Question 31

A 70-year-old man presents to the emergency department with prolonged chest pain which is relieved by morphine and sublingual nitrates. He has a three-week history of frequent exertional and nocturnal chest pain. Three years ago he suffered an uncomplicated inferior myocardial infarction. Coronary angiography at that time revealed a 30% proximal left anterior descending artery stenosis, a long 90% right coronary artery stenosis and a 70% stenosis of the proxima circumflex artery. As he was asymptomatic at the time, he was treated with aspirin, a beta-blocker and a hydroxyl-methylglutaryl-coenzyme A (HMG CoAO reductase inhibitory. He was also treated with an angiotensin converting enzyme (ACE) inhibitor for mild hypertension.

His current ECG shows Q waves in the inferior leads and 1 mm ST segment depression in leads V4-V6. A chest X-ray shows pulmonary pulmonary venous congestion.

Emergency staff have initiated herparin therapy and have continued his usual medications. On review two hours later, he is asymptomatic, the ST changes have resolved and his serum troponin I level is 2.5mg/L [less than 0.1]

Which one of the following management strategies would be most appropriate for this patient?

<table>
<thead>
<tr>
<th>Anti-Platelet Therapy</th>
<th>Stress Test</th>
<th>Angiography and Revascularisation Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Clopidogrel</td>
<td>Yes</td>
<td>Only for recurrent pain or a positive stress test</td>
</tr>
<tr>
<td>B. Clopidogrel</td>
<td>Not indicated</td>
<td>Angiography and proceed to coronary artery bypass graft</td>
</tr>
<tr>
<td>C. Tirofiban</td>
<td>Not indicated</td>
<td>Proceed to coronary bypass surgery</td>
</tr>
<tr>
<td>D. Tirofiban</td>
<td>Yes</td>
<td>Only for recurrent pain or a positive stress test</td>
</tr>
<tr>
<td>E. Tirofiban</td>
<td>Not indicated</td>
<td>Angiography and proceed to coronary artery bypass graft</td>
</tr>
</tbody>
</table>

E Guidelines for the management of acute coronary syndromes 2006


Features associated with high-risk, intermediate-risk and low-risk non-ST-segment-elevation acute coronary syndromes (NSTEACS)

High-risk features

Presentation with clinical features consistent with acute coronary syndromes (ACS) and any of the following high-risk features:

- Repetitive or prolonged (> 10 minutes) ongoing chest pain or discomfort;
- Elevated level of at least one cardiac biomarker (troponin or creatine kinase-MB isoenzyme);
- Persistent or dynamic electrocardiographic changes of ST segment depression ≥ 0.5 mm or new T-wave inversion ≥ 2 mm;
- Transient ST-segment elevation (≥ 0.5 mm) in more than two contiguous leads;
- Haemodynamic compromise — systolic blood pressure < 90 mmHg, cool peripheries, diaphoresis, Killip Class > I, and/or new-onset mitral regurgitation;
- Sustained ventricular tachycardia;
- Syncope;
- Left ventricular systolic dysfunction (left ventricular ejection fraction < 0.40);
- Prior percutaneous coronary intervention within 6 months or prior coronary artery bypass surgery;
- Presence of known diabetes (with typical symptoms of ACS); or
- Chronic kidney disease (estimated glomerular filtration rate < 60 mL/minute) (with typical symptoms of ACS).

Intermediate-risk features

Presentation with clinical features consistent with ACS and any of the following intermediate risk features AND NOT meeting the criteria for high-risk ACS:
Year 2003 Paper two: Questions supplied by Tricia

- Chest pain or discomfort within the past 48 hours that occurred at rest, or was repetitive or prolonged (but currently resolved);
- Age >65 years;
- Known coronary heart disease — prior myocardial infarction with left ventricular ejection fraction < 0.40, or known coronary lesion more than 50% stenosed;
- No high-risk changes on electrocardiography (see above);
- Two or more of the following risk factors: known hypertension, family history, active smoking or hyperlipidaemia;
- Presence of known diabetes (with atypical symptoms of ACS);
- Chronic kidney disease (estimated glomerular filtration rate < 60 mL/minute) (with atypical symptoms of ACS);
- or
- Prior aspirin use.

**Low-risk features**

Presentation with clinical features consistent with an acute coronary syndrome without intermediate-risk or high-risk features. This includes onset of anginal symptoms within the last month, or worsening in severity or frequency of angina, or lowering of angina threshold. ◆

**Treatment strategies for patients with non-ST-segment-elevation acute coronary syndromes (NSTEACS), based on risk stratification**

**High-risk NSTEACS**
Aggressive medical management and coronary angiography and revascularisation

**Intermediate-risk NSTEACS**
Further observation and risk stratification
Reclassification into either high risk or low risk

**Low-risk NSTEACS**
Discharge on upgraded medical therapy with urgent cardiac follow-up

**Early medical management of non-ST-segment elevation acute coronary syndromes (NSTEACS)**

**Low-risk and intermediate risk NSTEACS**
Aspirin

**High-risk NSTEACS**
Aspirin
Clopidogrel (unless immediate angiography is planned, or the patient is at high risk of requiring surgery)
Unfractionated heparin or subcutaneous enoxaparin
Intravenous tirofiban or eptifibatide
beta-blocker
### Summary of adjuvant therapy associated with reperfusion

<table>
<thead>
<tr>
<th>Medication</th>
<th>Primary percutaneous coronary intervention</th>
<th>Fibrin-specific fibrinolytic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Clopidogrel</td>
<td>Yes <em>(unless the need for acute CABG is likely)</em></td>
<td>Yes <em>(unless the need for acute CABG is likely)</em></td>
</tr>
<tr>
<td>Heparin</td>
<td>Unfractionated heparin <em>(ACT 200–300 s if using glycoprotein IIb/IIIa inhibitors, 300–350 s if not)</em> or Enoxaparin*</td>
<td>Unfractionated heparin <em>(APTT 1.5–2 times control [approx 50–70 s]) or Enoxaparin</em></td>
</tr>
<tr>
<td>Glycoprotein IIb/IIIa inhibitors</td>
<td>Abciximab optional</td>
<td>No</td>
</tr>
</tbody>
</table>

*CABG = coronary artery bypass graft. ACT = activated clotting time. APTT = activated partial thromboplastin time.

* Care should be taken in patients aged over 75 years, or those who have significant renal dysfunction — dose adjustment is required*