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| Candidate number | | Score | |
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Obstetric Trauma Viva

You are called down to attend a trauma in the emergency department. The patient is yet to arrive. The ambulance call states that she is a 29 year old pregnant woman who has been in a high speed road traffic accident with 2 fatalities at the scene. She has a reduced level of consciousness, P=110/min, BP=90/50.

1. How do you prepare for her arrival? (25 marks)

Introductory statement (5 marks)

Staff: (10 marks)

- Introduce** self to all members and **establish leadership**.
- Ensure all trauma team members have and know **roles**.
- Anaesthetist** and an **airway assistant** for airway and breathing
- ED doc** and **surgical doctor** for circulation and secondary survey
- several **nurses**
- Radiographers**
- O&G +/- neonates** to attend
- Call **blood bank** and alert likely need for rapid blood and O-ve on standby.

Equipment: (5 marks)

- Airway stuff** for intubation: check laryngoscope, several ETT sizes, Ambu-bag, bougie, suction,
- Monitors incl **ETCO₂**
- Hang 2 bags of fluid ready to go with pressure bags.
- USS for FAST.
- Vascular access** equipment plus blood sample tubes.
- Drugs** for intubation and resuscitation.
- CTG** monitor for fetus

Prepare self: (5 marks)

- gloves plus gown on.
- Discuss plans/priorities
- If airway, check gear and draw up drugs; if leader check roles and prep.

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The patient arrives with the following obs:

GCS=6 (E1V1M4), P=125/min SR, BP=85/40, RR=30/min, SpO₂=92% on 6L/min via HM.

2a. What are your initial priorities? (15 marks)

- EMST/ATLS** model of primary survey
- Pregnancy issues** ie. Left lateral tilt and defence of placental perfusion
- A+c-spine, B, C, D, E.** then **AMPLE** history, then **secondary** survey.
- Diagnose and resuscitate** concurrently.
- An **overview** of obvious issues is helpful
 - ie. Pregnant woman with reduced LOC and respiratory compromise in shock. **Rapid control of airway and breathing** while ensuring adequate **IV access and correction of likely hypovolaemic shock** with blood, IVF and pressors and left lateral tilt.



2b. How do you decide on BP targets? (10 marks)

Defence of BP for brain and fetus are critical for outcome. Aim for discussion of this and likely acknowledgement of inappropriateness of permissive hypotension for this patient

2a: up to 15 marks, 2b up to 10 marks

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3. What are the possible causes of shock in this woman? (10 marks)

Most likely

- Hypovolaemic** from: **external bleeding, long bones, pelvis, abdo, chest.**

Other causes:

- Obstructive** ie tension pneumo, tamponade, **IVC compression**
- Cardiogenic** ie contusion, arrhythmia
- Distributive ie **Anaphylactic** – unlikely but depends on drugs to date
- Other causes very unlikely ie sepsis, PE, drug related, **neurogenic**

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4. What difficulties do you anticipate with controlling her airway? (10 marks)

- Not starved**
- Shocked and hypoxic**
- C-spine** collar
- potential **facial trauma**
- obstetric difficulties** – ie. Increased risk of aspiration, neck oedema, large breasts, poor FRC, increased O2 demands

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You have sedated and intubated this woman, are ventilating her adequately on 100% O2 with SpO2=95%. After 2L crystalloid her P=105/min and BP=95/60. Limited history reveals an otherwise healthy 26/40 pregnant woman who was the unrestrained driver of a vehicle which crashed at high speed into a tree. She has no other comorbidities, allergies or regular medications. Secondary survey revealed likely broken ribs on the right with a haemothorax for which a chest drain has been placed and 600mL drained immediately. Abdo appears benign. Pelvic spring is negative and there appears to be an open fracture of the right femur which has been bound and put in traction. Otherwise only superficial abrasions of note.

5. What investigations would you like? (10 marks)

- Bedside: **ABG, urine, FAST** scan, portable **trauma series** c-spine, chest, pelvis, **CTG** plus scan of fetus
- Laboratory**: Gp and screen (rhesus status), FBC, Coags, U+Es
- Radiological**: Depending on findings and patient stability CT head, chest, abdo, pelvis.
- Special: **Kleihauer** test?

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6. What is a FAST scan? (5 marks)

- Focussed Abdominal Sonography for Trauma.
- 4 views: pericardial, hepatorenal angle, splenorenal angle and pouch of Douglas looking for free fluid. (Extended fast includes dependent pleural views)

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7. What are the issues with taking this woman for CT scans? (15 marks)

- College document**
Can be divided into:
 - risks of delay in treatment** (whether stable or not)
 - risks of transport**
 - risks of CT environment**
 - risks of scan itself** (ie. Radiation risk to fetus).
- Expect to draw risk benefit discussion from candidate of issues such as radiation load of full body CT on fetus vs diagnostic yield and decision of whether to proceed to CT, or go straight to OT.

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Supplementary:

You lose EtCO2 in lift on way to CT.– how do you diagnose and manage?

(Due to extubation therefore mostly explore airway maintenance and removal of c-spine collar if required)

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