Aims

To outline the indications for transfer of patients with a Narrow Complex Tachycardia
To outline treatment regime for patients with a Narrow Complex Tachycardia

Application

EMRS doctors
SAS airwing Paramedics

Supraventricular Tachycardia

Background

Supraventricular tachycardia (SVT) is a tachycardia paced from the Atria or the AV node. SVT rhythms include:

- AVNRT or AV nodal reentrant tachycardia
- AVRT or AV reentrant tachycardia
- Junctional tachycardia

In the retrieval situation, there should be a lower threshold for sedating then electrically cardioverting patients with arrhythmias as this minimises time on scene, avoids potential deterioration during transport and speeds up time to transfer to medical unit/ CCU. Most patients will respond to vagal manoeuvres or drug therapy as outlined below. Definitive treatment is a synchronised DC shock.
Patients appropriate for retrieval team activation

Patients with SVT who have failed to respond to vagal manoeuvres and drug therapy and are showing adverse features (Shock / Syncope / Myocardial Ischaemia / Heart failure)

Advice to GP prior to team arrival

Establish IV access/ high flow oxygen
Valsalva maneuver- performed by forcibly exhaling against a closed airway
Try carotid sinus massage (not if digitalis toxicity/ acute ischaemia / or carotid bruit present)

If unsuccessful

- ADENOSINE 6mg iv fast bolus
- 12mg iv fast bolus repeated if unsuccessful
- (Adenosine contraindicated with known Wolf-Parkinson-White syndrome)

If unsuccessful consider

- Amiodarone 300mg in 5% dextrose over 60 minutes
- Magnesium 8mmol (2g) over 30 minutes esp if on diuretics or concurrent illness

Medical management on scene

Consider Amiodarone and Magnesium as above if not already given.

Patient showing adverse features (Shock / Syncope / Myocardial Ischaemia / Heart failure) should be electrically cardioverted.

- patients should have iv sedation or RSI
- Synchronised DC shock 50J, 100J, 150J biphasic (100J, 200J, 360J DC)
- Amiodarone 300mg IV over 10-20 mins and repeat shock
- Amiodarone 900mg over 24 hours
Atrial Fibrillation

Background

Treatment is determined by patients’ risk from the arrhythmia. In high risk patients an attempt should be made at cardioversion, first medically then electrically.

Patients appropriate for retrieval team activation

Patients with AF with high risk rate>150 bpm
ongoing chest pain,
signs of critical perfusion
who have not responded to treatment with Amiodarone or Digoxin.
In the retrieval situation, there should be a lower threshold for sedating then electrically cardioverting patients with arrhythmias as this minimises time on scene, avoids potential deterioration during transport and speeds up time to transfer to medical unit/ CCU.

Advice to GP prior to team arrival

- High flow oxygen
- Establish IV access
- If unstable
  
  Consider AMIODARONE 300mg over 1 hour
  Consider Magnesium 8mmol (2g) over 30 minutes
  Consider anticoagulation with heparin

- Control rate (β-Blocker or other)

Medical management on scene

If onset of AF known to be within 12 hours
- Heparinise if not already done so
- Patient should either be sedated or have RSI
- Synchronised DC shock 100J: 200J: 360J (100J: 150J: 200J if biphasic)
- If unsuccessful, consider further loading with Amiodarone 900mg over 23 hours

If onset of AF not known to be within 12 hours

- Consider heparinisation if not already done so
- Rate control with iv or oral: beta-blocker or verapamil (unless on B-blocker) or diltiazem or digoxin
- If unstable then continue to consider electrical cardioversion.
Triage

Patients may not need escorted air transfer following electrical cardioversion if stable
Ensure CCU bed available at receiving hospital.

References

ALS Resuscitation Council UK