#### Heart Disease: The Number One Health Problem for Women

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### **Objectives**

- To review new information regarding estrogen replacement and risk of CHD and stroke in women.
- To review coronary artery disease in women including the different presentation symptoms and the various responses to therapy.

### **Objectives**

- To review the evaluation and treatment of cardiac arrhythmias in women.
- To review the modification of risk factors for coronary heart disease in women.

# Arrhythmias in Women

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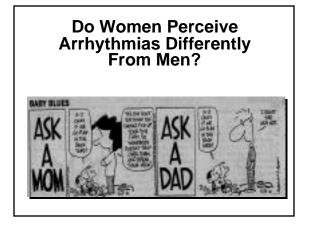
## There Really Are Gender Differences In Arrhythmias

- Resting HR in women is higher.
- Corrected QT interval is longer in women.
- Higher female incidence of certain genes for long QT syndrome.
- Higher female incidence of AVNRT vs WPW.
- Risk of torsades de pointes higher with antiarrhythmic drugs in women.

# Basis For Gender Differences Unclear

- Autonomic tone differences

   women may have higher baseline sympathetic tone
- Hormonal effects
   -menstural cycle effects
  - -pregnancy
- Ion channel differences



# Evaluation of Patients with Palpitations

- Symptoms and associated circumstances
  - -Detailed history
- Diagnostic evaluation
  - -Physical exam
  - -Diagnostic testing
  - -Ambulatory monitoring devices
- Management

# **Flip-Flopping**

- Heart seems to stop and start causing pounding or flipping sensation.
- Usually caused by PACs or PVCs.
- Pause following ectopic beat causes sensation that heart has stopped and pounding or flipping caused by forceful contraction after ectopic beat.

### **Rapid Fluttering**

- Can result from any sustained tachycardia VT, SVT, sinus tachycardia.
- Patients can sometimes see shirt moving rapidly.
- Sinus tach often occurs with activity and resolves gradually with rest in deconditioned patients. SVT or VT will stop suddenly if spontaneously terminating.

### **Pounding In The Neck**

- Usually caused by AV dissociation
  - -Reentrant SVTs (AVNRT or WPW)
  - -Ventricular tachycardia or sometimes PVCs
- Cannon A waves can be seen
- Feeling of being unable to catch one's breath

#### Circumstances

- Anxiety or panic reactions
- Periods of catecholamine excess
- Associated with position
- Associated with syncope or nearsyncope

### **Anxiety Or Panic**

- Cause or effect?
- Average of 3.3 years between onset of symptoms and diagnosis of SVT due to meeting DSM criteria for panic disorder (67%).
- Diagnosis of panic should not be accepted until true arrhythmic cause excluded.

### **Catecholamine Excess**

- Idiopathic ventricular tachycardias particularly RVOT
- Atrial fibrillation
- Torsades with startling
- Inappropriate sinus tachycardia

#### Palpitations Associated With Position

- Patients with AVNRT may notice onset when standing up after bending over.
- PVCs and PACs are more noticeable when lying in bed, since they are often more frequent with slower heart rates.

# Palpitations Associated With Syncope

- Should prompt a search for ventricular tachycardia
- Not common, but can occur with SVT particularly at onset of tachycardia likely due to acute vasodilatation, rapid HR with low CO

### Diagnostic Evaluation Detailed History

- Age of onset
  - Childhood or adolescent onset suggests WPW, perhaps AVNRT, idiopathic VT, long QT
  - Atrial tachycardias or afib generally later onset
- Description of palpitations
- helpful to have patient tap out rhythm with fingers

# Diagnostic Evaluation Detailed History

- Mode of onset and termination
- Complete ROS and social history

# Diagnostic Evaluation Physical Exam

- Helps define cardiac abnormalities that can serve as substrate for arrhythmias
  - -murmur of IHSS
  - -S3 gallop, displaced PMI, elevated JVP
  - -echocardiogram to confirm

# Diagnostic Evaluation Physical Exam

 Seldom will exam occur during episode of palpitations (except in ER) but findings such as irregularly irregular rhythm may be present (afib)

#### Diagnostic Evaluation 12 Lead ECG

- Short PR and delta wave (WPW)
- Marked LVH, deep septal Q waves in I, AVL, V4-6 (IHSS)
- LAE substrate for afib
- Q waves characteristic of prior MI possibility of VT
- Long QT, findings of Brugada syndrome

#### Diagnostic Testing Who Should Have?

- Initial evaluation suggests an arrhythmia.
- Patients at high risk for an arrhythmia
  - organic heart disease or abnormality that can cause serious arrhythmias
  - -strong family hx of sudden death
- Anxious patients who want explanation for their symptoms

#### Ambulatory Monitoring Devices

- Holter monitor
  - -24-48 hrs. Saves data continuously. Not good if infrequent symptoms.
- Event recorders
  - -"Beeper" records in real time when pt activated.
  - -"Looper" records few minutes before and after patient activated (continuous-loop).
  - -Can use for one month.

#### Management

- Referral of most sustained arrhythmias to an electrophysiologist either for drug or ablation/device therapy
- PACs, PVCs
  - Reassurance
  - -Beta-blocker therapy
  - -Avoid antiarrhythmic drug therapy
  - Lifestyle modification (*i.e.*, caffeine, sleep, stress

# Inappropriate Sinus Tachycardia

- Diagnosis made only when causes such as hyperthyroidism, anemia ruled out.
- Beta blockers, calcium channel blockers first line of therapy.
- Sinus node modification often an unrewarding form of therapy.

#### Summary

- The cause of palpitations in the vast majority of outpatients is benign, therefore extensive and costly investigation isn't warranted *but*
- Patients may desire a specific diagnosis for their symptoms
- Most important to identify those at high risk for serious causes of palpitations