
Station Number Four: Standardised Case based discussion

Candidate instructions

This is a 7 minute standardised case base discussion

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:

A 65 year old woman has been brought in by ambulance after complaining of shortness of breath and near syncope. She has been unwell for two weeks with a cough.

History as per the paramedic team:

- Patient unable to walk to trolley due to shortness of breath.
 - Patient was mobilising to bathroom and became overwhelmingly short of breath and nearly 'passed out'.
 - This is on a background of a cough over the last 2 weeks.
 - ECG showed narrow complex tachycardia however given proximity to hospital decided to 'scoop and run' rather than treat on the scene.
 - She has no past medical history and is on no regular medication.
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On arrival her vital signs are:

- HR 180
- BP 95/50
- Sats 85% on air
- Temp 37.9

Her ECG on arrival is attached.

Your tasks are to:

- Interpret this patient's ECG
- Outline your initial assessment and management of this patient

You can ask for further clinical information as the case progresses including physical examination findings and investigation results. You may adjust your patient management according to new information.

This OSCE will assess the following domains:

- Medical Expertise- 80%
 - Assessment and diagnosis. 50%
 - Management: Treatment and procedural expertise 30%
 - Prioritisation and Decision Making- 20%
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Examiner Instructions

The questions 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.

Patient assessment (if requested by the candidate as SCBD progresses)

History

history of a non productive cough and weight loss

No antibiotics so far

No regular medications, and No known allergies

Examination

pale, tachypnoeic

Heart sounds quiet

Chest reduce air entry bibasally

No peripheral oedema

Abdomen soft, non tender

Investigations

ECHO- pericardial tamponade

CXR- large left pleural effusion

Section 1 - ECG interpretation allow 1 min

“Please interpret this ECG which was taken on arrival of the patient in ED”

- narrow complex tachycardia, normal axis
 - rate 180 bpm, irregular rhythm
 - electrical alternans visible in V2 and V3
 - rate/rhythm suggestive of AF with rapid ventricular response, low voltage and alternans suggestive of pericardial effusion
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Section 2- Assessment of patient, undifferentiated shock

“Outline your initial assessment of this patient alluding to your differential diagnoses”

Good candidates will have recognised electrical alternans on the ecg and the assessment will be targeted towards causes for the pericardial effusion e.g dissection, fluid overload

History

- History surrounding syncope & SOB ?progressive, orthopnoea suggestive, lower limb oedema suggestive of **CCF**
- **Symptoms of DVT ?PE**. Chest pain ?PE ?AMI precipitating failure/syncope/arrhythmia
- **Infective** symptoms suggestive of LRTI/empyema
- Palpitations ?arrhythmia precipitating syncope/failure
- Recent trauma- ?pneumothorax/haemothorax
- Systems review- GIT/GU/other infective pathology ?mesenteric ischaemia, weight loss/night sweats ?malignancy
- PMHx- cardiac history, smoking ?COPD, prev malignancy
- Med Hx- recent medications ?allergy
- Examination - observation: work of breathing, talking sentences, barrel chest suggestive of airways disease
- Chest: auscultation looking for focal crepitations suggestive of consolidation, wheeze, reduced a/e suggestive of effusion. Heart sounds: ?muffled
- Abdomen: hepatomegaly (CCF), focal peritonism (intraabdominal sepsis)
- Peripheral oedema- CCF, clinical signs of DVT

Minimum to pass: mention in differentials: PE, infection, cardiac causes

Investigations

- Bedside ECHO looking for effusion, tamponade, pleural effusion, RWMA
 - USS/CXR- pneumothorax or pleural effusions
 - Bloods- not that helpful in initial assessment except for VBG to look for metabolic acidosis causing tachypnoea
 - CTPA without mention of prior stabilisation would be a critical error.
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Section 3- Management of patient with non-traumatic pericardial tamponade

“A bedside ultrasound shows pericardial effusion with signs of tamponade. There is also a moderate left pleural effusion. History reveals that she has been unwell for months with a cough and has lost 10kg. Her BP is 65/50 and HR fluctuates between 120 and 180 and sats of 80% on air. Outline your ongoing management of this patient”

Resuscitation

- Large bore IV access and fluid resuscitation with end points. Tachycardia is in response to reduced preload/obstructive shock, needs filling not cardioversion- critical fail.
- Positioning (sit up right can help haemodynamics)
- Oxygenation- aim sats >90%. Intubation without resuscitation or mention of pericardiocentesis is also a critical fail.

Targeted therapy

- Empiric antibiotics for possible infective pathology (temp/cough)

Interventions

- Pericardiocentesis in ED if continues to deteriorate despite fluid resuscitation or if goes into cardiac arrest
 - Urgent referral to cardiology or cardiothoracics for pericardiocentesis
 - ICC for pleural effusion may also improve haemodynamics
 - Additionally could send pleural fluid for cytology/MC&S to help guide management.
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Section 4- Procedure- how to perform pericardiocentesis

“Outline how you would perform a pericardiocentesis”

Preparation

- Sterile precautions if able, gloves/betadine/chlorhex in emergency

Approach

- Subxiphoid between xiphisternum and left costal margin
- Parasternal or Apical approaches with US guidance (mention increased risk of pneumothorax)

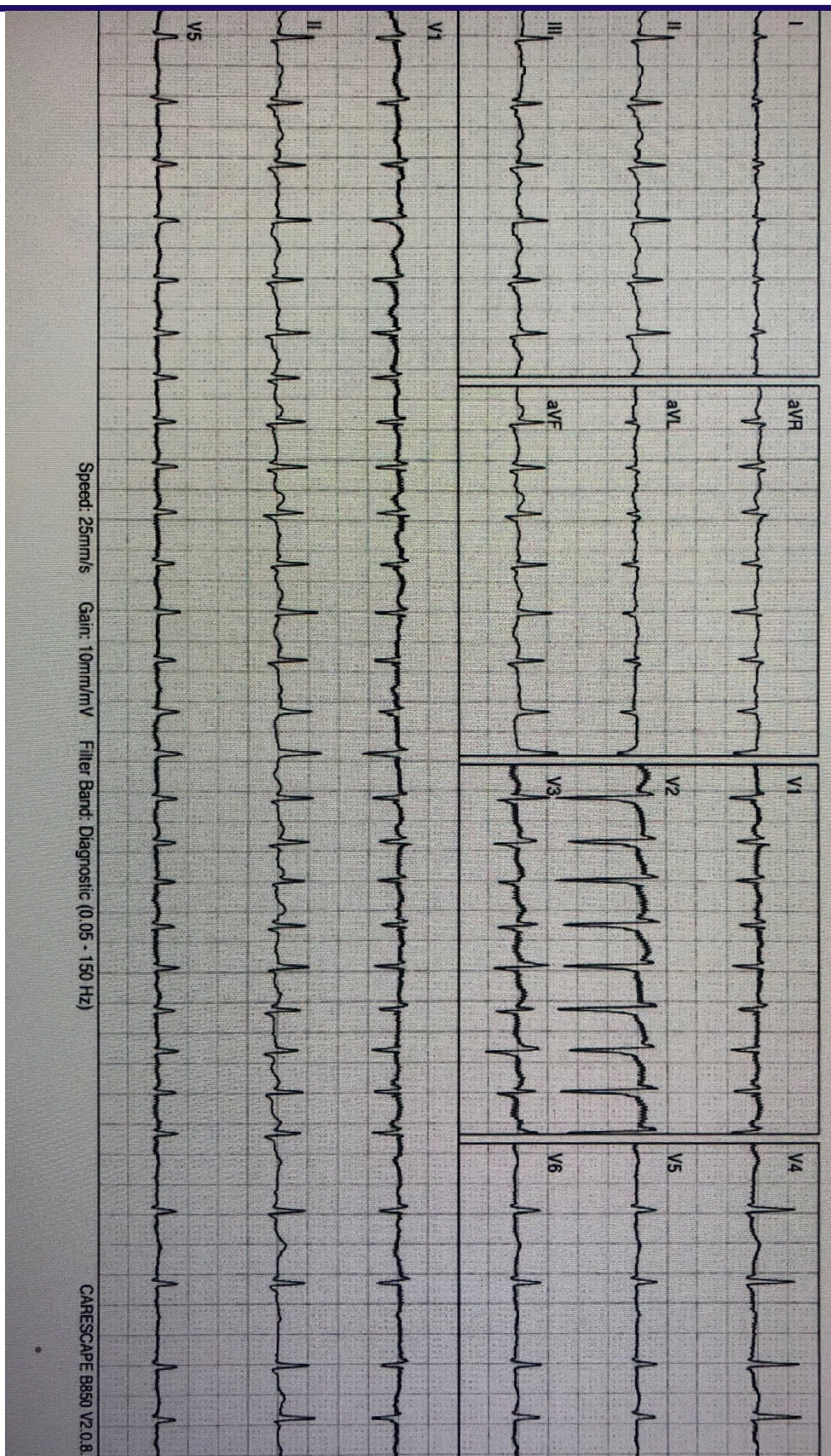
Method

- Long needle attached to syringe (18Ga), or pericardiocentesis kit with drain
- Direct towards L shoulder at 45 degree angle
- Continually aspirating as approaching RV
- Ultrasound guidance is preferred
- Once Fluid is aspirated, insert drain/cannula, use 3 way tap to drain fluid

Complications. Bonus Q: What are the complications of performing a pericardiocentesis?

- Myocardial perforation
- Laceration of coronary arteries
- Bleeding
- Pneumothorax
- Arrhythmia
- Pericardial decompression

A reasonable description of the procedure and approach is required. Better candidates will expand into complications and comparison of different approaches





OSCE Station:

COMPONENT ASSESSMENT

For each domain below select the **ONE** option which best represents this candidates performance. The option '**Minimum level of competency displayed**' represents the minimum level of safe independent practice as a junior FACEM in Australasia.

A horizontal bar chart with seven categories on the x-axis, each represented by a bar of a different shade of blue. The categories are: Very poor, Well below minimum standard, Below minimum standard, At minimum standard, Above minimum standard, High standard, and Very High standard. The bars show the percentage of respondents for each category.

Response Category	Percentage
Very poor	1%
Well below minimum standard	1%
Below minimum standard	1%
At minimum standard	1%
Above minimum standard	1%
High standard	1%
Very High standard	1%

Please rate all the following domains:

Medical expertise							
Prioritisation and decision making							

GLOBAL ASSESSMENT RATING

Please rate this candidate's OVERALL performance in this OSCE:

In terms of a **safely practising junior emergency physician** please select the ONE option which best reflects this candidate's performance in this station

**Well
Below
Standard**

☐

**Below
Standard**

☐

**Just at
Standard**

☐

**Above
Standard**

☐

**Well
Above
Standard**

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