What’s new in Obs emergencies?

- PPH and variations in management
  - rFVIIa
  - B-Lynch Suture
  - Rusch balloon
- Accreta
  - surveillance
  - referral
  - management
- Assessment & management of collapse

PPH: New Stuff

- B-Lynch Suture
- Rusch Balloon
- rFVIIa

The B-Lynch Suture – external uterine tamponade


The “modified” B-Lynch Suture
B-Lynch Suture results

So, where does the B-Lynch fit in your “local algorithm”

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Balloon Tamponade

- Balloon tamponade is indicated for women not responding to uterotonic and uterine massage
- Balloon tamponade may be used:
  - To control haemorrhage due to uterine atony in the upper segment of the uterus
  - To control bleeding in the lower uterine segment secondary to placental implantation in the lower uterine segment, either where the placenta has been delivered complete but the placental site has not properly contracted or there is an abnormally adherent placenta in the lower uterine segment
  - Before laparotomy to arrest haemorrhage in placenta accreta

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Balloon Tamponade – Rusch or Bakri

- An alternative to B-Lynch
- Less “surgical”
- May be better suited to remote environments
- Relatively long shelf-life of balloons

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rfVIIa

Guidelines for the use of recombinant activated factor VII (rfVIIa) in Massive Obstetric Haemorrhage.

rfVIIa works locally at the site of vascular injury, where tissue factor (TF) is exposed and activated platelets are found.
Role includes direct activation of Factor IX to Factor Xa and Factor X to Factor Xa following the binding of rfVIIa to exposed TF.
Binding of factor Xa or rfVIIa to TF initiates the coagulation cascade with the key final step being activation of prothrombin to form thrombin that results in cleavage of fibrinogen to form a stable fibrin plug.
At pharmacological doses rfVIIa directly activates Factor X on the surface of activated platelets at the site of injury independently of TF, Factors VIII and IX.
This results in a “thrombin burst” with the conversion of prothrombin into large amounts of thrombin and the local formation of a stable fibrin clot which may control bleeding.

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Flow Chart for Management of Postpartum Haemorrhage

INTERVENTIONS:
- Notify local transfusion specialist of possible need for activation of Massive Blood Transfusion Protocol
- Medical:
  - Treat: Haemodynamic instability; Hypothermia; Acidosis
  - Uterine massage; compression
  - Uterotonic agents
  - Coagulation studies and treat coagulopathy
- Blood Component Therapy:
  - a) 4 Units Packed Red Blood Cells
  - b) Coagulopathy correction
    - 4 units PRBCs
    - Single adult dose of platelets
    - Repeat PRBCs, FFP and platelets
    - Administer calcium as appropriate
    - Repeat b) and c) as necessary
- Surgical (as available and appropriate):
  - EUA and Repair
  - Uterine Tamponade
  - B-Lynch Suture
  - Arterial Ligation
  - Radiological arterial embolisation
- Check list for “off-label” use of rfVIIa in Obstetrics
  - Review the high risk of thrombosis
  - Consider prophylactic measures for thromboprophylaxis
  - Monitor all women for signs of thrombus and adverse reaction
  - Report all patients receiving rfVIIa to the Haemostasis Registry (Narragunnawali)
Accreta

Opinion: Integration of diagnostic and management perspectives for placenta accreta

Welsh AW - aetiology and increasing prevalence
Ellwood D - diagnosis with ultrasound
Perduta T - diagnosis with MRI
Carter J - surgical management
Vedelago J - interventional radiology
Bennett M - conservative management

Submitted to JANZCOG 2008

Accreta issues

1. Diagnosis
2. Referral
3. Acute treatment
4. ? Prevention

Accreta issues: rarity (or not)

- 1 per 2500 deliveries
- 78% are associated with prior CS
- SA population after 1 CS, OR for PA of 18.79
- Rate after 1 CS: 3.3% to 24% or even higher
- ACOG: Rate with 2 or more previous CS and anterior or central placenta praevia = 40%

Accreta issues: diagnosis: ultrasound

- Absolutely first line
- Referral for diagnosis or exclusion
- Targetted scanning
- Risk factors
- Features:
  - Loss of hypoechoic rim
  - Increased myometrial echogenicity
  - Increased vascularity
  - Lacunae
  - Patchy interface with bladder

Accreta issues: ? prevention

Method of birth and previous caesarean section:

- [Graph showing method of birth and previous caesarean section]
The Unconscious Patient

Reference:
The MOET Course Manual (Managing Obstetric Emergencies and Trauma) - RCOG

The Unconscious Patient: causes

- A, B: Failure of airway or breathing: hypoxia / hypercarbia
- C: Failure of circulation: Hypotension or cardiac arrest
- D: Failure of CNS:
  - Eclampsia or Epilepsy
  - ICH, Trauma, Thrombosis, Tumour, Inf
  - Drugs, Alcohol, Poisoning

Assessment in Pregnancy

- Primary survey and resus: for life-threatening problems
- Assess fetal wellbeing and viability +/- delivery
- Secondary survey: top to toe, back to front
- Definitive Care: specific management
- CONTINUOUSLY RE-EVALUATE

Monitoring in Primary Survey

- Pulse Oximetry
- HR / ECG
- BP
- Resp Rate
- Fe CO2 if intubated
- Urine output
- FHR monitoring

Primary Survey & Resuscitation (concurrent)

- Airway +/- C-Spine
- Breathing + ventilation
- Circulation volume replacement
- Disability: or neurological status
  - AVPU Grading:
    - Alert
    - Voice response
    - Pain response
    - Unresponsive
- Exposure + environmental control
**Primary Survey & Resuscitation**

- “Hello"  
- CPR Drill  
  - Turn onto back with left lateral tilt  
  - Open the airway  
  - Assess breathing (10 seconds only)  
  - Start CPR, 30 chest compressions followed by 2 ventilations.  
  - Intubate if needed  
  - Defibrillation  
  - Advanced Life Support

**Assessment of Fetal Wellbeing & Viability**

- Priority to the mother unless delivery may aid recovery or death imminent  
- Timing of delivery if neurosurgery or prolonged ICU needed  
- CTG  
- Vaginal examination  
- Bleeding etc

**Secondary Survey for the unconscious patient**

- Pupillary function  
- Lateralising signs  
- Level of consciousness  
- Glasgow coma score

**Peri-arrest / Perimortem CS**

- Within 4 minutes of cardiac arrest  
- Delivery by 5 minutes (irreversible maternal brain damage @ 4-6 mins)  
- Continue CPR through CS  
- Fetal survival  
  - 70% if within 5 minutes  
  - 13% @ 10  
  - 12% @ 15

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