Postpartum Haemorrhage Risk Factors and Prevention

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Postpartum Haemorrhage (PPH)

- Leading cause of maternal mortality worldwide and major cause of morbidity
- Blood loss at delivery often under-estimated, hence incidence of primary PPH almost always underestimated
- Patients with secondary PPH often present to other units than Obstetrics, therefore incidence also underestimated

Primary PPH – Causes

- Uterine atony
- Retained products of gestation
- Genital tract laceration
- Coagulopathy
- History of / preceding APH – continuation of the process
- Combination of the above – sometimes iatrogenic

Uterine Atony

- Uterine over-distension e.g. twins, polyhydramnios, large fetus
- Uterine exhaustion e.g. prolonged / ineffective labour, labour induction
- Uterine anomaly / pathology e.g. fibroid, bicornuate uterus
- Uterine inflammation – chorioamnionitis
- Previous placenta praevia / abruption
- Iatrogenic e.g. tocolytics, nifedipine, inhalation anaesthetics

Retained Products

- Uterine atony
- Uterine anomaly / pathology e.g. fibroid, bicornuate uterus
- Uterine scars e.g. previous D & C, previous CS / myomectomy
- Placental anomalies e.g. succenturiate lobe, accreta, partial molar pregnancy
- Iatrogenic e.g. delayed or too early administration of oxytocic for third stage

Genital Tract Lacerations

- Uterine rupture / lacerations e.g. previous scar, forceps delivery, CPD
- Cervical lacerations, often overlooked e.g. instrumental delivery, preterm birth, precipitous labour, previous cervical surgery
- Vaginal lacerations – high, low
- Vaginal haematoma without apparent lacerations

Coagulopathy

- Consumptive coagulopathy e.g. PET, APH
- Underlying organ dysfunction e.g. liver disease
- DIC due to various causes e.g. malignancies, septicaemia, AFE, APH
- Platelet disorders e.g. ITP, hypersplenism
- Iatrogenic e.g. effect of anticoagulants, antiplatelet agents

Combination and Iatrogenic

- Delayed administration of oxytocic → uterine atony → retained placenta
- CPD and prolonged labour → forceps delivery → atony plus lacerations
- Iatrogenic
  - Delayed / inadequate oxytocics due to heart disease / hypertension
  - Intake of herbal preparations beforehand
  - Creation of laceration during exploration / removal of retained placenta

Prevention of Primary PPH

- Identification of high risk cases
  - Antenatal e.g. multiple pregnancy, fibroid, uterine scar, medications etc
  - Intrapartum e.g. labour performance, second stage problems
  - Postpartum e.g. third stage management in special cases e.g. hypertension, cardiac, maternal status
- Anticipation of PPH – assessment and documentation – reliable estimation of bleeding
- Standard prophylactic treatment
- Additional prophylactic treatment

Standard Prophylactic Treatment

- Choice of routine oxytocics – syntocinon injection / infusion, syntometrine etc
- Timing of administration – depend on the individual situation and not just by protocol
- Dosage – individualise, repeat prn and not until evidence of excessive bleeding
- Maintenance of effect
- Other treatment e.g. controlled cord traction, uterine massage

Additional Prophylactic Treatment

- Additional dose / administration of standard treatment e.g. syntocinon infusion
- Other medications when poor clinical response to or restriction to further use of standard treatment e.g. cardiac disease
  - Long acting oxytocin – Duratocin
  - Prostaglandins – misoprostol, carboprost

Other Aspects of Prophylaxis

- Top-up transfusion in anaemic patients
- Intrapartum / postpartum platelet transfusion for thrombocytopenia
- Intrapartum / postpartum infusion of FFP / fibrinogen / cryoprecipitate / fresh blood
- Reversal of heparin effect with protamine sulphate
- Vitamin K before labour / delivery

Secondary PPH - Causes

- Retained placental tissue e.g. missed cotyledon, succenturiate lobe
- Endometritis
- Maternal medications
- Herbal preparations
- Underlying maternal diseases
- Combination of factors

Secondary PPH – Risk Factors

- History of APH / primary PPH
- Underlying medical conditions
- Special medications e.g. anticoagulant treatment for DVT
- Puerperal sepsis
- Operative delivery
- Placental problems
- Intake of herbal tonics and medications that enhances energy and circulation

Prevention of Secondary PPH

- Identify high risk cases for early / frequent follow-up
- Close monitoring of effects of treatment e.g. warfarin
- Avoid unnecessary treatment
- Aggressive treatment of infection
- Advise against intake of all herbal preparations