

OSCE 3

Candidate Instructions

This is a **7 minute** Standardised Case-Based Discussion (SCBD) station.

You will be interacting directly with an examiner. You will be asked to outline your assessment and management to the following clinical situation. Further information will be provided as the case evolves. The examiner will be assessing your medical knowledge, as well as the reasoning and rationale to your approach and decisions.

Please be as specific as possible when answering. You are an emergency consultant in a tertiary level hospital. For example, when discussing drugs describe doses, when discussing investigation or management provide reasons why you chose that approach.

Case Information:

Mr Andrews is a 50 year old man who has been brought in by ambulance with haematemesis. He has had 3 large volume episodes at home and another in the ambulance. He has a past history of alcohol dependence and obesity. His weight is approximately 160kg (BMI 45). Treatment by paramedics:

- 18G cannula in left cubital fossa
- 500mL normal saline IV infusion given

The patient's vitals on arrival to hospital are:

HR 120 bpm
BP 85/50 mmHg
RR 18 /min
Sats 94 % (6L/min O2)
Temp 37.2 deg C
GCS 14 (Eyes open to voice)

The patient has been placed in a resuscitation cubicle and monitoring applied.

Your tasks are to:

- Outline your assessment and management of this patient
- Answer the examiner's subsequent questions about the case

Further clinical information will be revealed as the case progresses. You may adjust your patient management according to the new information.

This OSCE will assess the following domains:

- Medical Expertise – 60%
 - Initial assessment (20%)
 - Management (40%)
- Prioritisation and Decision-making – 40%

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Observations:

HR 100/min
BP 110/50 mmHg
RR 28/min
Sats 92% (6L/min O2 Hudson mask)
GCS 12 (E3, V4, M5), mildly agitated.

VBG result:

pH	7.25	(7.35-7.45)
pCO2	60 mmHg	(35-45)
pO2	144 mmHg	(80-95)
HCO3	24 mmol/L	(22-28)
Base excess	-8	(-3 - +3)
Hb	85 g/L	
Glucose	5.4 mmol/L	
Lactate	4 mmol/L	

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Examiner Instructions

This is an SCBD involving the ED management of a morbidly obese patient with massive haematemesis.

The OSCE assesses the candidate's ability to:

- Assess a patient with massive haematemesis
- Manage haemorrhagic shock and coagulopathy
- Recognise need to intubate for airway protection
- Safely perform RSI in this patient
- Understand the challenges of managing morbidly obese patients in the ED

The questions are standardised for this SCBD. They are to be delivered in the same manner to all candidates. If a candidate's response lacks clarity– then the lead examiner may probe further or ask the candidate to justify their decision making process.

Lead Examiner Script

Section 1: Initial assessment (0-2 mins)

“Please outline your initial assessment priorities in this patient”.

Expected response:

Key issues: Shocked patient, likely haemorrhagic, requiring immediate resus. Risk of further bleed/deterioration. DDx: oesophageal varices, gastric/duodenal ulcer, oesophageal tear, coagulopathy.

- History
 - Estimate blood loss - Number/volume of haematemesis – bright blood suggests variceal or severe bleed
 - Abdo pain (ulcer), melaena
 - Symptoms of blood loss - dizziness, syncope, dyspnoea, chest pain
 - Previous episodes / interventions
 - Comorbidities – known varices/liver disease/coagulopathy
 - Other bleeding diatheses (VWD, haemophilia)
 - Current medications including anticoagulants, NSAID

- Current alcohol intake
- Allergies, fasting status.
- Examination
 - Circulatory status - reassess vital signs, peripheral perfusion
 - Conscious state - signs encephalopathy, airway compromise?
 - Signs of chronic liver disease – ascites, bruising, jaundice, periph oedema
 - Portal hypertension – palpable liver, spleen – unlikely possible due to obesity
 - Assess for melaena (PR – not essential)
- Investigations
 - VBG – Hb, lactate
 - ECG – ischaemia?
 - FBE, coags, x-match. UEC, U:Cr ratio, LFTs

Prompt (if the above is not adequately explored by the candidate): ***Is there anything else you would assess in this patient?***

Section 2 – Management (2-4 mins)

“Your assessment confirms a long history of excessive alcohol consumption and signs of chronic liver disease. This is his first episode of haematemesis. His vitals are unchanged and his skin is cool and clammy.

“What are your priorities for this patient’s management?”

Aims – treat the shock, control the bleeding, correct coagulopathy.

Resuscitation

- Insert 2nd large bore cannula
- Volume resuscitation – preferably start with blood. (Allow 500mL IV normal saline whilst sourcing). Permissive hypotensive resuscitation indicated.
- Monitor response – may require O neg blood until cross-matched, +/- massive transfusion protocol. Blood:Plt:FFP - 1:1:1
- Correct coagulopathy – FFP (vit K ineffective if hepatic synthetic function impaired). Consider fibrinogen replacement too (Cryoprecipitate)
- Prevent hypothermia (worsens coagulopathy)
- TXA- Likely little benefit but unlikely harm

Control bleeding

- Octreotide 25-50mcg bolus then infusion 25-50mcg/h – to reduce portal pressure/bleeding
- Terlipressin – slow IV bolus
- expedite urgent endoscopy – contact Gastro team – banding or sclerotherapy

Supportive

- IDC
- Broad spectrum antibiotics (eg ceftriaxone 1g IV) - reduces mortality in variceal bleeding
- PPI – 80mg IV bolus then infusion. (although no mortality benefit)
- Other- Optimise electrolytes- K, Mg; closely monitor glucose;
- Thiamine

Disposition

- Admit gastro team
- May require HDU/ICU depending on response to resuscitation
- Prepare for urgent transfer to theatre or endoscopy

Section 3 – Airway management (4 minutes)

***“The gastroenterology team have been called but will be at least 20 minutes.”
“Despite implementing your management, the patient has a further episode of haematemesis and becomes more drowsy.”***

Scroll down on Candidate Instructions to show Obs and VBG.

***“These are his vital signs and a VBG result is available”
“What will you do now and why?”***

Candidate should outline

- Recognition that patient is no longer obeying commands and will need to be intubated for airway protection, and to facilitate urgent gastroscopy (will need to lie flat)
- Description of key features of approach to RSI in this patient

If the candidate’s decision re intubation is not justified, then please ask:

“Why are you intubating this patient?”

If the candidate does not make the decision to intubate the patient then say:

“The patient is becoming progressively more drowsy and hypoxic and is no longer following commands”

Once the Candidate has made the decision to intubate the patient:

“What aspects of this case will make the intubation more challenging and how will you prepare for them? “

- Pre-oxygenation difficult if confused

- Risk of hypotension – requires cardiovascular stabilisation / support prior to induction (adrenaline bolus and / or infusion)
- Appropriate induction drug selection (e.g. ketamine 0.5-1mg/kg, fentanyl, roc)
- Haematemesis may obstruct view of airway – have 2 suckers ready
- Obesity – intubation issues – anatomical and physiological – head bed up, apnoeic O2, video laryngoscopy
 - o Difficult IV access
 - o Lower pulmonary reserve
- Ventilation – use “ideal” body weight, consider starting PEEP 10
- Increased aspiration risk (intra-abdo pressure)

Further clinical details (if requested by candidate as OSCE progresses)

- History of excessive alcohol intake. Smoker. Nil known HT, DM, other co-morbidities.
- Nil reg meds, Nil known allergies
- Lives alone. Unemployed.
- Examination
 - o HS dual, no cardiac murmurs, no CCF, JVP not raised.
 - o Unable to determine ascites due to obesity
 - o Not jaundiced
 - o Multiple spider naevi across abdo
 - o Periph oedema to knees

Marking domains:

Medical Expertise: Assessment and management – 60%

- Seeks evidence of time critical diagnoses when performing assessment
- Identifies risks of deterioration in the patient
- Creates a focused investigation plan that confirms or excludes time critical diagnoses
- Correctly interprets the results of an investigation within the scenario.
- Correctly chooses time critical interventions based on assessment

Prioritisation and Decision Making – 20%

- Prioritises a differential diagnosis list to determine the most likely diagnoses in a patient
- Highlights high-risk features identified during initial patient assessment
- Summarises and prioritises the key issues that must be addressed during and following the emergency encounter
- Prioritises essential components of ongoing care
- Provides a rationale to explain and justify decisions about ongoing treatment.

Comment: Prioritising urgent gastroscopy is a key priority in this scenario, and should be demonstrated throughout the station.