My Racing Heart, What Does It Mean?

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MY RACING HEART:
WHAT DOES IT MEAN?

A VIDEO PODCAST
WITH DR. ROBERT PERCELL
CARDIOLOGIST, BRYAN HEART
Goals of Tonight’s Talk

What is Atrial Fibrillation (A Fib)?
Who gets A Fib?
Why is it important?
How do I know if I have it?
What are the treatment options?
Atrial Fibrillation
Who Gets Atrial Fibrillation?

Short answer is…

Everybody!
AF is the most common cardiac arrhythmia

- AF affects
  - 1 in 25 adults >60 years\(^1\)
  - 1 in 10 adults >80 years\(^1\)

- 7.5 million patients with AF in EU and US\(^2,3\)

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2. Fuster V et al. *J Am Coll Cardiol* 2006;38:1231-1266
Different Types of Atrial Fib
Definitions of AF

- **Paroxysmal AF**
  AF that terminates spontaneously or with intervention within 7 d of onset.

- **Persistent AF**
  Continuous AF that is sustained >7 d.

- **Long-standing persistent AF**
  Continuous AF >12 mo in duration.

- **Permanent AF**
  When the patient and clinician make a joint decision to stop further attempts to restore and/or maintain sinus rhythm.
"The bad news is that we've detected an irregular heartbeat.

The good news is that the rhythm is irresistible!"
Why is Atrial Fibrillation So Important?

2 Reasons:

Stroke

Death
# Risk factor-based point-based scoring system - CHA₂DS₂-VASc

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congestive heart failure/LV dysfunction</td>
<td>1</td>
</tr>
<tr>
<td>Hypertension</td>
<td>1</td>
</tr>
<tr>
<td>Age ≥ 75 ans</td>
<td>2</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>1</td>
</tr>
<tr>
<td>Stroke/TIA/thrombo-embolism</td>
<td>2</td>
</tr>
<tr>
<td>Vascular disease*</td>
<td>1</td>
</tr>
<tr>
<td>Age 65-74</td>
<td>1</td>
</tr>
<tr>
<td>Sex category [i.e. female sex]</td>
<td>1</td>
</tr>
<tr>
<td><strong>Maximum score</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

*Prior myocardial infarction, peripheral artery disease, aortic plaque. Actual rates of stroke in contemporary cohorts may vary from these estimates.*
<table>
<thead>
<tr>
<th>CHA2DS2-VASc</th>
<th>Stroke rate %/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>1</td>
<td>1.3%</td>
</tr>
<tr>
<td>2</td>
<td>2.2%</td>
</tr>
<tr>
<td>3</td>
<td>3.2%</td>
</tr>
<tr>
<td>4</td>
<td>4.0%</td>
</tr>
<tr>
<td>5</td>
<td>6.7%</td>
</tr>
<tr>
<td>6</td>
<td>9.8%</td>
</tr>
<tr>
<td>7</td>
<td>9.6%</td>
</tr>
<tr>
<td>8</td>
<td>12.7%</td>
</tr>
<tr>
<td>9</td>
<td>15.2%</td>
</tr>
</tbody>
</table>
How Do I Know if I Have A fib?

- General fatigue
- Rapid and irregular heartbeat
- Fluttering or “thumping” in the chest
- Dizziness
- Shortness of breath and anxiety
- Weakness
- Faintness or confusion
- Fatigue when exercising
- Sweating
- *Chest pain or pressure
What Are The Treatment Options?

Cornerstone:
Medications
Blood Thinners
Rate Control
# Approach to thromboprophylaxis in AF

<table>
<thead>
<tr>
<th>Risk category</th>
<th>CHA$_2$DS$_2$-VASc score</th>
<th>Recommended antithrombotic therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>One ‘major’ risk factor or ≥ 2 ‘clinically relevant non-major’ risk factors</td>
<td>≥ 2</td>
<td>OAC</td>
</tr>
<tr>
<td>One ‘clinically relevant non-major’ risk factor</td>
<td>1</td>
<td>Either OAC or aspirin 75-325 mg daily. Preferred: OAC rather than aspirin.</td>
</tr>
<tr>
<td>No risk factors</td>
<td>0</td>
<td>Either aspirin 75-325 mg daily or no antithrombotic therapy. Preferred: no antithrombotic therapy rather than aspirin.</td>
</tr>
</tbody>
</table>

AF = atrial fibrillation; CHA$_2$DS$_2$-VASc = cardiac failure, hypertension, age ≥ 75 (doubled), diabetes, stroke (doubled)-vascular disease, age 65–74 and sex category (female); INR = international normalized ratio; OAC = oral anticoagulation, such as a vitamin K antagonist (VKA) adjusted to an intensity range of INR 2.0–3.0 (target 2.5).

Management Decision in AF

- Antiarrhythmic
- Rate Control
- Ablation
Rate Control
Rate Control

- Control ventricular rate using a beta blocker or non-DHP CCBs for paroxysmal, persistent, or permanent AF (Class I)
- IV beta blocker or non-DHP CCBs is recommended to slow ventricular heart rate in the acute setting in patients without pre-excitation. In hemodynamically unstable patients, electrical cardioversion is indicated (Class I)
- A heart rate control (resting heart rate <80 bpm) strategy is reasonable for symptomatic management of AF (Class IIa)
- IV amiodarone can be useful for rate control in critically ill patients without pre-excitation (Class IIb)
Management Decision in AF

- Antiarrhythmic
- Rate Control
- Ablation
Rhythm Control
Prevention of Thromboembolism

- With AF or atrial flutter for $\geq 48$ h, or unknown duration, anticoagulate with warfarin for at least 3 wk before and 4 wk after cardioversion (Class I)
- With AF or atrial flutter for $>48$ h or unknown duration, requiring immediate cardioversion, anticoagulate as soon as possible and continue for at least 4 wk (Class I)
- With AF or atrial flutter $<48$ h and high stroke risk, IV heparin or LMWH, or factor Xa or direct thrombin inhibitor, is recommended before or immediately after cardioversion, followed by long-term anticoagulation (Class I)
- With AF or atrial flutter $<48$ h and low thromboembolic risk, IV heparin, LMWH, a new oral anticoagulant, or no antithrombotic may be considered for cardioversion (Class IIb)
Direct-current cardioversion

- Cardioversion is recommended for AF or atrial flutter with RVR, that does not respond to pharmacological therapies and contributes to ongoing myocardial ischemia, hypotension, or HF (Class I)
- Cardioversion is recommended for AF or atrial flutter and pre-excitation with hemodynamic instability (Class I)
Pharmacological cardioversion

- Flecainide, dofetilide, propafenone, and IV ibutilide are useful for cardioversion of AF or atrial flutter, provided contraindications to the selected drug are absent (Class I)
- Amiodarone is reasonable for pharmacological cardioversion of AF (Class IIa)
- Propafenone or flecainide (“pill-in-the-pocket”) to terminate AF out of hospital is reasonable once observed to be safe in a monitored setting (Class IIa)
Management Decision in AF

- Antiarrhythmic
- Rate Control
- Ablation
AV NODAL ABLATION

- Rapid, uncontrolled ventricular rates during AF
- Refractory or intolerant of antiarrhythmic therapy
Catheter Ablation
Pacemaker Required
Atrial Fibrillation Ablation

It’s ALL About The Veins!
AF - targeting the triggers

Diagram showing heart anatomy with labels for SVC, RA, LA, IVC, right superior pulmonary vein, left superior pulmonary vein, ostium, and left inferior pulmonary vein.
Cryoballoon Ablation
Figure 3

Cryoballoon Ablation

1. Wire Targeted Vein
2. Inflate and Position
3. Occlude and Albrate

B

Ablates at the point of balloon contact
Remote Control? ... Stereotaxis!
Remote Control?... STEREOTAXIS!
WATCHMAN LAA Closure Device

Plane of maximum diameter distal to ostium

Fixation barbs engage LAA wall
SUMMARY

A Fib is NOT a Joke!
Everyone is at risk!
Know the Signs and Symptoms!
Get Tested to Prevent Stroke!
A Fib can be treated and possibly cured!
QUESTIONS?