



CARDIAC ARRHYTHMIAS IN CORONARY HEART DISEASE

ARRHYTHMIAS ASSOCIATED WITH CARDIAC ARREST

Adjunctive therapies in the peri-arrest period

REFRACTORY VT/VF

- D** Intravenous adrenaline/epinephrine should be used for the management of patients with refractory VT/VF.
- A** Intravenous amiodarone should be considered for the management of refractory VT/VF.

SUSTAINED VT (NO CARDIAC ARREST)

- D** Intravenous amiodarone, procainamide or sotalol should be used in the management of patients with haemodynamically stable VT.
- D** Patients with polymorphic VT should be treated with intravenous magnesium. QT interval prolonging drugs, if prescribed, should be withdrawn. If present, hypokalaemia should be corrected by potassium infusion and bradycardia by temporary pacing or isoprenaline infusion.

ASYSTOLE AND PULSELESS ELECTRICAL ACTIVITY

- D** Patients with cardiac arrest secondary to asystole or pulseless electrical activity should receive intravenous adrenaline/epinephrine.

BRADYCARDIA/SINOATRIAL DYSFUNCTION/HEART BLOCK

- D** Atropine should be used in the treatment of patients with symptomatic bradycardia.
- D** Temporary transcutaneous pacing should be initiated quickly in patients not responding to atropine.
- D** When atropine or transcutaneous pacing is ineffective consider adrenaline/epinephrine, dopamine, isoprenaline or aminophylline infusions before transvenous pacing is instituted.

ARRHYTHMIAS ASSOCIATED WITH ACUTE CORONARY SYNDROMES

Atrial fibrillation

- D** Class 1C anti-arrhythmic drugs should not be used in patients with AF in the setting of acute MI.
- D** Patients with AF and haemodynamic compromise should have urgent synchronised DC cardioversion or be considered for anti-arrhythmic and rate-limiting therapy using:
 - intravenous amiodarone **or**
 - digoxin, particularly in presence of severe LV systolic dysfunction with heart failure.

- D** Patients with AF with a rapid ventricular response, without haemodynamic compromise but with continuing ischaemia should be treated with one of:

- intravenous beta blockade, in absence of contraindications
- intravenous verapamil where there are contraindications to beta blockade and there is no LV systolic dysfunction
- synchronised DC cardioversion.

- D** Patients with AF without haemodynamic compromise or ischaemia should be treated with rate-limiting therapy, preferably a beta blocker, and be considered for chemical cardioversion with amiodarone or DC cardioversion.

CONDUCTION DISTURBANCES AND BRADYCARDIA

- D** Transvenous temporary pacing should be considered for patients with:
 - sinus bradycardia (*heart rate < 40 beats per minute*) associated with symptoms and unresponsive to atropine
 - alternating left and right bundle branch block
 - Mobitz type II AV block with new bundle branch block
 - third degree AV block in inferior MI, if unresponsive to atropine and haemodynamically compromised, and in all cases of anterior MI
 - ventricular standstill.

Transcutaneous pacing should be available to all patients with other atrioventricular and intraventricular conduction disturbances.

- D** Permanent pacing is indicated for patients with persistent Mobitz type II second degree block, or persistent third degree AV block.
- D** Permanent pacing should be considered for patients who have had transient second degree or third degree AV block with associated bundle branch block.

VENTRICULAR ARRHYTHMIAS

VENTRICULAR ARRHYTHMIAS AND ACUTE MI

- D** Patients who have primary VF should be recognised as being at increased risk during their hospital stay, and medical therapy should be optimised.
- D** Patients who have monomorphic VT following acute MI, or VF greater than 48 hours after infarction, should be recognised as being at increased short and long term risk and should be considered for revascularisation and ICD.

PREVENTION OF VENTRICULAR ARRHYTHMIAS AND SUDDEN DEATH

- A** Routine use of anti-arrhythmic drugs is not recommended following MI.
- B** Patients who have suffered a recent myocardial infarction and with LVEF ≤ 0.40 and either diabetes or clinical signs of heart failure should receive eplerenone unless contraindicated by the presence of renal impairment or high potassium levels.

Assessment of risk of sudden death

- C** LV function should be assessed in all patients with acute MI during the index admission.

ARRHYTHMIAS ASSOCIATED WITH CHRONIC CORONARY HEART DISEASE/LEFT VENTRICULAR DYSFUNCTION

Atrial Fibrillation

ANTI-ARRHYTHMIC DRUGS

- A** Amiodarone or sotalol treatment should be considered where prevention of atrial fibrillation recurrence is required on symptomatic grounds.

RATE VERSUS RHYTHM CONTROL

- A** Rate control is the recommended strategy for management of patients with well tolerated atrial fibrillation.
- Patients who are haemodynamically compromised, have myocardial ischaemia or are severely symptomatic as a result of AF with a rapid ventricular response should be treated promptly by electrical cardioversion.
- Patients with AF who remain severely symptomatic despite adequate rate control should be considered for rhythm control.