

ID:

14-May-2013 12:27:32

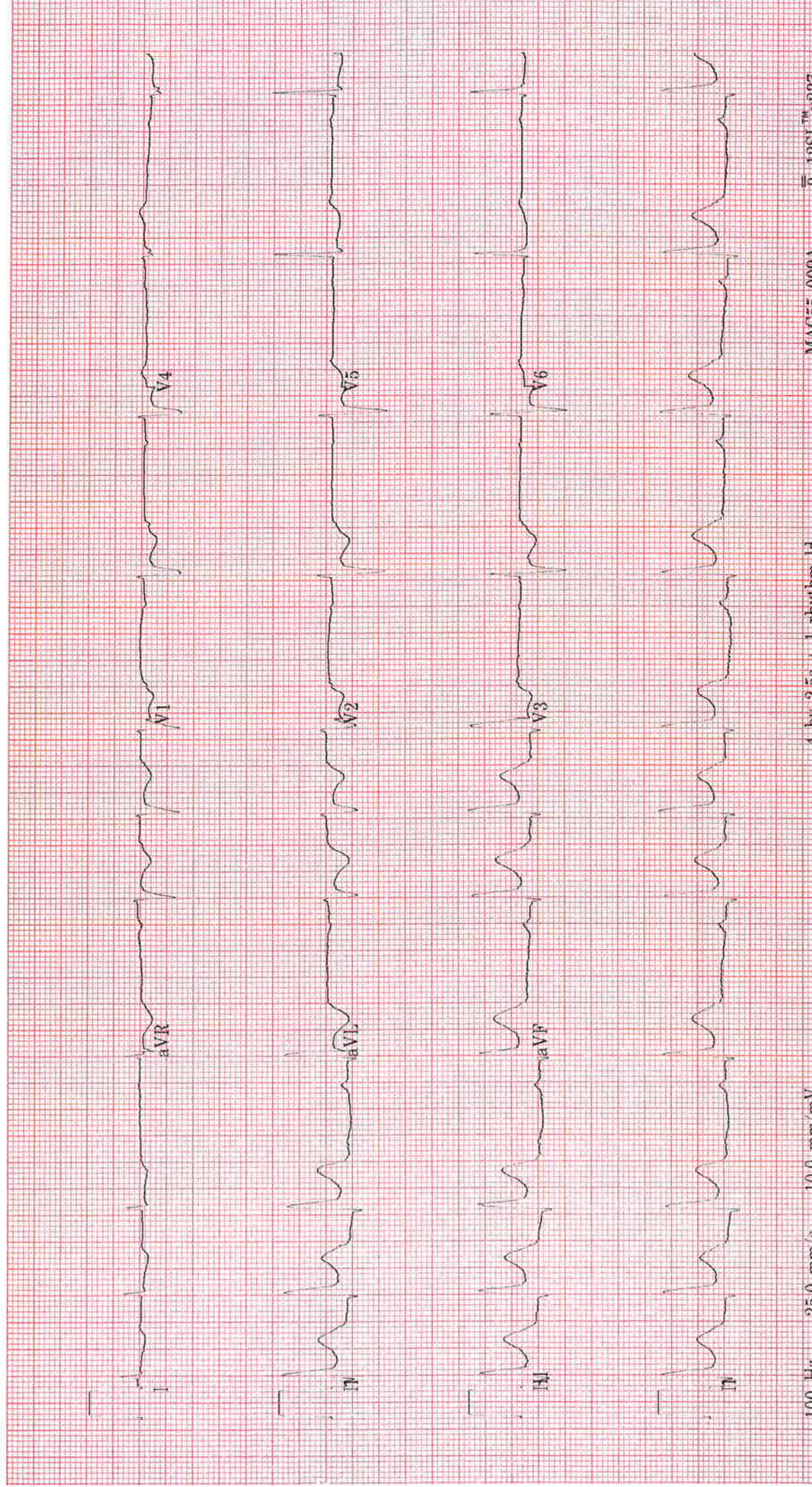
TOWNSVILLE HOSPITAL

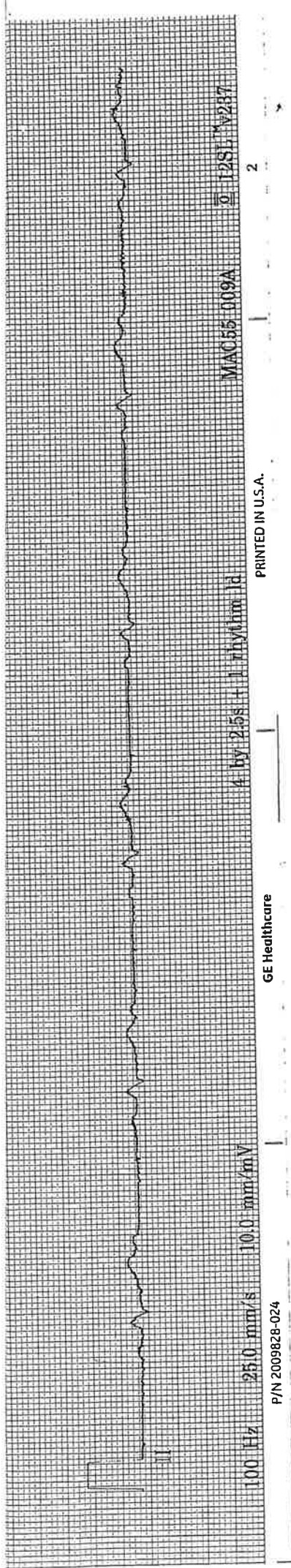
Vent. rate 62 bpm
PR interval 244 ms
QRS duration 98 ms
QT/QTc 450/456 ms
P-R-T axes 79 81 97

Sinus rhythm with 1st degree AV block with premature atrial complexes
Anterior infarct, age undetermined
Inferior injury pattern
** ** ACUTE MI ** **
Abnormal ECG

Technician:

Unconfirmed





1. Lead examiner

Candidate Number:

2. Co-examiner

Final Mark:

SCENARIO

A 45 year-old man presents to your tertiary ED with persistent shortness of breath and severe epigastric pain after a long run. Other than mild asthma, he has no other medical problems. The attending RMO has tried pulsed salbutamol via metered dose inhaler (MDI) over 30 minutes, with no effect. He then tried 2 sprays of sublingual GTN. Vital signs were P 55/min, BP 110/70 on arrival but now BP 70/50, SaO₂ 97% RA, RR 30/min. The patient is pale and sweaty. The nurse looking after the patient is concerned about the patient, and requests your assistance.

Question 1: Outline your response to this situation. (included in stem)

(2.5 minutes)

Expected Response	Details & Comments	
Issues	Undifferentiated unwell pt; support vital signs while undertaking diagnostic search. Consider DDX: asthma, sepsis, acute cardiomyopathy (such as ischaemic), perforated ulcer. Dissection, PE, allergic reaction, effect of drug(s) Support / educate RMO	
Unwell patient	Transfer to Resus/monitored room. Team approach, assume leadership, delegate roles. See patient immediately with the RMO – consolidate Hx, review exam findings, Assess and manage simultaneously Address hypotension: Position +/- Rapid IV fluid resuscitation - 1 L N Saline. Discontinue nitrates.	
Diagnosis and Risk Stratification Prompt for DD Cardiac and two others to pass	DDx Cardiac – Acute coronary syndrome (relative brady and hypotensive, esp post GTN – inf AMI, RV Respiratory – PE, asthma (less likely acute attack as no response to salbutamol), PTx +/- tension, Sepsis AMI), pericardial effusion +/- tamponade, acute valvular lesion, CHF Dissection Perforated ulcer Allergic reaction / anaphylaxis, including from agents given in ED Toxin: ?envenoming Clinical review Focused repeat Hx and exam, seeking / excluding features of the above	
Urgent Ixs	12 lead ECG, seeking / excluding arrhythmia, ST changes Bloods: Baseline/coags/Trops e FAST: pericardial fluid, PTx, pleural fluid, abdominal free fluid CXR: cardiomegaly, LVF, PTx ABGs: ? adequacy of oxygenation / ventilation; metabolic disturbances	
Early Rx	Dependent on outcomes of the above	
RMO support	Educate, support, assign tasks	

Question 2: An ECG is performed. Describe and interpret the ECG.

(1 minute)

Expected Response	Details & Comments	
Findings	SR, N axis, bradycardia ST elevation II, III, aVF >1 mm. Inferior STEMI. ECG reperfusion criteria present Reciprocal anterior deep ST depression V1-3. Reflects acute inferior STEMI. Also suggests posterior involvement	
Relevant negatives		
Interpretation	Infero-posterior STEMI. In setting of hypotension, suggests RV AMI. Likely hypotension secondary to GTN/cardiogenic, decreased pre-load. Needs further fluid bolus. Hypotension may improve with atropine. Needs urgent RV4 ECG, to look for RV AMI. Needs urgent reperfusion. Consult with cardiology, with a view for immediate angioplasty.	

Question 3: Cardiology services are mobilising for urgent angioplasty. The cath lab will be ready in 30 minutes. The patient complains of dizziness. BP remains 70/50. A cardiac rhythm strip is available. Outline your immediate treatment.

(2 minutes)

Expected Response	Details & Comments	
Rhythm strip	Marked brady at a rate of 35/min, Mobitz II 2nd degree or complete heart block Interpretation: inf MI involving RCA and SA node	
Staged approach to therapy required to pass	Call cardiology, see if cath lab can be ready sooner. Further IV fluid bolus – 250/500 ml Pharmacotherapy: Trial atropine – use with some caution – will only be effective if block in the AVN Inotropes if hypotension persists. Candidate should specify and justify agent, AND target parameters. Coronary reperfusion is definitive Rx – CHB likely to resolve when reperfusion is achieved. Pacing if pt remains symptomatic – options: temporary while awaiting transfer to cath lab. (transcutaneous with sedation or transvenous) or may need permanent pacemaker if no improvement with reperfusion.	

Question 4 The Cardiology consultant comes to see you after the patient has been treated in the cath lab, to raise concerns about the initial management of the patient in the ED. Outline your response.

(1.5 minutes)

Expected Response	Details & Comments	
Due respect to cardiologist	Acknowledge that it seems that the management initially may have been less than ideal. Clearly it needs to be looked into. Investigate further	
Investigate further	Discuss with RMO , nurse, ambulance Find out details of presentation	
System issue?	Was an ECG performed in a timely manner? Was it seen by a senior doctor (as per department process) If not, why was this process not followed?- Epigastric pain? Was there any evidence of asthma?	
RMO issue?	Have there been previous issues? Talk with RMO	
Support the RMO	Non-confrontational, Use as educational opportunity Differential diagnosis of dyspnoea, epigastric pain	
Education	Teaching session for junior doctors on RV AMI – RUN by ED!	

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 45 year-old man presents to your tertiary ED with persistent dyspnoea and severe epigastric pain after a long run. Other than mild asthma, he has no other medical problems. The attending RMO has tried pulsed salbutamol via metered dose inhaler (MDI) over 30 minutes, with no effect. He then tried 2 sprays of sublingual GTN. Vital signs were P 55/min, BP 110/70 on arrival but now 70/50, SaO2 97% RA, RR 30/min. The patient is pale and sweaty. The nurse looking after the patient is concerned about the patient, and requests your assistance.

Question 1: Outline your response to this situation.