Question 1 Resus. 9 minutes 18 marks

A 34yo female presents to the ED via ambulance and proceeds to emergently deliver a term baby in a resuscitation cubicle. Immediately after the second stage of labour you notice heavy vaginal bleeding.

a. What is the definition of primary postpartum haemorrhage? (1 mark)

* Haemorrhage >500mls (1/2) in the first 24 hours (1/2)

Uptodate, RANZCOG.

Not too many got both parts correct, most people got one part of the answer.

b. List four (4) risk factors for primary postpartum haemorrhage. (4 marks)

* Overdistension of uterus (multiple gestations, polyhydramnios, fibroids, fetal macrosomia) Only one mark in total
* Prolonged labour or precipitous delivery
* Infection – chorioamnionitis
* Tocolytic use in labour
* Birth trauma – uncontrolled delivery, macrosomia, malpresentation
* Placental abnormalities accreta, increta, percreta – (risk factors being multigravidity, prior c section, previous curettage, previous uterine surgery
* Placenta previa
* retained placenta
* Previous PPH
* Preecclampsia, HELLP,hypertension
* Episiotomy
* Instrumentation (forceps)
* Obesity
* Coagulopathy
* Older age
* Grand multiparity (>5 births), primigravida

Multigravida was a response often given. I don’t believe that this is correct from my research. Certainly grandmultiparity is a risk.

Only one placental cause was accepted. The list is so long.

GENERAL TIP 1: try to be ‘broad’ with your list - the more diverse the better. This avoids giving answers too similar that do not score marks. For example in this question, Tone, Trauma, Tissue, Thrombin are the main reasons for PPH, the best candidate gave an example from each

c. List six (6) immediate interventions you would undertake in the ED in this patient to control postpartum haemorrhage (6 marks)

* **Deliver the placenta** (10% of PPH) controlled cord traction
* **Uterine (fundal) massage/bimanual compression** (atony accounts for 75-90% of PPH)
* **Uterotonic agent AFTER ENSURING NO TWIN:** oxytocin (first line), ergometrine (ergot class – second line), prostaglandins
* Check for twin
* Empty the bladder – insert urinary catheter
* Examination of perineum, vagina and cervix for site of bleeding and control of haemorrhage – wound repair or packing (20% of PPH)
* Intrauterine tamponade balloon (Bakri balloon)
* Tranexamic acid 1g/ reverse coagulopathy
* ONE of call obstetric code, call obstetric team to arrange for OT

Note Below are not IN the ED so not accepted.

* Radiological embolisation
* Iiac artery ligation/hysterectomy in theatre or theatre for removal of placenta

Other answers NOT accepted:

* blood administration. See below
* Remove products from cervix (?confusing with cervical shock)
* Only one uterotonic agent was accepted. Again, be broad with your answers.   
  The list tests breadth of knowledge
* Reduce uterine prolapse
* ‘Urgent obstetrics referral’ This is a fellowship exam, and this unqualified answer is poor. A medical student could give this answer. If you ever list a ‘referral to…’ in an answer you need to qualify it with ‘why’ and ‘what you are requesting your specialist colleague to do’.

The errors made in this question were:

Many candidates went down the line of ‘insert 2 large bore IV’s’, ‘activate MTP’, ‘administer saline followed by blood products’. This question was asking how you can **control** the bleeding in the ED. It did not ask you how to resuscitate that patient. GENERAL TIP 2: **Answer the question asked, not the question you would like to answer** or what you think you should answer.

I did not accept ‘remove/examine for retained products’. You needed to say ‘deliver the placenta’. The former answer does not give the examiner confidence that you know that the placenta is still in situ after the second stage of labour and needs to be removed with controlled cord traction. ‘Remove retained products’ is the wrong language, wrong context and doesn’t give me confidence that you have enough familiarity of what you would need to do in the real situation.

GENERAL TIP 3: some candidates continue to use the phrase ‘consider’ in their answers, ie ‘consider O+G referral’. Do not ever write the word ‘consider’ in a written exam. The whole idea of the exam is to get you to consider your response in your head, and then write the answer you have settled on, on your exam paper. Writing the word ‘consider’ doesn’t allow you to have a bet each way, you will be marked right or wrong regardless, and it gives the impression that you are indecisive or unsure.

d. The patient continues to deteriorate and has a pulseless electrical activity (PEA) cardiac arrest. In addition to uncontrolled postpartum haemorrhage, list four (4) most likely causes of PEA in this patient (4 marks)

* **amniotic fluid embolism**
* thromboembolism (pulmonary embolism)
* cardiac causes – aortic dissection/pericardial tamponade/decompensated preexisting cardiac disease
* CNS – subarachnoid haemorrhage
* Sepsis
* DIC
* Anaphylaxis

Not accepted:

* Anaemia
* Electrolyte disturbance
* Postpartum cardiomyopathy (not acute)
* AMI
* Ecclampsia – not a primary cause. (Would like to think that correct management would avoid PEA arrest!)

Remember, first answer on the line is the answer marked for example:

1. AMI/ decompensated cardiomyopathy. No mark

e. With regards to management of pulseless electrical activity cardiac arrest in neonates and adults, complete the following table (3 marks)

|  |  |  |
| --- | --- | --- |
| Intervention | Neonate (3 kg) | Mother (70kg) |
| compression to ventilation ratio | 3:1 | 30:2 |
| Fi02 (%) | 1.0 | 1.0 |
| Adrenaline bolus (mcg) | 30 - 90 | 1000 |

Try to use the values requested in the tables

Some candidates answered 0.21% FiO2 for neonatal resus. Remember ALL patients in cardiac arrest should be delivered FiO2 1.0. This is a neonate in PEA arrest, not a flat baby who needs some bagging up.

Too many candidates did not no compression to ventilation ration of 3:1 in neonates and many candidates got the adult compression to ventilation ratio incorrect which was concerning.

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