Overview

• Sequence for reading EKGs
• Heart block
• Conduction delay
• Acute MI, NSTEMI, ischemia
• SVT
• VT
• Potpourri
Sequence for reading EKGs

• Rate (300, 150, 100, 75, 60, 50)
• Rhythm
• Axis
• Intervals (horizontal axis)
• Vertical deflections (vertical axis)
• ST and T waves
Normal electrocardiogram
First Degree AV Block
Second Degree Heart Block, Which type?
sites of 1-degree AV block
Second Degree Heart Block type I, Wenckebach
Mobitz Type-2 AV Block (3:1)
Third Degree Heart Block
Third Degree AV block (Complete Heart Block)

P-waves Marching through

QRS complexes without correlating p-waves
Trifascicular block
45 yo male underwent a PCI today and now is c/o chest pain, nausea and diaphoresis.
Anteroseptal and lateral MI
Lateral NSTEMI
Same lady. Not responding to your treatment
Ectopic atrial rhythm
Atrial tachycardia
Multifocal atrial tachycardia
y. o. m. heavy smoker with worsening SOB 45

Multifocal atrial tachycardia

different P wave morphologies
65 yo male smoker admitted with COPD exacerbation. Called with tachycardia and increased SOB.
74 yo W male hx of a NIDCM, ICD, CHF.
Mild SOB, no CP, BP 155/88
Ventricular Tachycardia
# VT vs. SVT: Clinical Clues

<table>
<thead>
<tr>
<th>Clues</th>
<th>VT</th>
<th>SVT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical history</td>
<td>Diseased heart</td>
<td>Healthy heart</td>
</tr>
<tr>
<td>Carotid message</td>
<td>No response</td>
<td>Terminated or slowed</td>
</tr>
<tr>
<td>Cannon A waves</td>
<td>May be present</td>
<td>Not seen</td>
</tr>
<tr>
<td>AV dissociation</td>
<td>May be present</td>
<td>Not seen</td>
</tr>
<tr>
<td>Fusion beats</td>
<td>May be seen</td>
<td>Not seen</td>
</tr>
<tr>
<td>Initial QRS deflection</td>
<td>Usu different from normal QRS</td>
<td>Same as the normal QRS</td>
</tr>
</tbody>
</table>
Ventricular Fibrillation
Torsades de Pointes
90yo female with NIDCM, BiV ICD, and new CVA who just started sotalol
WPW- Delta wave
Thank You

See supplemental EKGs
For your review

John R. Ward, DO
The P-QRS-T naming the lines
Normal conduction system
The hard wiring of the heart.
The electrical wires

- AV node
- Bundle of His
- Right bundle branch
- Left bundle branch
- Septal fascicle
- Left anterior fascicle
- Left posterior fascicle
- Purkinje fibers
Sinus arrhythmia
Sinus arrest with junctional escape
Atrial flutter
Atrial fibrillation
Multifocal PVC’s
R on T phenomenon

"R on T" Event

R on T: occur on the peak of the T wave of the preceding beat

PVC on T-Wave

Initiates Ventricular Tachycardia
Accelerated idioventricular rhythm
Ventricular fibrillation
WPW with atrial fibrillation
1:1 Atrial flutter, lateral ischemia
Inferolateral wall MI
Acute IWMI, right leads show RVMI
Ischemic lateral wall