 70%, hence the diagnosis cannot be fully excluded with imaging. When suspected, senior anaesthetic and obstetric input are vital when planning the delivery. Other specialties should be consulted well in advance as appropriate, e.g. Gynaecological Oncology, Urology, Interventional Radiology and Vascular Surgery. A case conference should occur pre-operatively

Placental abruption with fetal demise these patients have usually had a massive intrauterine bleed, which may not be apparent vaginally. These patients are at high risk of becoming hypovolemic and of developing sepsis. Delivery is required as soon as possible, to reverse the pathology. Maternal condition is now the priority: Admit to HDU (High Dependency Unit) Urgent: coagulation screen; FBC; U&E; and blood available for transfusion as clinically indicated Correct hypovolemia and coagulation defects. Be cautious of a "normal" BP in this context, it does not exclude pre-eclampsia/HELLP Monitor urinary output Artificial rupture of membranes and a traumatic vaginal delivery. Vaginal birth is the recommended mode of delivery for most patients. Syntocinon may be used at the discretion of the specialist on duty in the Labour and Birthing Suite with careful monitoring of contractions. Syntocinon must be used with extreme caution in the hypovolaemic patient Notify the anaesthetist on duty.

Intervention APH

1. Massage fundus with care not to over massage
2. Monitor v.s and fundus every 5 to 15 min.
3. Assess blood loss by pad count
4. Assess level of consciousness
5. Administer fluids and monitor intake and output
6. Monitor hematocrit level
7. Maintain asepsis because hemorrhage predisposes to infection
8. Prepare for administration of oxytocin and blood transfusion

- ☒ **Women with placenta abruption usually present with vaginal bleeding, painful contraction, firm and tender uterus.**
- ☒ **Uterine rupture is a rare obstetric catastrophe.**
- ☒ **Nonobstetric causes of antepartum hemorrhage include cervical and vaginal laceration, hemorrhoid, infection and neoplasms.**
- ☒ **Obstetric hemorrhage remains a significant cause of maternal death.**
- ☒ **If repeated bleeding occurs following discharge from the hospital, the patient should be admitted for in patient care.**

Postpartum infections

Postpartum infections comprise a wide range of entities that can occur after vaginal and cesarean delivery or during breastfeeding. In addition to trauma sustained during the birth process or cesarean procedure. Postpartum infections, (including uterine, bladder, or kidney infections)

Symptoms

- Excessive bleeding after delivery
- Pain in the perineal area (between the vagina and the rectum)
- Vaginal discharge
- Breast problems, such as swollen breasts, infection and clogged ducts
- Stretch marks
- Hemorrhoids and constipation
- Urinary or fecal (stool) incontinence
- Hair loss
- Postpartum depression
- Discomfort during sex
- Difficulty regaining pre-pregnancy shape

An infection of the amniotic sac (the bag of water surrounding the baby) during labor may lead to a postpartum infection of the uterus. Flu-like symptoms accompanied by a high fever; rapid heart rate; abnormally high white blood-cell count; swollen, tender uterus; and foul-smelling discharge usually indicate uterine infection.

When the tissues surrounding the uterus also are infected, pain and fever can be severe. Uterine infections usually can be treated with a course of intravenous antibiotics

Infection of C-section Incision

The nurse instructions about caring for C-section incision. the signs of infection, are red, swollen skin or draining pus. Resist the urge to scratch. Try lotion to ease itching.

A kidney infection, which can occur if bacteria spread from the bladder, includes symptoms such as urinary frequency, a strong urge to urinate, high fever, a generally sick feeling, pain in the lower back or side, constipation and painful urination. Once a kidney infection is diagnosed, a course of antibiotics .

Breast infection

Mastitis, or breast infection, usually is indicated by a tender, reddened area on the breast (the entire breast may also be involved). Breast infections -- which can be brought on by bacteria and lowered defenses resulting from stress, exhaustion or cracked nipples -- may be accompanied by fever, chills, fatigue, headache and/or nausea and vomiting. Any of these symptoms should be recommend treatment with antibiotics.

Urinary incontinence the inadvertent passage of urine, especially when laughing, coughing or straining, usually is caused by the stretching of the base of the bladder during pregnancy and delivery. Usually, time is all that's needed to return the muscle tone to normal. Describe Kegel exercises.

Puerperal infection

A puerperal infection occurs when bacteria infect the uterus and surrounding areas after a woman gives birth. It's also known as a postpartum infection.

There are several types of postpartum infections, including:

- **endometritis:** an infection of the uterine lining
- **myometritis:** an infection of the uterine muscle
- **parametritis:** an infection of the areas around the uterus

Symptoms and signs may include:

- fever
- pain in the lower abdomen or pelvis caused by a swollen uterus
- foul-smelling vaginal discharge
- pale skin, which can be a sign of large volume blood loss
- chills
- feelings of discomfort or illness
- headache
- loss of appetite
- increased heart rate
- **1 to 3 percent** in normal vaginal deliveries
- **5 to 15 percent** in scheduled cesarean deliveries performed before labor begins
- **15 to 20 percent** in non-scheduled cesarean deliveries performed after labor begins

There are additional factors that may make a woman more at risk for developing an infection. These can include:

- anemia
- obesity
- bacterial vaginosis, a sexually transmitted infection
- multiple vaginal exams during labor
- monitoring the fetus internally
- prolonged labor
- delay between amniotic sac rupture and delivery

- colonization of the vaginal tract with Group B streptococcus bacteria
- having remains of the placenta in the uterus after delivery

- excessive bleeding after delivery
- young age
- low socioeconomic group

Complications includes:

- **abscesses**, or pockets of pus
- **peritonitis**, or an inflammation of the abdominal lining
- **pelvic thrombophlebitis**, or blood clots in the pelvic veins
- **pulmonary embolism**, a condition in which a blood clot blocks an artery in the lungs.
- **sepsis** or **septic shock**, a condition in which bacteria get into the bloodstream and cause dangerous inflammation

Postpartum infections are most commonly treated with oral antibiotics.