

Acute Coronary Syndrome [106, 108, 294–300]

1. Introduction

- Acute Coronary Syndrome (ACS) covers a range of conditions including:
 - i. unstable angina
 - ii. non-ST-segment-elevation myocardial infarction (NSTEMI)
 - iii. ST-segment-elevation myocardial infarction (STEMI).

Chest pain is a cardinal, but not the only, symptom of ACS or ‘heart attack’ (Table 3.43).

Table 3.43 – FEATURES OF DIFFERENT TYPES OF PAIN

Features which suggest a diagnosis of Myocardial Ischaemia include:

- Central chest pain.
- Crushing or constricting in nature.
- Persists for >15 minutes.
- Pain may also present in:
 - the shoulders
 - upper abdomen
 - referred to the neck, jaws and arm.

Features which suggest a diagnosis of stable angina include:

- Pain is typically related to exertion and tends to last minutes but should it persist for >15 minutes, or despite usual treatment, ACS is more likely.
- Coronary heart disease (CHD) is a major single cause of death in the UK.
- **Time is of the essence in restoring coronary blood flow in patients with ST segment elevation myocardial infarction (STEMI).**
- **The benefits of reperfusion with primary percutaneous coronary intervention (PPCI) or thrombolytic treatment are time-dependent.**
- **PPCI is now the most common form of reperfusion treatment.**
- Patients with STEMI who are ineligible for thrombolysis have a high mortality rate and should be referred for PPCI where facilities exist.

2. Incidence

- In 2010/11 the MINAP database recorded 79,863 heart attacks of which 40% were STEMI, but this is possibly an underestimation.

3. Severity and Outcome

- Approximately two-thirds of STEMI patients will die before they reach hospital.
- The risk of cardiac arrest from ventricular fibrillation (VF) or other arrhythmia is highest in the first few hours from symptom onset. VF can occur without warning.
- Survival from VF occurring in the presence of ambulance personnel with a defibrillator immediately available is as high as 40%. This falls rapidly to 2% or less if the defibrillator is not immediately available.
- Patients with NSTEMI and unstable angina manifestations of ACS are at significant risk of death and should be treated as medical emergencies.

4. Pathophysiology

- ACS occurs when there is an abrupt reduction in blood supply to the muscle of the heart; leading to myocardial ischaemia.
- Myocardial ischaemia is usually caused by a disruption of the internal artery wall, at the site of an atheroma plaque, causing a blood clot to form, occluding the coronary artery.

5. Assessment and Management

For assessment and management of ACS refer to Table 3.44 and Figure 3.6.

Methodology

For details of the methodology used in the development of this guideline refer to the guideline webpage.

KEY POINTS

Acute Coronary Syndrome

- Acute Coronary Syndrome refers to a spectrum of conditions.
- Always take defibrillator to the patient.
- Patients with ECG evidence of STEMI should be assessed for suitability for reperfusion with PPCI or thrombolysis according to local care pathways.
- Patients with NSTEMI remain at high risk and should be treated as a MEDICAL EMERGENCY.