

1. Lead examiner

2. Co-examiner

Candidate Number:

SCENARIO

A 43 year old man presents to your metropolitan ED via ambulance, with haematemesis.
 Vital signs are: GCS 15; pulse 125, BP 100/65, RR 20, O₂ sats 97% on air, temp 37.3 deg C.

Total Mark:

Question 1: Outline your assessment?

(2 minutes)

Expected Response	Details & Comments	
Key Issues	Tachycardic but maintaining BP at the moment Risk of sudden massive bleed, with sudden deterioration. Needs resuscitation	
Differential	Gastric or duodenal ulcer, oesophageal tear, varices, coagulopathy (<i>prompt</i>)	
History	Assess Volume of bleed Time course of events Previous episodes? Melaena? Coffee-ground or fresh blood? Onset after vomiting? Comorbidities Risk factors for GI bleed including : Medications (NSAIDS, Aspirin, warfarin, clopidogrel) Ulcer symptoms, Alcohol, smoking, other cause of liver disease, Allergy, fasting status	Bold to pass
Examination	Assessment of signs of circulation CVS- tachycardic but maintaining BP- peripheral perfusion, cap refill Signs of chronic liver disease? Ascites? Spider naevi? Gynaecomastia? Jaundice? Signs of encephalopathy? Palpable liver? Spleen? (portal hypertension) Skin Bruising? Petechiae? Coagulopathy? Assess for melaena (PR – not essential)	
Investigations	Bedside VBG – Haemoglobin , ECG – arrhythmia, ischaemia Urgent FBC, Coags, Cross match, EUC – raised U: Cr ratio, LFT's – liver disease If ongoing bleeding will need urgent gastroscopy- diagnosis and definitive treatment	

Question 2: Your assessment confirms long history of excessive alcohol consumption and signs of chronic liver disease. His skin is cool and clammy. Vital signs are unchanged. Outline your initial management (2 minutes)

Expected Response	Details & Comments	
Aims	Stop the bleeding Replace the loss Treat the cause	
Immediately to resus area		
General	2 large bore cannulae, oxygen, haemodynamic monitoring Volume resuscitation -Commence IV N Saline warmed/rapid infusion protocol Correct coagulopathy Prevent hypothermia – worsens coagulopathy Send bloods for coags, cross match, FBC Urinary catheter- monitor output	Bold to pass
Specific	Discuss approach to control bleeding (eg. Endoscopy) (<i>prompt – There is ongoing bleeding - what specific treatment might they need</i>) May need massive transfusion protocol, un-cross matched blood + products until cross match complete but at the moment BP OK. Blood/platelets/FFP 1/1/1 Medical treatment for oesophageal varices - Octreotide – 25-50 mcg bolus then 25-50 mcg/h infusion (probably) - Terlipressin – 2mg iv bolus can be repeated 4 hourly Consider need for balloon tamponade - Patient needs to be sedated/intubated - Potential for complications	
Disposition	May need urgent gastroscopy under anaesthesia, Admit- gastro consult or admission If continued bleeding will need gastroscopy/banding etc May require surgery to control blood loss	

Question 3: The patient has a further large haematemesis and becomes drowsy. His BP is now 60 systolic. You activate the hospital's massive transfusion protocol. Describe the principles of massive transfusion in haemorrhagic shock.

(2 minutes)

Expected Response	Details & Comments	
Massive Transfusion needed if...	Anticipated blood loss of 10 units in 24 hours Entire blood volume in <24 hours 50% blood volume in 3 hours Significant ongoing bleeding - 150 ml/min ongoing loss	Bold to pass
Activation	Activation - Alert blood bank/haematology Follow local protocol Send blood to pathology – X-match/FBC/Coags/Ca	
Blood product administration	Initially usually O NEG blood then group specific blood until cross match completed, then- 1:1:1 ratio of packed cells: FFP: Platelets (1 bag platelets ~ 4 units – or close to this) May need other products such as cryoprecipitate (fibrinogen) Aim to closely represent the composition of whole blood Prevent hypothermia Aim to achieve this over 6 hours Need to monitor Electrolytes including calcium/FBC/coags Use of ROTEM gives rapid guide to products - Quicker than PT/ APPT for monitoring - Not well validated in ED Consider tranexamic acid for massive haemorrhage – not validated in non traumatic haemorrhage	

Question 4: The patient improves with your resuscitation, but there is ongoing blood loss requiring urgent intervention. The gastroenterology registrar states the patient is “too unstable” to transfer to the endoscopy unit and requests he be kept in ED until he more becomes stable. Outline your response to this request.

(1 minute)

Expected Response	Details & Comments	
Key Issues	Inappropriate to delay treatment Patient needs urgent intervention Needs ongoing resuscitation Appropriate location is OT rather than endoscopy unit - Needs anaesthetic involvement	Bold to pass
Deal with registrar	Deal with the registrar - Non confrontational, calm manner Explain concerns of delaying intervention Patient is unlikely to become more stable until source of bleeding is managed Recognise registrar might be “out of his depth” Will need to deal with specialist directly	
Deal with patient	Endoscopy to occur in appropriate location (theatre, ED, endoscopy unit) and staff are ready and waiting for patient Enlist help in ED for resuscitation from anaesthetics/ICU Prepare for transfer with all necessary monitoring, equipment, drugs, blood products etc.	
Follow-up	Quality assurance issues regarding case Develop departmental/hospital protocols regarding unstable patients for endoscopy Meeting between ED/ Gastroenterology/ Anaesthetics to implement plan for future Use case in departmental teaching/M & M meetings	

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 43 year old man presents to your metropolitan ED via ambulance, with haematemesis.

Vital signs are:

GCS 15;

Pulse 125,

BP 100/65,

RR 20, O₂

temperature 37.3 deg C.

Oxygen saturation 97% on air,