

# Supra-ventricular Tachy-arrhythmias



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# Supra-ventricular Tachy-arrhythmias

## Atrial Tachyarrhythmias

- Contained completely in the atria
- Ex- Sinus tachycardia, sinus node reentrant tachycardia, Focal Atrial Tachycardia, Atrial Fibrillation (AF) & Atrial Flutter

## Atrio-ventricular Tachyarrhythmias

- Activation between the atrium & ventricle (or AV node)
- Ex - Atrio-ventricular reentrant tachycardia (AVRT), Atrio-ventricular nodal reentrant tachycardia (AVNRT) & Junctional tachycardia (JT)



# Supra-ventricular Tachy-arrhythmias

## Regular

- Sinus Tachycardia
- AV Nodal Re-entrant Tachycardia (AVNRT)
- AV Re-entrant Tachycardia (AVRT)
- Atrial Tachycardia
- Sino Atrial Reentrant Tachycardia
- Junctional Tachycardia

## Irregular

- Atrial Fibrillation
- Atrial Flutter with variable block
- Multifocal Atrial Tachycardia



# Symptoms

- **Palpitations** - Rapid & regular, Abrupt onset & sudden termination
- Neck pulsations
- Anxiety, Dizziness
- Dyspnoea, chest pain (specially among those with structural heart disease)
- Polyuria
- Due to release of ANP in response to atrial distension



# Management

**Hemodynamically unstable (SBP <90mmHg or APO)**

Sedate and cardiovert using synchronized DC shock (50-100 J)

**Hemodynamically stable**

- Vagal manoeuvres
  - Valsalva manoeuvre
  - Carotid sinus massage
- IV medications (If not responding to vagal manoeuvres)
  - Adenosine
  - Verapamil



# Valsalva Manoeuvre

- Patient in supine position with continuous ECG monitoring
- Should not take deep inspiration before breathing
- Ideally should blow into a mouthpiece of a manometer against a pressure of 30-40 mmHg for 15 seconds
- Alternatively can blow into a 50 cc syringe for 15 seconds
- On release of strain increase in Vagal tone may terminate the arrhythmia



# Carotid Sinus massage

- Patient in supine position with the neck extended & the face turned away
- Continuous ECG monitoring
- Pressure is applied with a vigorous & circular movement over one carotid artery at the level of the cricoid cartilage
- If no response procedure may be repeated on the opposite side
- CI – carotid bruit, recent stroke, MI



# IV Medications

- **IV Adenosine**

- 6 mg IV rapid bolus followed by a saline flush
- Contraindication – Bronchial Asthma
- Can repeat 12 & 18 mg if not successful

- **IV Verapamil**

- If Adenosine is not available use 5mg every 5 minutes to a total of 20mg

- **IV Metoprolol**

