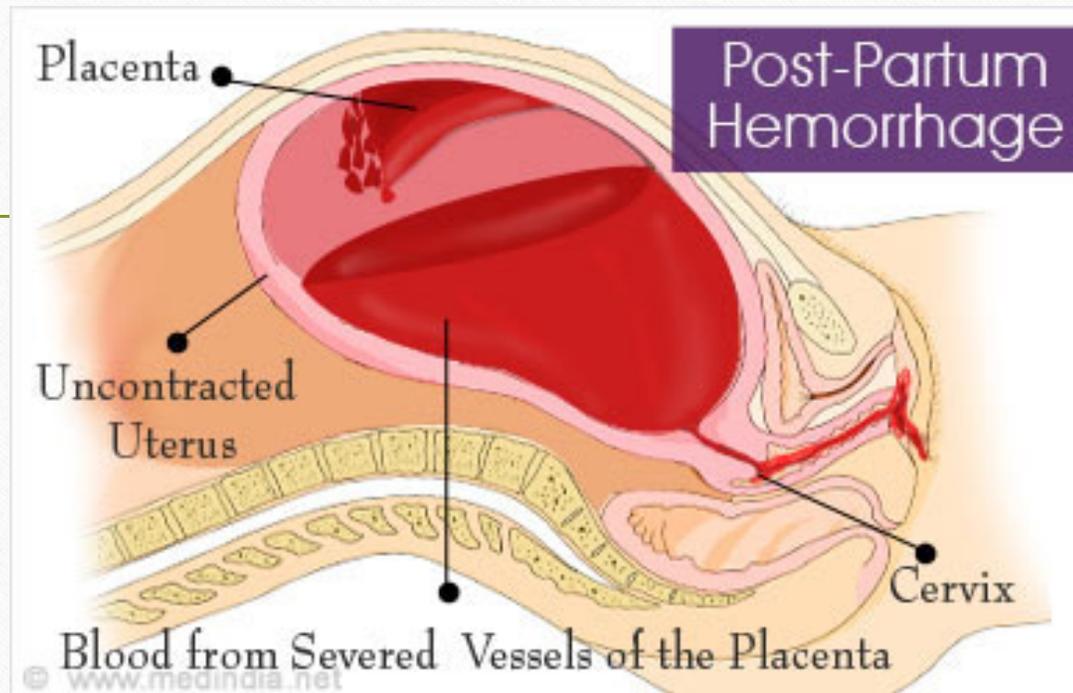


A Healthy Addition to the
Management of
Postpartum Haemorrhage –
an Antifibrinolytic

Orhan Sheriff

Postpartum Haemorrhage (PPH)

- Globally one-quarter of all maternal deaths relate to PPH (lower in high-income countries).
- Females account for a large proportion of bleeding related investigations in hospitals; 2:1 representation.
- PPH is an obstetric life-threatening emergency
 - Mortality is 1 in 100,000 in the UK vs 1 in 1000 in parts of the developing world (up to 20 percent in some parts of Africa).
- Defined as primary PPH if occurrence is in first 24 hours or secondary/late/delayed PPH occurring from 24 hours to 12 weeks.



<https://www.medindia.net/patients/patientinfo/postpartum-hemorrhage.htm>

Postpartum Haemorrhage (PPH)

- PPH incidence is between 1 to 5 percent of all deliveries.
- Defined classically as estimated volume of blood loss (by The American College of Obstetricians and Gynaecologists) ≥ 500 mL after vaginal birth or ≥ 1000 mL after caesarian delivery, although mean blood loss in both vaginal and caesarian deliveries range from 400-600 and 1000 mL respectively as reported in the literature – hence some debate around the current definitions persist.
- Maternal blood volume as per The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) is 7 liters.

Estimating Blood Loss



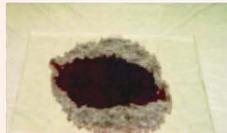
soiled sanitary towel
30ml



saturated small swab (10x10cm)
60 ml



saturated sanitary towel
100 ml



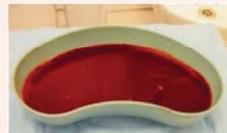
incontinence pad
250 ml



saturated swab (45x45cm)
350 ml



floor spill (100cm diameter)
500 ml



full kidney dish
500 ml

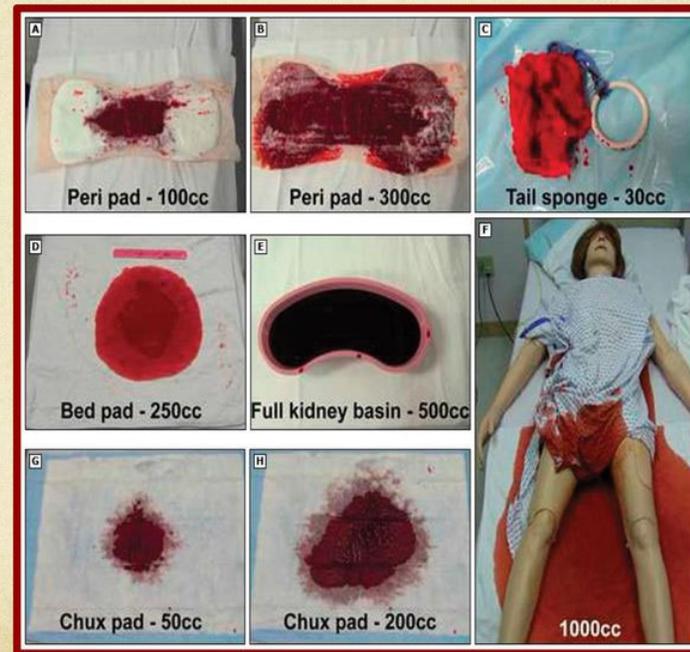


blood spilling on bed
1000 ml



blood spilling to floor
2000 ml

Visual Estimates of PPH



UpToDate. 2015. Management of Postpartum Hemorrhage at Vaginal Delivery

Postpartum Haemorrhage (PPH)

- Risk factors: in a US study of over 690,000 deliveries, the four greatest risk factors associated with massive transfusion activations (MTP protocols) were:
 - Abnormal placentation (placenta Accreta/Percreta/Previa)
 - Placental abruption
 - Severe preeclampsia
 - Intrauterine fetal demise

Postpartum Haemorrhage (PPH)

- Diagnosis may be delayed when bleeding is not observed, i.e. intra-abdominal bleeding in vaginal delivery or closure of abdomen in caesarian deliveries.
- Blood pressure drops may be noticed when substantial bleeding has occurred (≥ 1500 mL) – up to 25 percent of patients blood can be lost before the blood pressure falls, Hb and Hct may not be an accurate indicator at the time.

Management of PPH

- High risk PPH patients should be admitted to a facility which has the appropriate level of care for the patients needs.
- Use of uterotonic drugs (to treat atony) such as oxytocin shown to reduce risk of PPH by 50 percent.
- Ergometrine, Misoprostol, Prostaglandin (as per RANZCOG guidelines)
- Traumatic, haemorrhaging lacerations to vaginal wall require surgical intervention.
- Retained placental tissue needs to be removed.

-
- Coagulopathy may require transfusions (fibrinogen levels etc. monitored, given cryo, FFP, especially if fibrinogen levels below 1.5-2 g/L).
 - Balloon tamponade may be required.
 - Haemostatic brace suturing
 - Bilateral ligation of uterine arteries and bilateral ligation of internal iliac arteries.
 - Final option is a hysterectomy to save the life of the mother - WOMAN trial 3.5 percent of women underwent hysterectomies.

Novel addition – Tranexamic Acid

- Tranexamic acid (TXA) aka Cyklokapron
- Initially used in the CRASH2 trial back in 2010 with noted success – especially in trauma patients:
 - Early administration of TXA safely reduced the risk of death in bleeding trauma patients and is highly cost-effective.
- The “WOMAN” Trial demonstrated efficacy of the administration of 1g of tranexamic acid intravenously with a clinical diagnosis of PPH. The dose was repeated after 30 minutes if bleeding persisted.

TXA

- RANZCOG: Management of PPH
- “Tranexamic acid reduces death due to bleeding in women with PPH with no adverse effects.
- When used as a treatment for PPH, tranexamic acid should be given as soon as possible after bleeding onset.”
- Tranexamic acid should only be administered in the context of overall patient management (not first line therapy); the protocol should include strict attention to the control of bleeding, physiological and metabolic parameters, coagulation status and temperature maintenance.
- Hence the Laboratory still plays a vital role in helping patient management.
- Whole section in NBA PBM guidelines Module 5: Obstetric and Maternity: Technical report pp. 176-188.

Fibrinolysis, Haemorrhage & TXA

- TXA is an inhibitor of fibrinolysis.
- Early hypoperfusion results in endothelial upregulation of the receptor thrombomodulin, which interacts with thrombin, leading to activation of the protein C pathway. Protein C is a natural anticoagulant that irreversibly inhibits factors Va and VIIIa and also enhances fibrinolysis through inhibition of plasminogen activator inhibitor 1, resulting in increased unopposed activity of tissue plasminogen activator.
- Increased fibrinolytic activity has also been described in obstetric hemorrhage secondary to uterine atony, placental abruption, and placenta accreta. After placental disruption, there is a massive increase in endothelial release of tissue plasminogen activator.
- In the immediate PPH period, a significant increase in serum D-dimer levels points toward an increase in fibrinolytic activity that could play a significant role in postpartum hemorrhage, TXA use comes in here to oppose the fibrinolysis process.

TXA

- WOMAN international randomised controlled trial (RCT) showed 31 percent reduction in death from haemorrhage when 1g of TXA administered within 3 hours after PPH diagnosis. Further dosing can be given 30 minutes as per WHO guidelines.
- WHO recommends early use of TXA for PPH patients.
- Trial included 20,000 women with PPH in low and high resource countries.
- It's use is adjunctive not a primary treatment – it's the 'helper' in the whole process.
- Side effects? So far nausea, vomiting and diarrhoea are main side effects observed.

Conclusion

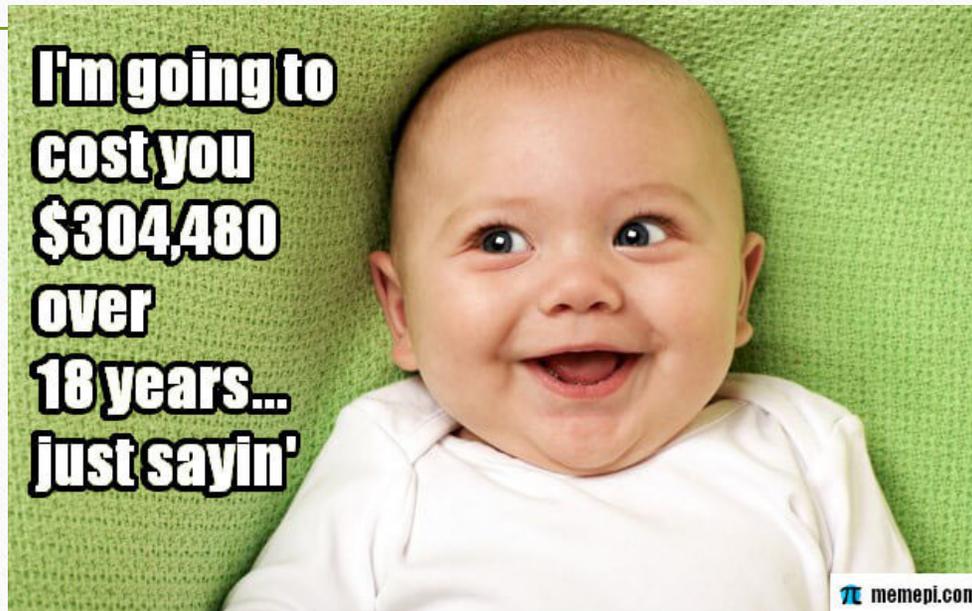
- Has your healthcare facility taken up TXA? Our O&G's have.
- Have there been any adverse consequences from its use in your hospital?



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Thank You!



<https://memepi.com/13-cute-funny-baby-memes/>