CASE TWO

Short case number: 3_13_2
Category: Endocrine & Reproductive
Discipline: Obstetrics and Gynaecology
Setting: Hospital-labour ward
Topic: Labour – abnormal and obstetric emergency

Case

Stephanie Ellis, aged 28years, G_1P_0, presents to the labour ward at 11pm. On examination she is contracting every 5 minutes and on vaginal examination is station -3, LOP, 3cm, intact membranes. Two hours later you are called urgently to the room as she has ruptured her membranes and pulsating cord is seen at the vaginal introitus.

Questions

1. Outline the emergency management of cord prolapse.
2. Summarise how malpresentation and malposition, particularly OP, can influence labour.
3. Outline the options for delivery of a woman with breech presentation at 36 weeks gestation.
4. List the differential diagnosis of maternal collapse at delivery.
5. Outline the key steps in management of antepartum haemorrhage in terms of history, examination, investigation and directed management.
6. Outline the key steps in management of postpartum haemorrhage in terms of history, examination, investigation and directed management.

Suggested reading:

- Abbott, J., Bowyer, L., & Finn, M. (2014). *Obstetrics and Gynaecology: an evidence-based guide (2nd ed). (*Chapter 16)Australia, Elsevier.
- Edmonds K, editor. Dewhurst's Textbook of Obstetrics and Gynaecology. 8th Edition. Wiley-Blackwell; 2012.
- K2MS online learning module: Shoulder dystocia, Antepartum Haemorrhage, Postpartum haemorrhage

Additional reading:

- See https://www.thewomens.org.au/health-professionals/clinical-resources/clinical-guidelines-gps/ [Accessed December 2015]
- Hutton EK, Hofmeyr GJ. External cephalic version for breech presentation before term. *Cochrane Database of Systematic Reviews* 2006, Issue 1. http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD000084.pub2/abstract [Accessed December 2015]

ANSWERS

1. **Emergency management of cord prolapse.**

Relatively rare – 1 in 500 deliveries
Once diagnosed – true obstetric emergency and requires immediate caesarean section.
Morbidity and mortality relates to birth asphyxia as the umbilical cord is compressed against the presenting part or there is umbilical arterial vasospasm.

Management

i. Recognition of diagnosis and call for help
ii. Trained person to place hand in the vagina to push presenting part off the pelvis to allow blood flow through cord to foetus. Cord pushed back above head.
iii. Knee chest position for mother to relieve pressure on presenting part.
iv. Assisted delivery if fully dilated. If not code 1 LSCS.
v. Tocolysis to stop contractions e.g. terbutlaine 25omcg sub cutaneous if any delay to theatre.
vi. Oxygen to mother

2. How does OP affect labour?

Malpresentation: Transverse lie, shoulder, arm and footling breech delivered LSCS.
Brow and face: LSCS, vaginal in some circumstances.
Malpositions: OT &OP increased risk failure to progress in labour and failure to descend in second stage.

See figure 10.2 Kovacs and O'Connor

Cross-sectional diameter of: flexed head is	9.5 cm
Occipito frontal (OP)	11.5 cm
Mento vertical (brow)	13.5 cm
Face	9.5 cm
Normal Pelvis	10 – 12 cm

Occipito- posterior position (OP) is more common in nulliparous women. It is associated with high head at term and prolonged pregnancy and may cause a longer labour and more back pain. If the foetal head rotates to OA then a normal vaginal delivery should ensure. If partial rotation occurs then instrumental (usually vacuum extraction as rotational forceps rarely used) delivery is usually required.
It is possible to deliver direct OP. Associated high LSCS for failure to progress in labour and failure to descend in second stage.

3. Outline the options for delivery of a woman with a breech presentation at 36 weeks.

Prior to the "Term Breech Trial" (TBT) [Hannah ME et al. Planned Caesarean section versus planned vaginal birth for breech presentation at term: a randomised multicentre trial Lancet 2000; 356: 1375] [Accessed December 2015] http://www.sciencedirect.com.ipacez.nd.edu.au/science/article/pii/S0140673600028403 each breech presentation was considered individually and, respecting the mother's wishes, advised as to the safest route of delivery. If "poorly chosen"-e.g. baby too large or pelvis too small etc. then there was a greater risk of foetal hypoxia during labour and birth trauma to the baby.

The TBT appeared to show that it was safer for all breech presentations to be delivered by caesarean section. This has been the vogue over the intervening years.

The results of the TBT are now being questioned: O&G Magazine RANZCOG Vol14 No2 Winter 2012. [Accessed December 2015]

https://www.ogmagazine.org.au/14/2-14/term-breech-trial/

The options are as follows:

1. Attempt **External Cephalic Version** (ECV) at 36 weeks in nulliparous women and 37 weeks multiparous women. The purpose is to try and convert the breech to a cephalic presentation with hopefully a vaginal delivery. Success rate 50%.
   (ECV: locating the foetal poles by palpating the abdomen and pushing the baby into a forward somersault so that the head localises suprapubically. Not without risk: immediate C/S 0.5%, placental abruption, labour, foetomaternal haemorrhage.)

2. Book for an Elective LSCS at 39+ weeks (all elective LSCS in NSW are mandated to be in the 39th week i.e. 39 + 1 to 6 days – this reduces significantly the risk of Transient Tachypnoea of the Newborn. (TTN))

3. Adopt the wait and see approach: when admitted in labour the baby may have spontaneously kicked itself round to a cephalic presentation. If not then an emergency caesarean section is organised.

4. List the Differential Diagnosis (DD) of maternal collapse at delivery.

A list of DD is useless without first going through the required actions for all emergencies. Therefore a short note from the students should include:

1. Call for help
2. **A**irway
3. **B**reathing
4. **C**irculation

DDx to include
1. Obstetric
2. Medical

Obstetric – PPH, APH, PE or Eclampsia, Amniotic, Air or Pulmonary Embolus and very occasionally uterine inversion (usually with delivery of placenta) or uterine rupture.

Medical – Neurological – epilepsy, CVA, SAH
Respiratory – Asthma
Cardiovascular – cardiac arrhythmia, acute heart failure
Endocrine – hypoglycaemia
Anaphylaxis – beware of this when using gel infusions for other cause of collapse
Complications of Epidural/Spinal
Rarely Septic shock at delivery Drug overdose

Post partum is much the same (except APH by definition) remembering that the risk of eclampsia persists post partum.

5. Outline the key steps in management of APH

i. **ABC** and foetal heart rate.

ii. History – duration and volume of bleeding, presence of precipitating factors, presence or otherwise of pain and where, when and how long (constant pain is more likely to be an abruption that intermittent pain). Any contractions? (Abruption often causes an "irritable uterus") Any history of external trauma to the abdomen.

iii. Obstetric History – G and P, gestation and number of foetuses, location of placenta by U/S and history of vaginal bleeding

iv. Examination – palpate uterus. In an APH the uterus is usually hard and tender while with placenta praevia the uterus is usually soft and the presenting part is high. Lie and presentation of foetus, heart rate of foetus, CTG.

v. **Investigations** – FBC, Group and X match 4 units minimum -if bleeding significant, clotting screen, Kleihauer to detect any foetomaternal haemorrhage and if Anti D required, CTG and U/S (placental location). **Once U/S has confirmed the placenta is not low lying, then and only then, do a vaginal speculum examination.**

vi. **Delivery** – required if ongoing risk (hypoxia and stillbirth) to foetus no matter what gestation. Weighing up risks of prematurity versus risk to foetus of ongoing in utero existence.

Small (less than 50 mls) APH – may settle otherwise consider vaginal delivery if CTG satisfactory
Moderate APH (up to 500mls) – emergency LSCS if foetus is alive
Massive APH (over 500 mls) – emergency LSCS if foetus alive, vaginal delivery if the foetus is dead.

6. Outline the management of PPH.

PPH is by definition bleeding after the delivery of the foetus of more than 500mls (primary PPH within 24 hours, Secondary PPH after 24 hours). The speed of the loss will obviously impact upon the management.

Risks: Prevention is the best method of avoiding a PPH and can be anticipated with a delivery where the uterus has either been **over distended** (polyhydramnios, twins, large baby) or where the uterus has **laboured long and hard** (long labour, use of syntocinon, operative delivery/ Emergency LSCS). A previous history of PPH or APH increases the risk of a further PPH.

PPH is life threatening and a leading cause of avoidable death in mothers

Management of Primary Postpartum Haemorrhage