



## Chapter 21

### PRIMARY POSTPARTUM HAEMORRHAGE

*Defined as bleeding from the genital tract in excess of 500 ml for vaginal births and 1000 ml with Caesarean births. For clinical purposes, any blood loss that has the potential to produce hemodynamic instability should be considered PPH. It is accepted that true blood loss always exceeds the clinical estimate of loss. For blood loss estimation, clinicians should use clinical markers (signs and symptoms) rather than a visual estimation.*

### ETIOLOGY OF THE FOUR T'S:

#### TONE

##### 1. Uterine Atony

- Multiparity
- Prolonged labour
- Precipitous labour
- Anything that over distends the uterus, eg:
  - Polyhydramnios
  - Multiple pregnancy
  - Large baby
- Induction and augmentation of labour
- Prolonged rupture of membranes
- Fibroids
- Placenta previa
- Uterine anomalies
- General anaesthesia
- Nitroglycerin
- Full bladder

## **TRAUMA**

### 2. Lacerations of the genital tract

- Cervix
- Vagina
- Perineum
- Uterus
- Uterine rupture
- Uterine inversion

## **TISSUE**

### 3. Retained placenta

- Abnormal placentation
- Retained cotyledon or succenturiate lobe
- Retained blood clots

## **THROMBIN**

### 4. Coagulopathy

#### 1. Pre-existing states

- Hemophilia A
- VonWillebrand's disease

#### 2. Acquired in pregnancy

- Idiopathic thrombocytopenic purpura (ITP)
- Thrombocytopenia with preeclampsia
- Disseminated intravascular coagulation (DIC)
- Gestational hypertensive disorder of pregnancy with adverse conditions
- Severe infection
- Abruptio
- Amniotic fluid embolus
- Therapeutic anticoagulation

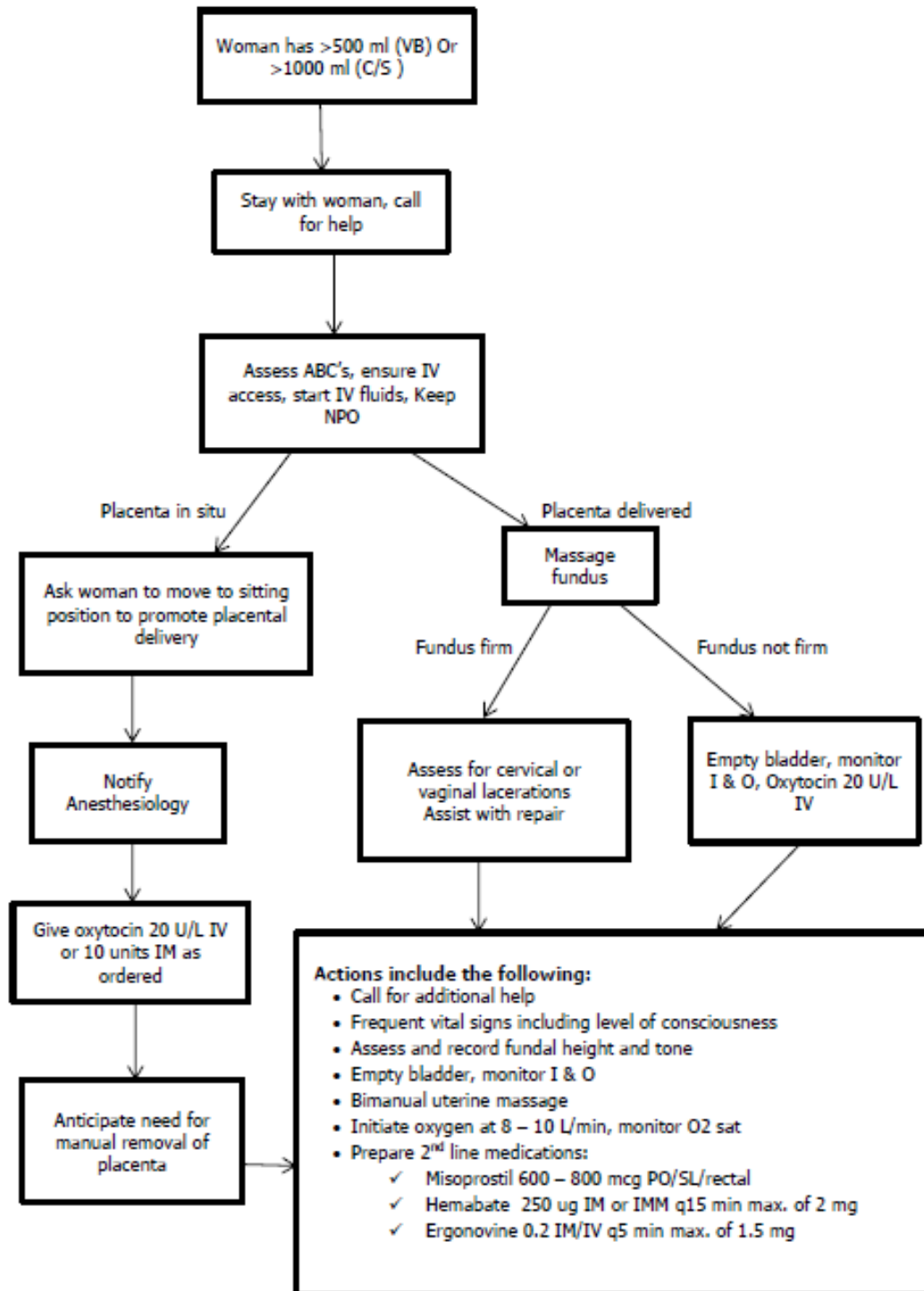
Note: History of a previous PPH is a significant risk factor. If risk factors are present, anticipate and prepare for PPH.

### **PREVENTION – ACTIVE MANAGEMENT OF THE THIRD STAGE**

*(For women with risk factors, consideration should be given to extra precautions such as IV access, coagulation studies, crossmatching of blood and anaesthesia backup. This should be discussed antenatally with the patient.)*

1. Oxytocin (10 IU), administered intramuscularly, is the preferred medication and route for the prevention of PPH in low-risk vaginal births. Care providers should administer this medication after delivery of the anterior shoulder.
2. Intravenous infusion of oxytocin (20 to 40 IU in 1000 mL, 100 - 150 mL per hour)
3. An IV infusion of 5-10 U given slowly over 1-2 minutes is an acceptable approach following a vaginal birth in a healthy woman
4. Ergonovine can be used for prevention of PPH but may be considered second choice to oxytocin owing to the greater risk of maternal adverse effects and of the need for manual removal of a retained placenta. Ergonovine is contraindicated in patients with hypertension
5. Carbetocin 100 micrograms given as an IV bolus over 1 minute should be used instead of continuous oxytocin infusion in elective caesarean section for prevention of PPH and to decrease the need for therapeutic uterotonics.
6. Palpate the uterine fundus to ensure uterus is well contracted.
7. With the uterus well contracted, while holding up the fundus of the uterus, exert gentle traction on the cord.
8. If the placenta is retained after 15 minutes, start an oxytocin infusion of 20 units/L of crystalloid at 100-150 ml/hr.
9. After the placenta is delivered, assess the fundus and ensure it is well-contracted. Next, inspect the placenta for completeness after ensuring that there is no ongoing significant uterine bleeding. Note the number of cord vessels.
10. Inspect the cervix, vaginal walls, and perineum for lacerations after expulsion of the placenta.

## Postpartum Hemorrhage



## MANAGEMENT

1. Anticipate the patient at risk for postpartum haemorrhage
2. Talk to and observe the woman
3. Get help
4. Empty the uterus of any blood clot, and ensure uterus is not partially inverted
  - a) massage the uterus, bimanually compress it if necessary
  - b) empty the bladder
5. Commence large bore IV (16 gauge)
  - Oxytocin 20-40 units/L of normal saline wide open initially
  - If bogginess or haemorrhage continues, continue oxytocin and massage the uterus
  - Refer to medications in algorithm
6.
  - a) If the uterus is firm and the bleeding continues:
    - Get help and resuscitate patient
    - Use component blood products, if required
    - Explore the lower genital tract using appropriate analgesia and/or anaesthesia (good lighting and exposure and help is essential to assess for a laceration)
    - Appropriate surgical repair
  - b) If bleeding continues and is originating from the uterus:
    - Evaluate for coagulopathy
      - i. If abnormal, correct with component blood products, eg:
        - FFP
        - Cryoprecipitate
        - Platelets
        - RBC's
    - Prepare for OR
      - i. Rule out uterine rupture or inadequate repair

- ii. Be prepared to suture/ligate the uterine/hypogastric arteries, embolize the uterine arteries, or perform a hysterectomy.
7. Patients who cannot be given blood, require careful pre-labour assessment and transfer to the centre most equipped to deal with a PPH should it occur. While respecting the woman's desire for no blood products to be given, the clinician must employ all other treatment options for PPH to the fullest.

## REFERENCES

1. Society of Obstetricians and Gynaecologists of Canada (SOGC), **Advances in Labour and Risk Management Course (ALARM)**, 22<sup>nd</sup> Edition, 2015-2016
2. Active management of the Third Stage of Labour: Prevention and Treatment of Post-Partum Haemorrhage. No 235 October 2009 (Replaces No. 88 April 2000)