

1. Lead examiner

2. Co-examiner

Candidate No:

Total Mark:

SCENARIO

A 58 year old man is brought to your Emergency Department by the ambulance service after spontaneous epistaxis for the last 3 hours. The ambulance officers report that he vomited at least 500ml of fresh blood at the scene. They also report that there were a number of empty alcohol bottles at his house, which was in a dilapidated state. They have been maintaining pressure to his anterior nose. His GCS is 15/15.

Question 1: The patient is in a resuscitation area with comprehensive monitoring. Outline the key features in your history and examination with respect to his epistaxis. *(included in stem)* **1.5 min**

* Refocus candidate on assessment of epistaxis as necessary.

Expected Response	Details & Comments	
Hx and Examination may be concurrent in unwell patient		
Hx		
Evidence/history of chronic liver disease due to alcohol or other causes.	Examine for stigmata of chronic liver disease . Ask for history of same and alcohol consumption. Ask for evidence to suggest GI bleeding source such as varices (haematemesis preceding epistaxis, melena etc), history of prosthetic heart valves.	
Other causes of bleeding tendency	Anticoagulant or platelet inhibitors use (warfarin, clopidogrel, aspirin). Bleeding diathesis . Recent nasal trauma, URTI, H/T etc.	
PROMPT: Are there any underlying conditions you would consider in a patient with major epistaxis?		
Examination: need to mention equipment required (head lamp, suction, nasal speculum).		
Airway and Breathing	Likely not compromised. Assess for evidence of aspiration	
Circulation	Evidence of hypovolaemia (tachycardia, hypotension as a late sign, peripheral perfusion, respiratory rate, conscious state, anaemia)	
Epistaxis	Ensure adequate anterior nasal compression. Examine for evidence of posterior nasal bleeding by inspecting nasopharynx . Any relevant ENT history eg. Surgery etc.	

Question 2: He is clinically shocked and fluid resuscitation has been initiated. There is evidence of significant active nasopharyngeal bleeding. The charge nurse has laid out a set of equipment, please demonstrate how you would perform posterior packing of his nose. **2.5 min**

If relevant, explain to candidate that the procedure has been explained to the patient, his nose has been topically prepared, he is prepped and draped, lighting and suction is available. Actively direct candidates to perform procedures to save time. Provide airway trainer or similar mannequin in seated position + appropriate range of equipment. Foley catheter and "Rapid Rhino" device as only options.

Expected Response	Details & Comments	
Local anaesthetic/ vasoconstrictor to nose	Co-phenylcaine or similar (eg. cocaine/ adrenaline) to both nostrils and nasopharynx.	
Posterior haemorrhage control starting with most likely nostril, bilateral may be required.	Options include - Foley catheter in nose, balloon inflated in nasopharynx, traction applied and secured to face with tape or against nares with locking forceps and padding to prevent pressure necrosis - Inflated custom built nasal balloon packs (posterior and anterior balloon) eg. Rapid Rhino etc Candidate must demonstrate effective technique to achieve posterior haemostasis on one side and indicate intent to apply bilateral compression if bleeding continues. Prompt: He has brisk bleeding visible at the back of his pharynx. Prompt: You have placed one catheter and the bleeding is continuing.	
Analgesia as required	Titrated analgesia/sedation as required (eg. aliquots fentanyl 25 mcg, midazolam 1 mg)	
PROMPT: Is there anything you would do before inserting the device?		

Question 3: Despite the nasal packing, the bleeding has not been controlled. ENT is taking him to theatre urgently. The results of some initial investigations are now available. **3 min**

Hb	95	(120 - 180)	INR	2.5	(0.8-1.3)
WCC	10.2	(3.5 - 11.0)	APTT	36	(26 - 41)
Plt	155	(140 - 400)	Fibrinogen	0.4	(1.7 - 4.5)
			D-Dimer	< 0.40	(< 0.40)

Outline your management of this patient.

Expected Response	Details & Comments	
<i>Evidence of ongoing active bleeding, with anaemia and significant coagulopathy. Needs transfusion and fluid resuscitation, airway protection maintain oxygenation, electrolytes, acid-base status, keep patient warm, monitor response and fluid status.</i>		
Anaemia	Tranfusion if shock: O neg, followed by cross matched packed cells	
Elevated INR	Coagulopathy due to problem in intrinsic or common pathway. Most likely in this patient due to both vitamin K deficiency (diet) and factor deficiency (liver disease). Correct with 10 mg vitamin K IV and FFP 4 units OR . Prothrombin complex concentrate (PCC / Prothrombinex) has a role but is not yet mainstream OR cryoprecipitate .	
Low fibrinogen + normal D-Dimer	Likely due to liver synthetic dysfunction (inadequate production of fibrinogen). Normal D-Dimer is makes DIC unlikely. Replacement of fibrinogen with cryoprecipitate is indicated. Give cryoprecipitate 5-10 units (200-400 mls)	
Warm all products	Large volume of blood products. Coagulopathy will worsen with hypothermia. All products and fluid should be warmed.	

Question 4 (Supplementary): Blood products are now ready for transfusion. This man has known severe aortic stenosis. How would this affect your resuscitation?

Expected Response	Details & Comments	
Resuscitate	Does not alter initial management. Has haemorrhagic shock. Needs rapid administration of blood products to restore circulation of vital organs(eg. cerebral perfusion, HR <100 and BP >100/ MAP > 65-70) + due for GA so needs adequate volume. Needs correction of coagulopathy pre OT.	
Avoid over resuscitation	Fixed outflow obstruction, needs good preload. Once FFP/cryoprecipitate +/- platelets given and hemodynamics improved then replace remainder of blood products more slowly to minimise risk of overload. Observe respiratory status for decompensation with heart failure (tachypnoea, falling saturations). Most relevant for anaesthetist.	

Comments: (if you fail the candidate, please state why)

If the candidate fails the exam overall, what **feedback** would you suggest CIC provide for this SCE?

SCENARIO

A 58 year old man is brought to your Emergency Department by the ambulance service after spontaneous epistaxis for the last 3 hours. The ambulance officers report that he vomited at least 500ml of fresh blood at the scene. They also report that there were a number of empty alcohol bottles at his house, which was in a dilapidated state. They have been maintaining pressure to his anterior nose. His GCS is 15/15.

The patient is in a resuscitation area with comprehensive monitoring.

Question 1: *Outline the key features in your history and examination with respect to his epistaxis.*

The results of some initial investigations are now available.

			Reference
Hb	95	g / dL	(120 – 180)
White Cell Count	10.2	$\times 10^9$ / L	(3.5 – 11.0)
Platelets	155	$\times 10^9$ / L	(140 – 400)
INR	2.5		(0.8 – 1.3)
APTT	36	seconds	(26 - 41)
Fibrinogen	0.4	mg / L	(1.7 – 4.5)
D-Dimer	< 0.40		(<0.40)