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Inspiring the next generation of Obstetricians and Gynaecologists

Case: Antepartum Haemorrhage

Candidate brief

You are an FY2 in the Delivery Suite.

Please take a focused history from Isobel Stevens, a 22-year old female who presented to the Delivery Suite last night. Her complaint has already been managed.

10 mins	1. Please take a full history (5 mins) 2. Counsel her with an appropriate management plan (2.5 mins) 3. Viva with the examiner afterwards (2.5 mins)
10 mins	1. Please take a full history (7 mins) 2. Viva with the examiner afterwards (3 mins)

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Patient Brief

(Do not volunteer information unless asked)

Name: Isobel Stevens
DOB: 06/10/1998 (22 years old)
Job: Primary School Teacher
Opening statement: "*I suddenly started bleeding without any warning last night. I also had severe pain. My husband called the midwife at the hospital, who asked me to come into the Delivery Suite straightaway."*

HPC:

- I noticed that I also had very heavy bleeding
- **Fresh blood**, quite bright
- **'Fist-sized' clots**
- No bleeding events throughout pregnancy
- Was still bleeding when arriving at Delivery Suite

Associated symptoms

- Baby had not been moving as much over the last couple of weeks
- Headache
- Swollen ankles
- Abdominal pain: sudden onset; constant; around 'tummy' and back

Obs Hx

- First pregnancy
- 36 weeks and 4 days pregnant
- Regular scans throughout pregnancy, no concerns

Gynae Hx
Period: Last menstrual period: 06/02/2020

- Usually lasts 4-5 days, regular cycle of 28 days
- But when on the mini pill did not have regular periods
- Amount: not heavy
- Menarche at 13

Smears: Not had one yet
STIs: Nil
Contraception: Prior to starting family, I was on the mini pill

PMHx – Appendicectomy and tonsillectomy as a child

DHx – Allergic to penicillin

FHx – Mother had pre-eclampsia when she was pregnant with me

SHx – Doesn't smoke or do drugs. Lives at home with husband.

Other information:

- Other systems review - normal

Ideas: I was very worried when I started bleeding and had pain as I had never experienced anything like this before

Concerns: I was very worried about my baby and thought that they might die. It hadn't occurred to me then, but later when everything calmed down, I realised that I might have died too.

Expectations: I didn't know what to expect when I came to the hospital, but the doctors and midwives were very professional and helped me in a very calm manner. I would like to know if this can happen again in a future pregnancy and what I should do to prevent it.

INVESTIGATIONS:

BMI – 32kg/m^2

Excessive vaginal bleeding noticed. Speculum examination not done as would not have added to the information

Abdominal Examination – Very tender uterus, and hard and woody in consistency

Blood Pressure: 156/98 mm Hg. Pulse rate 110 bpm. Urine dipstick ++ protein. Bloods, all normal, bar PCR of 67

CTG:

DR C BRAVADO. High risk because of bleeding, pain and prematurity. Increased contractility, Appearance of hyperstimulation, contracting 7 in 10, Baseline tachycardia, decreased variability, no acceleration, variable decelerations.

Examiner Brief

Candidate brief:
You are a F2 in the Delivery Suite. Please take a focused history from Isobel Stevens, a 22- year old female who presented to the Delivery Suite last night. Her complaint has already been managed.

15 mins	1. Please take a full history (7 mins) 2. Counsel her with an appropriate management plan (4 mins) 3. Viva with the examiner afterwards (4 mins)
10 mins	1. Please take a full history (7 mins) 2. Viva with the examiner afterwards (3 mins)

- **Please do not** provide **any verbal or non-verbal feedback** for the candidate. This includes nodding to correct answers and shaking head to wrong answers - particularly during the viva.
- **Please provide positive and negative feedback** (both verbal and written) at the end of the session once the examination is complete.
- The questions below are provided as a guide for discussion only. For viva, please ask questions surrounding the case and challenge the candidate where appropriate

Examiners will grade the performance across four domains: **(15 minute station)**

1. Clinical skills
2. Formulation of clinical issues
3. Discussion of management
4. Professional behaviours and patient centred approach

Positive descriptors		**Marks**
History/Clinical skills (18)		
Appropriate introduction, elicit patient details and invite consultation		2
Bleeding: Onset, Volume, Colour		2
Presence of **clots**, **dysuria**, **dyspareunia** or **discharge**		2
Pain – with SOCRATES as appropriate		2
Menstrual history – age at time of menarche, LMP, regularity of periods and characteristics		2
Gynaecological history – **contraception**, STIs, cervical screening		2
Obstetric history – Gravity, Parity, outcome of pregnancies, ask about symptoms of Pre-eclampsia - headaches, visual changes, ankle swelling		2
Enquire about **risk factors**: Smoking, family history of pre-eclampsia		2
Past medical (surgical) history; drug history, family history, social history		1
Formulation of clinical issue (5)		
Summary and **interpretation** of clinical findings **accurately**		2
Good range of differential diagnoses		1
Viva		2
Discussion of management (4)		
Build patient concerns into plan and justify choice of investigations		2
Viva (Management)		1
Professionalism and patient centered approach (3)		
Able to elicit patient ideas, concerns, expectations		1
Use empathic behaviour and language Explain accurately, uses everyday language and check for understanding		1
Professional communication to examiner as colleague		1

Viva Questions: (Please ask questions surrounding the case and challenge the candidate where appropriate); **The questions below are provided as a guide for discussion only.**

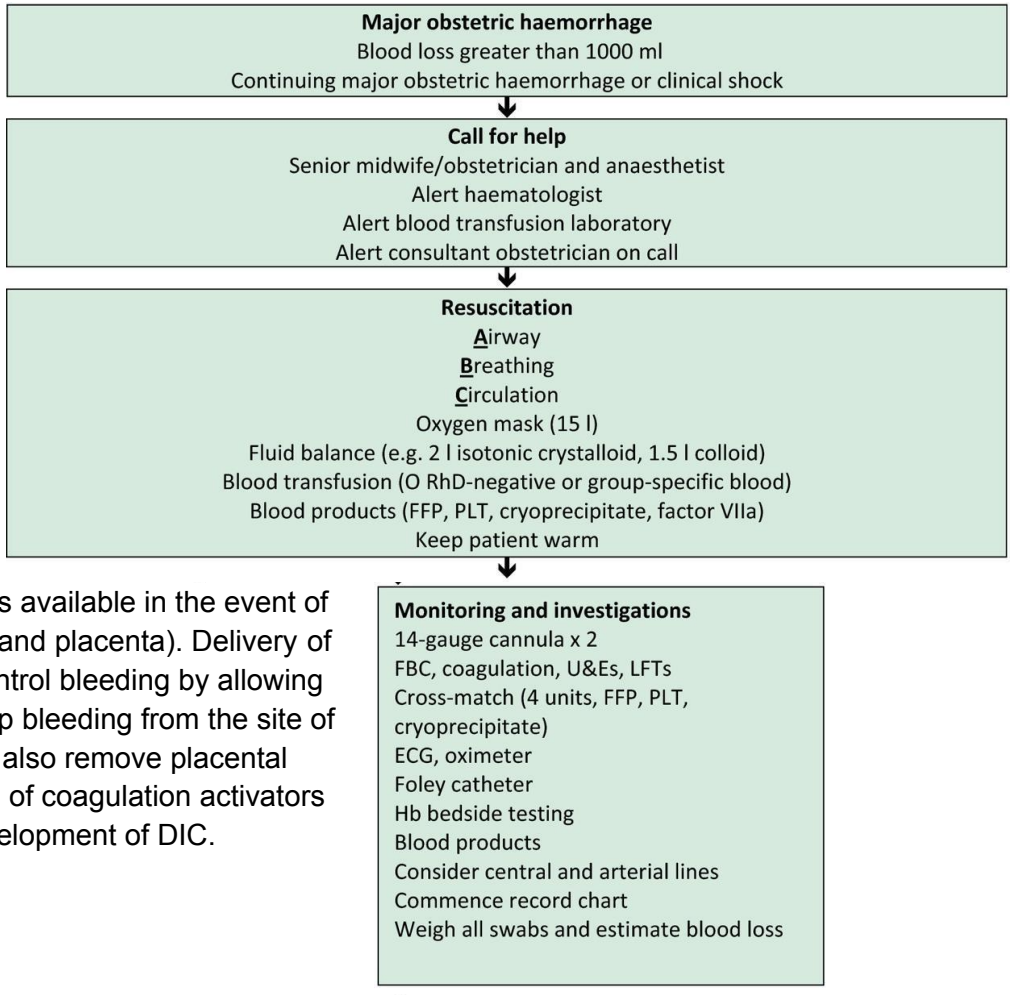
Resource: Antepartum Haemorrhage, Green-Top guideline No. 63

1. Differential diagnosis	Placental pathologies: Placenta Abruption, Placenta Praevia, Vasa Praevia Uterine pathologies: Uterine rupture Local genital causes: ectropion, cervicitis, cancer
2. What is the definition of antepartum haemorrhage?	Antepartum haemorrhage (APH) is defined as bleeding from or into the genital tract, occurring from 24+0 weeks of pregnancy and prior to the birth of the baby.
3. What are the risk factors with regards to developing placental abruption?	Abruption in previous pregnancy. Chronic hypertension, pre-eclampsia, fetal growth restriction, non-vertex presentations, polyhydramnios, advanced maternal age, multiparity, low body mass index (BMI), pregnancy following ART, intrauterine infection, premature rupture of membranes, abdominal trauma, smoking and drug misuse (cocaine and amphetamines) during pregnancy.
4. What investigations should be performed in women presenting with antepartum haemorrhage?	**History if possible** **Examination:** Abdominal palpation, speculum, digital examination (but not if placenta praevia is suspected) **Bloods tests:** FBC, Coagulation, Kleihauer test (If mother is Rhesus -ve allows you to quantify fetal-maternal haemorrhage and therefore calculate Anti-D dose, Urea & Electrolytes, LFTs, Crossmatch 4 units of blood **Fetal monitoring:** CTG **USS:** To check for placenta praevia, can see a placenta clot in cases of abruption
5. What examination and investigation results would you expect in placental abruption?	**Examination:** woody hard uterus, tender abdomen, signs of shock - pale/increased cap refill time **CTG:** Abnormalities in the tracing that suggest an abruption include late decelerations, loss of variability, variable decelerations, a sinusoidal fetal heart rate tracing, and fetal bradycardia, defined as a persistent fetal heart rate below 110 beats per minute. **Bloods:** low Hb, In large abruptions, DIC may occur- in which case fibrinogen will be low. Prolonged PT. **US:** may not be very sensitive. But can be useful in excluding other causes of APH. Useful US results - Retroplacental haematoma, Pre-placental haematoma, Increased placental thickness and echogenicity, Sub-chorionic collection, Marginal collection.
6. What complications might occur in placental abruption?	**Maternal:** Hypovolemic shock, DIC, HELLP syndrome, multi-organ failure from pre-eclampsia **Fetal:** IUGR, Neurological impairment of infant, Preterm birth, Perinatal death
7. How would you manage a patient with antepartum haemorrhage?	Depends on clinical picture- conservative management if no evidence of maternal and/or fetal compromise. But usually will require inpatient admission with ABCDE, including venous access; bloods to be taken for: FBC, platelets, clotting factors, Group & Save and and cross-matching; IV fluids. If bleeding persistent, and/or suggestion of fetal/maternal compromise, plans should be made for immediate delivery, often by category 1 C-section.

	Postpartum haemorrhage (PPH) should be anticipated in women who have experienced APH. Women with APH resulting from placental abruption should be strongly recommended to receive active management of the third stage of labour. Consideration should be given to the use of ergometrine (avoid if hypertensive) or oxytocin. Anti-D Ig should be given to all non-sensitised RhD-negative women after any presentation with APH, independent of whether routine antenatal prophylactic anti-D has been administered. In the non-sensitised RhD-negative woman for all events after 20+0 weeks of gestation, at least 500 iu anti-D Ig should be given followed by a test to identify FMH greater than 4 ml red blood cells; additional anti-D Ig should be given as required. **Principles of management of massive APH (blood loss greater than 1000 ml and/or signs of clinical shock)** 1) Call all appropriate personnel 2) Initial management: Follow the ABCD pathway. e.g. A and B – assess airway and breathing: A high concentration of oxygen (10–15 litres/minute) via a facemask should be administered. C – evaluate circulation Establish two 14-gauge intravenous lines; bloods including full blood count and assessment of FMH if RhD-negative, coagulation screen, urea and electrolytes and cross match (4 units) D – assess the fetus and decide on delivery
8. Prognosis in placental abruption	The prognosis for placental abruption depends on the severity of the abruption and the gestational age at which it occurs. **<u>Fetal prognosis</u>** ● For the fetus, the prognosis depends primarily on the gestational age at which the abruption occurs, and on the degree of the abruption. ● Cases of extremely preterm gestations and those with more than 50% separation of the placenta are associated with a high risk of perinatal death. ● Abruption is also an important cause of indicated preterm birth and is associated with an increased risk of perinatal asphyxia and long-term neurodevelopmental handicap. ● However, the perinatal outcome may be good in cases where the abruption is recognised promptly, and where the fetus is delivered expeditiously. The presence of skilled neonatal staff in centres with excellent neonatal facilities may make a difference to outcomes. **<u>Maternal prognosis</u>** ● The maternal prognosis is linked primarily to the severity of the abruption, particularly to the amount of blood lost and to the presence or absence of associated coagulopathy. ● There is an increased risk for blood transfusions, surgical and anaesthetic complications, and caesarean hysterectomy. ● Maternal outcomes are excellent in cases in which there is neither massive blood loss nor coagulopathy.

	● There is an increased risk of abruption in subsequent pregnancies that is related to the underlying cause of the abruption. ● Finally, women with abruption have an increased risk for ischaemic placental disease (abruption, pre-eclampsia, and intra-uterine growth restriction in subsequent pregnancies). **<u>Subsequent pregnancies</u>** ● Subsequent pregnancies should be monitored carefully. ● It has been suggested that intensive surveillance should be commenced 3 months before the gestational age at which the previous abruption occurred. However, this recommendation has not been tested prospectively, and has not been shown to be beneficial. ● For the most part, no interventions have been shown to be helpful. Nonetheless, the patient should be encouraged to stop smoking and drug use if applicable.

Algorithm for management of postpartum haemorrhage (PPH) (GTG No. 52)



N.B. The same strategies can be used in APH. The only difference in management options between APH and PPH are that there are two individuals to care for (should the fetus still be alive) and that a very specific method of controlling the haemorrhage is available in the event of an APH (delivery of the fetus and placenta). Delivery of the fetus and placenta will control bleeding by allowing the uterus to contract and stop bleeding from the site of placental separation, and will also remove placental tissue, a source of production of coagulation activators which predisposes to the development of DIC.

Algorithm for management of placental abruption in women who are term/ near term (>34 weeks' gestation) ***Oyelese Y, Ananth CV. Placental abruption. Obstet Gynecol. 2006;108:1005-1016.***