Case 9
Stable Tachycardias

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Stable Tachycardias

Overview
• Step 1: Assess patient
• Step 2: Identify and evaluate arrhythmia
• Step 3: Treat arrhythmia

Stable Tachycardia

Initial therapy
• Administer oxygen
• Start IV
• Attach monitor
• Obtain 12-lead ECG
• Obtain portable chest x-ray in hospital setting

Step 1
Is patient stable or unstable?
• Patient has serious signs or symptoms? Look for
  • Chest pain (ischemic? possible ACS?)
  • Shortness of breath (lungs getting ‘wet’? possible CHF?)
  • Low blood pressure (orthostatic? dizzy? lightheaded?)
  • Decreased level of consciousness (poor cerebral perfusion?)
  • Clinical shock (cool and clammy? peripheral vasconstriction?)
• Are the signs and symptoms due to the rapid heart rate?

Step 2
Identify arrhythmia; classify patient into 1 of 4 tachycardia categories:
1. Atrial fibrillation/flutter
2. Narrow-complex tachycardia
3. Stable wide-complex tachycardia, unknown type
4. Stable monomorphic VT and/or stable polymorphic VT

1. Atrial Fibrillation/Flutter

Your evaluation of atrial fibrillation/flutter should focus on 4 clinical features.
• What are they?
Atrial Fibrillation: Evaluation Focus

4 Clinical Features
1. Is patient clinically unstable?
2. Is cardiac function impaired?
3. Is WPW present?
4. Is duration of AF <48 or >48 hours?

Atrial Fibrillation: Treatment Focus

4 Treatment Considerations
1. Treat unstable patients urgently
2. Control rate
3. Convert rhythm
4. Provide anticoagulation if indicated

Atrial Flutter

Attempt to establish a specific diagnosis:
• Obtain 12-lead ECG
• Gather clinical information
• Perform vagal maneuvers
• Give adenosine as a therapeutic agent, but it also serves as a diagnostic test

2. Narrow-Complex Tachycardias

Diagnostic efforts yield
• Ectopic atrial tachycardia
• Multifocal atrial tachycardia
• Paroxysmal supraventricular tachycardia (PSVT)

Treatment considerations
• Attempt therapeutic diagnostic maneuver:
  • Vagal stimulation
  • Adenosine
• Patient: impaired heart vs. normal cardiac function?
• Junctional tachycardia:
  • Automatic focus tachycardias respond better to blocking agents

2. Narrow-Complex Tachycardias (cont’d)
2. Narrow-Complex Tachycardias (cont’d)

Treatment considerations (cont’d)

- **PSVT:**
  - Re-entry tachycardia responds better to cardioversion
- **Ectopic or multifocal atrial tachycardia:**
  - Automatic focus tachycardias respond better to blocking agents

3. Stable Wide-Complex Tachycardia, Unknown Type

- Attempt to establish a specific diagnosis:
  - 12-lead ECG
  - Esophageal leads
  - Clinical information

Sinus Tachycardia

Wide-Complex Tachycardia

- Ventricular or
- Supraventricular with aberrant conduction?
4. Stable Monomorphic/Polymorphic VT

- Monomorphic VT: is cardiac function impaired?
  - Preserved: procainamide
  - Impaired: amiodarone OR lidocaine OR synchronized cardioversion

- Polymorphic VT: QT interval (baseline) prolonged?
  - Normal: treat ischemia, correct electrolytes (amiodarone or lidocaine if heart impaired)
  - Prolonged: correct electrolytes
    - Magnesium, overdrive pacing, isoproterenol, dilantin, lidocaine

Stable Tachycardia

- Initial therapy
  - Administer oxygen
  - Start IV
  - Attach monitor
  - Obtain 12-lead ECG
  - Obtain portable chest x-ray

Sinus Rhythm and PACs With Aberrant Conduction

Wide-Complex Tachycardia Followed by Second-Degree AV Block