Antepartum Hemorrhage: A Risk Factor for PTB/LBW and newborn Mortality

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Obstetric Conditions that lead to Preterm Birth

- Preterm pre-labor rupture of membranes (PPROM)
- Severe pre-eclampsia/eclampsia (PE/E)
- IUGR
- Cholestasis
- Antepartum hemorrhage (APH)

(Born to Soon, 2012)
The Impact of APH

- APH complicates 3-5% of pregnancies and is a leading cause of perinatal and maternal mortality worldwide (RCOG, 2011; Ngoh & Bhide, 2006; Wasnik & Naiknaware, 2015)
- APH is listed as a maternal complication in 15.1% of fetal and 7.1% of early newborn deaths worldwide (Vogel et al. 2014)
- APH is responsible for an estimated 6.5% of maternal deaths worldwide (Say et al., 2014)
- Up to 1/5 of all very preterm babies are born in association with APH (Neilson, 2007)
Antepartum Hemorrhage

- Defined as bleeding after 24 weeks of pregnancy and prior to the birth of the baby
- Amount of bleeding varies and may be concealed
- Complicates 3-5% of pregnancies
- Up to 1/5 of very preterm babies are born too soon due to APH
- Associated with newborn cerebral palsy

(Born to Soon, 2012; Berhan 2014; RCOG, 2011)
Causes of APH

- Unexplained: 45%
- Placental Bleeding: 50%
- Extra Placental: 5%

  - Placenta Previa: 25%
  - Abruptio Placenta: 25%

(Ngeh & Bhide, 2006; Giordano et al, 2010)
Risk factors for Placenta Abruption

- Hypertension, PE/E
- Trauma (auto accidents, falls)
- Violence (GBV, IPV)
- Fetal growth restriction
- Non vertex presentation
- Polyhydramnios
- Previous abruption
- Low BMI
- Assisted reproductive techniques
- Intrauterine infection
- PROM
- Smoking
- Drug misuse
- Maternal thrombophilias
- Advanced maternal age
- Multiparity

(Giordano et al, 2010; RCOG, 2011; Ngeh & Bhide, 2006; Tkkanen, 2010)
Risk Factors for Placenta Previa

- Previous placenta previa
- Previous c-section
- Previous termination of pregnancy
- Multiparity
- AMA >40
- Multiple pregnancy
- Smoking
- Assisted conception
- Deficient endometrium

(Giordano et al, 2010; RCOG, 2011)
Prevalence of Placenta Previa and Abruption

- Placenta previa complicates 5.2/1000 pregnancies (Cresswell, 2013)
- Placenta abruption complicates 0.2 to 1 percent of pregnancies (Ananth & Kinzler, 2016)
- The highest incidence of placenta abruption is between 24-27 weeks with 50% of cases occurring before 37 weeks (Tikkanen, 2010)
- Perinatal death rate is 12% with abruption and 15-20% with placenta previa (Berhan 2014)
When APH occurs…

- Discuss and prep for possible blood transfusing and hysterectomy.
- Stabilize and transfer to facility that can perform operative delivery, resuscitation & blood transfusion.
- If high risk for APH manage all care in appropriate facility
- Mother’s health may be compromised and this will impact her ability to care for the newborn

(Giordano et al, 2010; WHO, 2015)
Maternal Management of APH

- Clinical assessment with APH
  - Pulse and BP
  - Abdominal palpation
  - Speculum exam
  - Digital exam avoided
  - Ultrasound – position of placenta, does not dx abruption
  - Blood – coagulation, cross match

- Deliver if fetal death, fetal compromise or maternal hemodynamic instability

- Consider expectant management & vaginal delivery

(Ngeh & Bhide, 2006; RCOG, 2011)
When assessing blood loss...

- Assess for signs of clinical shock, and fetal compromise as indicators of volume depletion
- Bleeding from the introitus may not represent the total blood loss

<table>
<thead>
<tr>
<th>Blood Loss</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Minor hemorrhage</td>
<td>Blood loss less than 50 ml that has settled</td>
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<tr>
<td>Major Hemorrhage</td>
<td>Blood loss of 50-1000 ml, with no signs of clinical shock</td>
</tr>
<tr>
<td>Massive Hemorrhage</td>
<td>Blood loss greater than 100 ml and/or signs of clinical shock</td>
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(Ngeh & Bhide, 2006; RCOG, 2011)
Management of the Fetus

- High risk of premature delivery which increases the risk of perinatal mortality

Upon arrival
- Assess FHR
- Administer ACS if 24 – 34 weeks
- Administer O2 to mother
- Notify pediatric team – plan for emergency management of asphyxia & preterm baby
- Prep for blood transfusion
- Prepare for rapid del., prep for C/S

(WHO, 2015)
Maternal Complications and Management

**Complications:**
- Caesarean hysterectomy
- PPH
- Infection
- Shock
- DIC
- Prolonged hospital stay
- Psychological sequelae
- Complications of blood transfusion & surgery
- Severe anemia
- Renal failure

**Management may include:**
- Close monitoring
- Blood transfusion
- Urine output
- Arterial and central venous access
- Thromboprophylaxis

(Ngeh & Bhide, 2006; Giordano et al, 2010; Tikkanen, 2010)
Newborn Complications and Management

- **Complications:**
  - Fetal hypoxia
  - SGA, IUGR
  - Fetal anemia
  - Low Apgar scores
  - Fetal death

- **Management may include:**
  - Resuscitation
  - Kangaroo Mother Care
  - Positive airway pressure therapy
  - Surfactant
  - Intensive care

(WHO, 2015)
Improving Outcomes

- HTSP, BP/CR
- Better nutrition and overall health of pregnant women
- Improved reproductive, antenatal, obstetric and newborn care
- Activity precautions during pregnancy
- Early diagnosis of previa
- Cautious approach to management of light bleeding in pregnancy.

(Ngeh & Bhide, 2006; Nashreen ***; Tikkanen et al, 2012)
References

References cont.