OSCE Stations for Medical Finals
Book 2

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Scenario 1: ‘No post today’

Station 1

History

You are the FY1 doctor on call with the Acute Medical Team. The next patient is Mr Mohammed Iqbal, who has been brought into the Emergency Department by ambulance after suffering an episode of severe chest pain while at work.

Please take a focussed history from the patient with a view to presenting the history and likely diagnosis to the Medical Registrar.

You will be assessed on the following areas, as well as the content and diagnostic reasoning of your history – take them into account in your presentation.

Professionalism

- Professional appearance (NHS dress code) – including general appearance, hair and jewellery
- Maintains patient and personal safety
- Polite introduction; identifies patient or interviewee correctly; confirms patient’s date of birth from name band or other source
- Obtains informal consent; maintains patient’s privacy
- Displays empathetic and caring attitudes and behaviours throughout.

Process

- Good organisation and structure; appropriate use of open and closed questions
- Appropriate fluency/rhythm/pace to the interview – this may change depending on environment and acute nature of the problem
- Appropriate time for the patient to respond/reply to questions
- Appropriate acknowledgement of difficult or emotional areas of the patient’s history.

Communication skills

- Demonstrates caring and sympathetic attitude
- Asks open questions
- Invites patient to ask questions and answers them appropriately
- Addresses patient’s ideas, concerns and expectations.
Station 2

Examination 10-minute station

After completing and presenting the history, the Medical Registrar asks you to perform a focussed examination of the patient. Mr Iqbal has been seen by the nurse in the resus area, and is attached to a cardiac monitor. The nurse has recorded Mr Iqbal’s observations on the chart. You may ask for these during your assessment.

Please present the relevant findings to your colleague in an appropriate manner for a busy medical on call (if you do not have a model, please read and present the information on page 379).

You will be assessed on the following areas, as well as the content and skills of your examination – take them into account in your presentation.

Professionalism

- Professional appearance; maintains infection control standards, including hand cleaning and appropriate use of gloves and aprons
- Maintains patient and personal safety
- Polite introduction; identifies patient and confirms date of birth from name band or other source
- Obtains informal consent; maintains patient privacy and dignity
- Displays empathetic and caring attitudes and behaviours throughout.

Process

- Appropriate fluency/rhythm/pace to the examination – this may change depending on environment and acute nature of the problem
- Organisation and structure of examination; sensitive and empathetic approach
- Uses appropriate clinical techniques throughout
- Maintains privacy and dignity throughout.

Clinical communication

- Explains proposed examination/procedure: explains examination/procedure as it proceeds
- Offers information in a clear, structured and fluent manner, avoiding jargon
- Listens to patient and responds appropriately
- Demonstrates appropriate body language.
Station 3

Data interpretation 10-minute station

Mr Iqbal’s ECG shows global T-wave inversion, and he is transferred immediately to the CCU for ongoing management. The Medical Registrar on call is one of the cardiology trainees and hands you five ECGs belonging to patients on the CCU.

Please indicate whether each of the statements are TRUE (T) or FALSE (F) regarding each of the ECGs shown below. You may assume all ECGs are running at 25 mm/s.

1

A  The rhythm shown is sinus arrhythmia.

B  There is evidence of first-degree heart block.

C  There is anterior ST depression.

D  There are inverted T waves in the lateral and high lateral leads.

E  There are features to suggest an acute inferior STEMI.
SCENARIO 1

2
A  There is left axis deviation.
B  There is inferior ST segment depression.
C  There is ST segment depression in the septo-lateral leads.
D  There is evidence of poor anterior R-wave progression.
E  The rhythm shown is atrial fibrillation.

3
A  There is both a nodal and sinus rhythm demonstrated.
B  The axis is deviated to the right.
C  There is ST depression in the infero-lateral leads.
D  There is anterior ST elevation.
E  This ECG pattern represents left main stem obstruction.
A The rate is approximately 150 bpm.
B There is left axis deviation.
C There is T-wave inversion in the high-lateral leads.
D There is normal anterior R-wave progression.
E This patient is likely to have a normal LV ejection fraction.
SCENARIO 1

5
A This is Mobitz type I second-degree heart block.
B The axis is normal.
C There is anterior ST elevation.
D There is ST elevation in the infero-lateral leads.
E There is ST depression in the high lateral leads.

Station 4

Procedural skills 10-minute station

Mr Iqbal requires a second intravenous cannula inserted for his intravenous insulin infusion.
- Please write up the fixed-rate intravenous insulin infusion on the chart provided.

Mr Mohammed Iqbal; DOB 23/08/57; Hospital No. 5463721; Consultant Dr Westmore; Ward CCU; Bleep 332

Procedure A
- Please make up the insulin infusion using the equipment provided, explaining the process to the examiner as you proceed.

Equipment provided
- 50 ml syringe, insulin (100 unit vial), 0.9% saline – 250 ml bag
- Needles to draw up medications, extension tubing
Procedure B

Now please insert a cannula in the manikin arm, explaining the process to Mr Iqbal as you proceed. Connect the intravenous insulin infusion to the cannula.

Equipment provided
- Gloves, alcohol swab to clean the skin, cannula, cannula dressing, tourniquet
- 0.9% saline flush, 5 ml syringe and needles

Station 5

Clinical communication skills 10-minute station

Despite analgesia and other acute interventions, Mr Iqbal remains clinically too unstable to transfer to the local cardiac centre for acute percutaneous coronary intervention (PCI). The Cardiology Registrar on the evening CCU ward round decides that Mr Iqbal should receive terofiban and heparin, prior to transfer to the local ‘heart centre’.

Please calculate Mr Iqbal’s CRUSADE score using the admission data and the nomogram provided below and then explain to the Cardiology Registrar what this means, as if you were explaining it to the patient.

Admission data
- Investigations – FBC: Hb 12.9g/dl, MCV 87 fl, Hct (%) 43.6, WCC 14.3 x 109/l, platelets 223 x 109/l
- eGFR 87 ml/min
- Observations – HR 104 bpm, BP 183/98 mmHg (large cuff required), RR 18 bpm, \( \text{O}_2 \) sats 87% on air, temperature 36.5 °C, CBG 16.4 mmol/l
- CV examinations – pulse 100 regular, low volume, normal character; no carotid or other bruits heard; BP 190/100, JVP not seen; heart sounds 1 + 2 + ? 3rd heart sound
- Focused examination – no ankle oedema; all peripheral pulses palpable; no ulcers or scars
- RS examination: bibasal crackles to the midzones.

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<td>Baseline haematocrit (%)</td>
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<td>Creatinine clearance (ml/min)</td>
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### Scenario 1

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<td>7</td>
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<td>5</td>
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</table>

Note: heart rate is truncated at <70 bpm
CrCl: Cockcroft-Gault is truncated at >90 ml/min; prior vascular disease is defined as prior PAD or stroke

### The CRUSADE bleeding score to assess baseline risk of major bleeding in non-ST-segment elevation myocardial infarction

<table>
<thead>
<tr>
<th>Risk group</th>
<th>CRUSADE score</th>
<th>Risk of major bleed</th>
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</thead>
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<tr>
<td>Very low</td>
<td>&lt;21</td>
<td>3.1%</td>
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<tr>
<td>Low</td>
<td>21–30</td>
<td>5.5%</td>
</tr>
<tr>
<td>Moderate</td>
<td>31–40</td>
<td>8.6%</td>
</tr>
<tr>
<td>High</td>
<td>41–50</td>
<td>11.9%</td>
</tr>
<tr>
<td>Very high</td>
<td>&gt;50</td>
<td>19.5%</td>
</tr>
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</table>
Patient script

You are Mr Iqbal Mohammed (DOB 23 August 1957), a 54-year-old postal worker in the local post office depot. You were brought into the Emergency Department this morning at about 09:30 after having suffered a severe episode of chest pain.

Over the past 4–6 weeks you have been suffering with occasional episodes of chest pain that you initially thought was ‘bad indigestion’. The first episode occurred while you were at work pushing some of the heavy trolleys around the depot. The pain was very tight and ‘squeezing,’ ‘like a band around my chest’. It only lasted about a minute but was really bad and took your breath away. You had to sit down for about 5 minutes before you felt OK again. Since then you’ve had two to three similar episodes, the last one while playing football with your grandson. This was a more severe and prolonged episode, lasting about 5 minutes or so, but you had to laugh it off as your grandson became frightened. The pain was severe, and central, radiating to your jaw and left hand. You were sweaty and felt sick but it went off by itself after you lay down on the ground after about 5–10 minutes.

Today’s episode came on at the depot, just after you had finished your morning tea break. You were walking up a flight of stairs when the pain suddenly came on. This was different to all the other episodes.

The pain was severe (the worst you’ve experienced), ‘squeezing and crushing the life out of me’. The pain was central, radiating to your jaw, left and right arms, but not through to your back. You collapsed down the stairs and your work colleague pulled you to safety and made a pillow for you with his jacket. Your colleague said ‘it looked like all the life had drained out of me’ and you were dizzy and faint but don’t think you passed out. The pain continued for at least 10–15 minutes before the ambulance men arrived and gave you oxygen and some tablets up under your upper gums. You still feel as if you have a little chest discomfort but nothing like the pain you had earlier.

If asked you deny any symptoms of heart failure, eg peripheral oedema, orthopnoea, PND, shortness of breath, wheeze, dry cough or frothy white sputum.

Risk factors: your father and his parents all died of heart and stroke problems before the age of 70. You have two close cousins who have had heart attacks in the last few years. You smoked 20+ cigarettes/day until 4 or 5 years ago but stopped when your grandson was born. You do not drink any alcohol.
SCENARIO 1

Your doctor told you recently that you were very overweight and this was putting you at risk for high blood pressure and diabetes. You are 5 feet 8 inches (1 m 72 cm) and 15 and a half stone. You don’t know about your blood pressure. Your doctor told you to lose weight or he would have to start you on diabetes tablets. You do not know about your cholesterol and have never had symptoms suggestive of a stroke, peripheral vascular disease or IHD.

You have no significant previous medical history; you had an appendicetomy at 11 years old.

You are not on any regular medications, but do take the occasional ‘zantac’, Rennie tablets and paracetamol. You have no known allergies.

You are married with five children aged 26, 24, 21, 20 and 17 years. The youngest three still live at home, and two of them are unemployed. You work in the local post office depot and are the shop steward of the local postal union.

You think you may have had a heart attack this morning as the pain was so bad and you felt so unwell. You are hoping that it’s nothing too serious, as you need to get back to work soon. You are the main breadwinner in the house, and everyone is reliant on you.
Identifies key information
- Pain: chronological progression; onset, frequency, duration, character, radiation, relieving and exacerbating factors
- Associated features: shortness of breath, nausea and vomiting, dizziness, presyncope and syncope, feeling unwell, washed out, palpitations.

Includes important negatives, including systemic enquiry
- No radiation to the back (thoracic aortic aneurysm)
- No features of heart failure: peripheral oedema, orthopnoea, PND, shortness of breath, wheeze, dry cough, frothy white sputum
- No features suggestive of gastrointestinal or hepatobiliary disease
- Excludes other systemic symptoms.

Identifies key information from rest of history
- Cardiovascular risk: family history, known IHD, stroke or PVD, diabetes mellitus, hypertension, smoking, alcohol, others
- Relevant facts about employment, housing, social support, life stressors.

Completing the patient history
- Drug and allergy history: Zantac and indigestion tablets; occasional paracetamol; no known drug allergies
- Previous medical history: nil known
- Social and occupational history: as above.

Summarises important areas of the history back to the patient

Invites patient to ask questions and deals with them appropriately

Establishes patient’s ideas, concerns and expectations
**SCENARIO 1**

**CLINICAL DIAGNOSTIC REASONING**

- **Please present your history**
  - Candidate offers a logical, well-structured account of the history.

- **What is your diagnosis?**
  - Candidate offers the correct diagnosis and appropriate differentials
  - The patient has presented with ACS but the history suggests a severe episode: MI?

- **Can you describe how you would manage this patient? What three essential bedside (clinical) investigations would you perform?**
  - Nurse in high-dependency area, cardiac monitor, IV access, aspirin and clopidogrel, oxygen and some further pain relief, eg IV morphine and anti-emetic; full examination and further investigations
  - BP, CBG, ECG, oxygen sats ± ABGs.

Demonstrates safe, sensible and appropriate management plan

Demonstrates clear and logical diagnostic reasoning

**GLOBAL HISTORY MARK**

**Station 2 – Examination**

Patient script (see also page 379)

If you are an actor/patient, read the patient history and physical signs fully – when the candidate comes to an abnormal site in their examination, act out tenderness and/or volunteer the relevant physical sign.
CONTENT

Exposes and positions patient correctly and maintains comfort

Comments on wellbeing of patient, ie well or unwell

‘Feet to face’
- Observes, and comments on patient and surroundings from foot of bed
- Evidence of previous cardiac surgery, eg sternotomy, JVP, anaemia, colour/perfusion.

Asks for appropriate/relevant clinical observations
- HR 104 bpm, BP 183/98 mmHg (large cuff required), RR 18 bpm, \( \text{O}_2 \) sats 87% on air, temperature 36.5 °C, CBG 16.4 mmol/l
- Urinalysis: WCC nil, protein 1+, blood negative, nitrites negative, glucose 3+.

General/systemic examination
- Hands and upper limbs: tar staining, perfusion of hands, anaemia, stigmata of hyperlipidaemia; comments on general signs, eg clubbing, leuconychia
- Face and neck: signs of anaemia, peri-orbital xanthelasma, central cyanosis.

Focused examination
- Inspection: sternotomy scar, JVP – makes appropriate assessment, including correct positioning of patient, correct technique; comments correctly on JVP
- Palpation: carotid pulse – comments on character and presence of bruits
- Apex beat: position and character
- Assesses and comments on heaves and thrills
- Auscultation: listens in correct areas, assesses for radiation, manoeuvres patient correctly, appropriate use of stethoscope – bell and diaphragm.

Completes examination by identifying relevant additional clinical signs
- Signs of left and right heart failure: bibasal crackles, pleural effusions, peripheral oedema; hepatomegaly/ascites
- Signs of PVD and generalised atherosclerosis: AAA, peripheral pulses, abdominal bruits.

Thanks patient, offers assistance, maintains patient’s dignity and privacy until they are dressed
CLINICAL DIAGNOSTIC REASONING

Correctly identifies the relevant physical signs, including important negative findings

- **What does a third heart sound represent?**
  - Fluid overload in keeping with his heart failure

- **Given these clinical findings, can you name three acute therapeutic interventions you would arrange for this gentleman in the Emergency Department (he has already had oxygen, GTN spray and anti-platelet treatment)?**
  - Ongoing pain: further GTN or IV morphine and anti-emetics
  - Pulmonary oedema (bibasal crackles and hypoxia): oxygen to maintain sats between 94 and 98%, IV GTN infusion and IV furosemide; may require IV diamorphine (venodilator and analgesic, as above)
  - Hypertension: this would also be accounted for with the GTN infusion
  - CBG >11.0 mmol/l: IV insulin infusion (either sliding scale or FRIVII).

Demonstrates safe, sensible and appropriate management plan

Demonstrates clear and logical diagnostic reasoning

GLOBAL EXAMINATION MARK

Station 3 – Data interpretation

1  A True  B True  C False  D False  E True

This ECG demonstrates a large inferior STEMI with high lateral (I and aVL) ST depression. The antero-lateral leads are normal. There is sinus arrhythmia with first-degree heart block.

2  A False  B True  C True  D True  E False
This ECG demonstrates atrial flutter with 2 : 1 block. This is commonly seen in older patients who are acutely unwell with chest pathology, eg chest infection or pulmonary embolism, especially if there is underlying ischaemic heart disease. The axis is moving towards the left but because leads I and II are both very positive, this means the axis will remain within normal limits. There is septo-lateral (V3–V6) ST depression extending into the high lateral (I and aVL) leads. There is relatively absent R-wave progression in leads V1–V3.

3   A True
    B False
    C True
    D True
    E True

This ECG demonstrates a large anterior STEMI with deep ST depression in the infero-lateral leads. The rhythm is unstable owing to the acute ischaemia and starts as a nodal rhythm but progresses into sinus arrhythmia. The axis is neutral as all three leads are almost isoelectric. As all three territories of the heart demonstrate acute ischaemia, this would suggest there is left main stem disease with a dominant left circumflex artery.

4   A True
    B True
    C True
    D False
    E False

This ECG demonstrates atrial flutter with 2 : 1 block, giving the classical regular appearance at a rate of 150 bpm. There are several features of underlying ischaemic heart disease including left axis deviation, partial left bundle branch block and poor anterior R-wave progression. There is T-wave inversion in the high lateral leads (I and aVL). Given the rate and the features of the IHD, this patient will rapidly develop acute heart failure. They are unlikely to have a normal LV ejection fraction.

5   A False
    B True
    C True
    D True
    E True

This ECG demonstrates a massive STEMI involving the antero-lateral and inferior territories. There is also ST depression in lead aVL. There is third-degree (complete) heart block with a normal axis. This again may well represent left main stem disease with a dominant circumflex artery. This patient needs urgent coronary intervention.
## Station 4 – Procedural skills

### Infusion prescriptions continued

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<th>Route</th>
<th>Infusion Fluid</th>
<th>Medication</th>
<th>Duration</th>
<th>Rate</th>
<th>Prescriber's signature &amp; bleep no.</th>
<th>Date given</th>
<th>Given by</th>
<th>Check by</th>
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<tbody>
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<td>0.9% saline</td>
<td>ACTRAPID INSULIN</td>
<td>50 UNITS</td>
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### Allergies, sensitivities and adverse drug reactions

- **No-known allergies:** 
  - Initials: 
  - Date: 
  - Weight (kg): 100
  - Date: 
  - Surface area (m²): 
  - Date of birth: 23.08.57

- **Medication:** 
  -姓名: IQBAL
  - 性别: M
  - 出生日期: 23.08.57
  - 身高: 
  - 体重 (kg): 100

- **Medication/substance:** 
  - 反应: 
  - 严重程度: 
  - 初始日期: 
  - 姓名: Mohammed

- **Patient details/addressograph:** 
  - NHS/Hospital No: 5463721
  - 给药日期: 
  - 给药人: 
  - 审核: 
  - 起始时间: 
  - 完成时间: 

- **SC = subcutaneous**
- **IVC = intravenous central**
- **IVP = intravenous peripheral**
Procedure A: Intravenous insulin infusion

**CONTENT**

**Identifies and sets out equipment correctly; maintains aseptic technique throughout**
- Insulin vial (100 units)
- 250 ml bag of 0.9% saline
- Syringes
- Needles
- Medication label (sticker) to be completed by candidate.

**Correctly performs the procedure**
- Identifies patient from hospital bracelet (one cannot verbally confirm patient’s name and DOB as he is confused)
- Puts on gloves
- For both drugs (0.9% saline and insulin): checks vial/bag for correct name of drug and expiry date
- Checks correct patient identity against prescription on the chart
- Breaks open 0.9% saline and draws up 50 ml into 50 ml syringe using ‘green’ needle
- Draws up 50 units of insulin using the appropriate needle and syringe
- Using a second needle adds the insulin to the normal saline
- Ensures insulin is adequately mixed with saline
- Correctly completes medication label and applies it to the syringe.

**Obtains an acceptable/appropriate result**

**Disposes of all sharps and other items correctly**

**Ensures patient receives correct advice about what to do next and follow-up**

**Ensures nursing staff or other healthcare professionals receive correct information about the consequences/outcome of the procedure/task**
Procedure B: Cannulation

**CONTENT**

**Exposes and positions patient correctly and maintains comfort**

**Exposes forearm and assesses for appropriate vein**

**Identifies and sets out equipment correctly; maintains aseptic technique throughout**
- Gloves
- Alcohol swab to clean the skin
- Appropriate cannula (G14 or G16)
- Cannula dressing
- Tourniquet
- Extension tubing for cannula
- 0.9% saline flush
- 5 ml syringe and needles
- Labelled insulin infusion
- Sharps bin.

**Correctly performs the procedure**
- Puts on gloves
- Identifies patient’s ID from patient, against hospital bracelet and the prescription chart
- Checks correct details of the infusion against prescription chart
- Primed extension tubing using 0.9% saline flush
- Connects tubing to insulin infusion syringe
- Applies tourniquet to manikin arm
- Identifies appropriate vein to site cannula
- Cleans skin with alcohol swab
- Inserts cannula using appropriate technique: needle held at 45° to skin, smooth insertion under skin into vein
- Acknowledges flashback of blood
- Withdraws introducer to a degree, then inserts cannula to hub
- Releases tourniquet, presses on proximal vein while withdrawing introducer, connects cap
- Applies dressing
- Flushes the cannula using prepared 5 ml, 0.9% saline flush
- Connects primed extension tubing and insulin infusion.

**Obtains an acceptable/appropriate result**

**Disposes of all sharps and other items correctly**

**Ensures patient receives correct advice about what to do next and follow-up**

**Ensures nursing staff or other healthcare professionals receive correct information about the consequences/outcome of the procedure/task**
Patient script

You have been told that you are very unwell and need to be transferred to the ‘heart attack centre’ as soon as possible. However you need to be ‘a bit better’ and as such need to first go to the heart ward to make sure you are safe to travel.

You have also been told that you will need to be on lots of medicines to keep your heart safe and that these have all been shown to help people like you when they are having a heart attack.

However, one of the doctors has told you that many of the medicines may make you bleed and that someone will be coming to explain this to you.

You have been told that aspirin stops the blood forming clots that in turn cause heart attacks, but you don’t really know about the other medicines.

When told you have a 1 : 8–1 : 9 risk of having a major bleed, you tell the ‘doctor’ that this is TOO HIGH a RISK and that you don’t want the medicines. However, if the candidate is sympathetic, calm and reassuring, you will be convinced that this is a worthwhile risk. If the candidate is unsympathetic, bullying or aggressive, you should not change your mind.

If the candidate uses medical jargon or terms that you don’t think an intelligent lay person would know or understand you should challenge them to explain these to you.

You expect the doctors ‘know best’ but are very worried about the risk of the bleeding.
SCENARIO 1

CONTENT

Confirms reason for discussion – to talk to patient about the new medications and their risks and benefits

Establishes what patient wishes to know; gains agreement/informal consent to participate in the discussion

Reviews patient’s current understanding of clinical situation and summarises what has happened so far

Establishes patient’s ideas, concerns and expectations

Explains the key, important information; invites patient to ask questions and is able to deal with them appropriately

- Explains the aims of treatment and their benefits: to stop further clot progression and possible myocardial damage
- Introduces the idea of possible risks: may cause significant bleeding, e.g. from the bowel or possibly inside the brain
- Introduces idea of objective scoring system and how it can be used to calculate risk
- Shows patient that calculated CRUSADE score is 41
- Correctly explains the relative risk (11.9%, i.e. approx 1:8–1:9 risk) using clear, jargon-free and understandable language
- Deals sympathetically and appropriately with patient’s initial response (‘If it’s that high doctor I don’t want it’)
- Revisits ideas, concerns and expectations and deals with them appropriately
- Avoids giving wrong or disinformation
- Avoids aggressive or judgemental language.

Summarises important areas of the consultation back to the patient

Clarifies patient’s final position

- If patient is willing to take treatment, records this in the medical notes and prescribes the medications
- If patient is NOT willing to take the treatment, records this in the notes BUT may ask one of his/her seniors to come and revisit the issues once the patient has had time to think about them.

Formally ends the consultation and ensures appropriate follow-up has been discussed
Scenario 1: Reflection and consolidation

History

Mr Iqbal is a 54-year-old British-born Asian man. He was brought into the Emergency Department at about 09.30 after having suffered a severe episode of chest pain. Over the past 4–6 weeks he has been suffering with occasional episodes of chest pain that he initially thought was ‘bad indigestion.’ The first episode occurred while he was at work pushing some of the heavy trolleys around the postal depot. The pain was very tight and ‘squeezing,’ ‘like a band around his chest.’ It only lasted about a minute but was really bad and took his breath away. He had to sit down for about 5 minutes before he felt OK again. Since then he’s had two to three similar episodes, the last one while playing football with his grandson. This was a more severe and prolonged episode, lasting about 5–10 minutes. The pain was severe, and central, radiating to his jaw and left hand. He was sweaty and felt sick but it went off by itself after he lay down on the ground.

Today’s episode came on at the postal depot just after his morning tea. He was walking up a flight of stairs when the pain came on suddenly. This was the most severe pain he had ever experienced and he described it as ‘squeezing and crushing the life out of me.’ The pain was central, radiating to his jaw, left and right arms. He collapsed down the stairs but a work colleague pulled him to safety and made a pillow for him with a jacket. He was dizzy and faint but didn’t pass out. The pain continued for at least 10–15 minutes before the ambulance men arrived and gave him oxygen and some buccal nitrate. On arrival he still had a little chest discomfort. He had no symptoms of heart failure.

Risk factors:
- Strong family history of IHD and CV disease, including his father and grandparents dying of heart and stroke problems before the age of 70; Mr Iqbal also has two close cousins who have had MI in the last few years
- Probable pre-diabetes
- Ex-smoker: 20+ cigarettes/day until 4 or 5 years ago
- No known hypertension, stroke or PVD
- Alcohol: nil
- Weight: grossly overweight, being 5’8” and 15 and a half stone
- No regular medications; no known allergies
- PMH – no significant history
- Married with five children aged 26–17 years; the youngest three still live at home, two of them are unemployed
- Works in the local post office depot; shop steward of the local postal union and is the main bread-winner.
### Examination

On examination, Mr Iqbal is an obese, middle-aged Asian man. On arrival in the Emergency Department he looked unwell, pale and clammy and still had slight chest discomfort.

- Vital observations were: HR 104 bpm, BP 183/98 mmHg (large cuff required), RR 18 bpm, O₂ sats 87% on air, temperature 36.5 °C, CBG 16.4 mmol/l
- Feet to face: very overweight but nil else of note
- General examination: fingers of right hand heavily tar stained; no anaemia, no stigmata of hyperlipidaemia
- No carotid or other bruits heard
- CV examination: pulse 100 regular, low volume, normal character; BP 190/100 mmHg, JVP – not seen; HS 1 + 2 + ? 3rd heart sound
- RS examination: bibasal crackles to the midzones
- No ankle oedema
- All peripheral pulses palpable.
- Abdomen: obese, no organomegaly or masses
- Neurology: not formally assessed.

In summary, this is a 64-year-old Asian man with features suggestive of obesity, T2DM, ACS, LVF and poorly controlled hypertension.

### Investigations

Blood tests including FBC, U&Es, RBG, lipids, troponin (at 12 hours)

CXR: to confirm the features of heart failure; other features to look for include calcified valves, cardiomegaly and signs of respiratory disease eg features of COPD (chronic smoker)

ECG: to confirm or exclude signs of:
- Acute or chronic IHD, eg ST segment changes, T-wave changes, left bundle branch block
- Arrhythmia and signs of heart block

Hypertensive changes, eg left axis deviation, voltage criteria of LVH.

### Management

Acute ACS protocol, including LMWH or fondaparinux, aspirin and clopidogrel, anti-anginals – beta blockers, nitrates

Mr Iqbal has ongoing pain and therefore requires further anti-platelet and anticoagulants (see NICE guidelines below)

Treatment of LVF: IV nitrates and furosemide

IV insulin infusion

Secondary prophylaxis: statin, anti-platelets, anti-hypertensives

Further investigation according to GRACE or similar score – once stabilised Mr Iqbal will need PCI and possible stenting

Will need dietitian and diabetes specialist nurse review and will require a sensible but effective weight-loss programme.

### Further reading and web links

- [http://www.crusadebleedingscore.org/index.html](http://www.crusadebleedingscore.org/index.html)
- [NICE guidelines of ACS and NSTEMI](http://www.nice.org.uk/nicemedia/live/12947/47918/47918.pdf)
- [NICE guidelines on the management of cardiac chest pain of recent onset](http://www.nice.org.uk/nicemedia/live/12947/47918/47918.pdf)