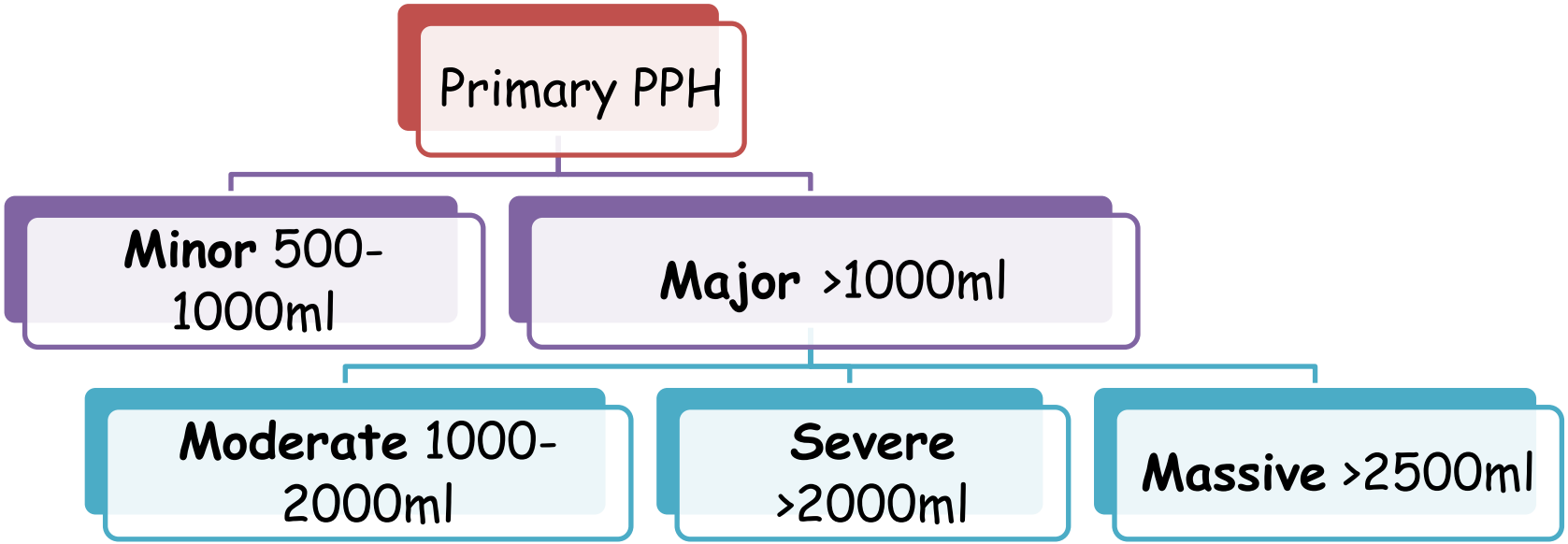
POST-PARTUM HEAMORRHAGE

PPH

Primary PPH *is defined as blood loss of 500mL or more from the genital tract occurring within 24h of delivery.*



Secondary PPH *is defined as 'excessive' loss occurring between 24h and 6wks after delivery.*

Aetiology

The causes of PPH can be remembered as the '**4T**'s

Tone	Uterine atony
Tissue	Retained placenta and/or membranes
Trauma	Injury to vagina, perineum and uterine tears at Caesarean section
Thrombin	Clotting disorders

Causes of primary PPH

•Uterine atony.	Over distended uterus with twins or polyhydramnios prolonged labour infection retained tissue Failure to actively manage 3rd stage of labour placental abruption
•Genital tract trauma	Tears Episiotomy Lacerations of the cervix Rupture of uterus
•Coagulation disorders	Severe PET Autoimmune diseases Liver disease Inherited or acquired coagulation disorders Heparin
•Abnormal placental site	Placenta praevia, accreta, and percreta
•Retained placenta	
•Uterine rupture	

Antenatal risk factors for PPH

- Previous PPH.
- Previously retained placenta.
- Maternal Hb ≤8 .5g/dL at onset of labour.
- ↑ BMI.
- Para 4 or more.
- Antepartum haemorrhage.
- Overdistention of uterus (multiple pregnancy or polyhydramnios).
- Uterine abnormalities.
- Low-lying placenta
- Maternal age >35yrs.

Intrapartum risk factors for PPH

- Induction of labour.
- Prolonged 1st, 2nd, or 3rd stage.
- Use of oxytocin.
- Precipitate labour.
- Vaginal operative delivery.
- CS.

MANAGEMENT

- Call for help
- Oxygen by mask initially
- 2 × 14-gauge intravenous lines
- Full blood count and clotting studies
- Test for renal function and liver function tests

MANAGEMENT

- Cross-match at least 6 units of blood
- Fluid resusication intravenously
- Notify blood bank and consult haematologist
- Foley catheter into the bladder and fl uid balance chart

MANAGEMENT

Transfuse blood as soon as possible – uncrossmatched same group as mother or, in extreme cases, O negative

Central venous pressure and arterial lines

May need fresh frozen plasma, platelets and cryoprecipitate (consult haematologist)

Eliminate the cause – deliver the baby and placenta, manage postpartum haemorrhage

MANAGEMENT

E mpty uterus; deliver fetus ,remove placenta or retained tissue.

Massage uterus (to 'rub up' a contraction).

Give drugs to ↑ uterine contraction

Oxytocin 40IU infusion

Ergometrine 500 micrograms IV or IM

MANAGEMENT

Msoprostol 800–1000 micrograms

Carboprost 250 micrograms.

Apply bimanual compression.

Repair any genital tract injuries (including cervical tears).

Uterine tamponade with a Rusch balloon.

MANAGEMENT

Laparotomy:

•If bleeding from placental bed, may need oversewing and insertion of a Rusch balloon

•If uterus is atonic, not responding to drug treatment but the bleeding is ↓ with compression, a B-Lynch or vertical compression suture should be placed

•Internal iliac or uterine artery ligation (proceeds to hysterectomy in 50% of cases)

•Uterine artery embolization may be helpful but is not always an option in emergency situations

•Total or subtotal hysterectomy.

Compression of the aorta may be used to gain temporary control while a defi nitive treatment gets under way.

Tamponade test

A Rusch ballon catheter, Sengstaken Blakemore tube, or Cooke's balloon is inserted into the uterine cavity and filled with 100–500mL of warm saline (warm saline accelerates the clotting process).

If the bleeding is controlled then the balloon is left *in situ for 12–24h and removed.*

This test is therapeutic as it stops bleeding in 80% of cases, and prognostic in revealing within 15min whether further surgical intervention is needed.

MANAGEMENT

Hysterectomy is the last option:

Sub-total hysterectomy is safer and quicker to perform

If the bleeding is from the lower segment (placenta praevia, accreta, or tears) then total hysterectomy is carried out.

ARTERIAL EMBOLIZATION

A catheter is inserted through the femoral artery and advanced above the bifurcation of the aorta and a contrast dye is injected to identify the bleeding vessels.

The catheter is then directed to the bleeding vessel and embolized with gelatin sponge, which is usually reabsorbed in about 10 days.

ARTERIAL EMBOLIZATION

Advantages	Disadvantages
Less invasive than laparotomy.	Only available in a few centres.
Helps to preserve fertility.	It may not be possible to get the required equipment to the obstetric theatres or to transfer a woman to the radiology department.
Can target individual bleeding vessels.	Appropriately trained interventional radiologists must be available.