Atrial Fibrillation in Women

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Healthed Women’s Health Update

Contents

• Prevalence of AF in Women
• Type of AF in women
• AF and stroke risk in women – Are strokes more disabling in women with AF
• Risk of Bleeding with anticoagulation in women
• Case studies
• Summary of AF treatment

Relationship Between Atrial Fibrillation and Age

Age, years

Prevalence, percent

AF prevalence

Framingham Heart Study


Ischemic Strokes in Atrial Fibrillation
More Likely to be Severely Disabling

Framingham Heart Study

**ESC 2012 AF Update Guidelines**

**Important New Developments**

- Assess stroke risk exclusively with CHA\textsubscript{2}DS\textsubscript{2}-VASc and no longer use CHADS\textsubscript{2}
- ESC Guidelines recommend anticoagulation for stroke prevention with CHA\textsubscript{2}DS\textsubscript{2}-VASc score of 1 or greater
- Preference given to novel, non-monitored anticoagulants: apixaban, rivaroxaban, and dabigatran

**Stroke Risk**

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Score</th>
<th>CHA\textsubscript{2}DS\textsubscript{2}-VASc Score</th>
<th>Stroke Risk per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congestive Heart Failure/LV dysfunction</td>
<td>1</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>1</td>
<td>1</td>
<td>1.3%</td>
</tr>
<tr>
<td>Age ≥ 75 years</td>
<td>2</td>
<td>2</td>
<td>2.2%</td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>1</td>
<td>4</td>
<td>4.0%</td>
</tr>
<tr>
<td>Stroke/TIA/Thromboembolism</td>
<td>2</td>
<td>5</td>
<td>6.7%</td>
</tr>
<tr>
<td>Vascular Disease</td>
<td>1</td>
<td>6</td>
<td>9.8%</td>
</tr>
<tr>
<td>Age 65 – 74</td>
<td>1</td>
<td>1</td>
<td>9.6%</td>
</tr>
<tr>
<td>Female</td>
<td>1</td>
<td>8</td>
<td>6.7%</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>9</td>
<td>15.2%</td>
</tr>
</tbody>
</table>

**Bleeding Risk**

<table>
<thead>
<tr>
<th>Letter</th>
<th>Clinical characteristic*</th>
<th>Points</th>
<th>HAS-BLED score (total points)</th>
<th>Bleeds per 100 patient-years*</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>Hypertension (or uncontrolled blood pressure)</td>
<td>1</td>
<td>0</td>
<td>1.13</td>
</tr>
<tr>
<td>A</td>
<td>Abnormal renal and liver function (1 point each)</td>
<td>1 or 2</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>S</td>
<td>Stroke</td>
<td>1</td>
<td>2</td>
<td>1.60</td>
</tr>
<tr>
<td>B</td>
<td>Bleeding tendency or proclivity</td>
<td>1</td>
<td>3</td>
<td>2.74</td>
</tr>
<tr>
<td>L</td>
<td>Labile INR (for patients taking warfarin)</td>
<td>1</td>
<td>4</td>
<td>8.70</td>
</tr>
<tr>
<td>E</td>
<td>Elderly (age greater than 65 years)</td>
<td>1</td>
<td>5 to 9</td>
<td>Insufficient data</td>
</tr>
<tr>
<td>D</td>
<td>Drugs (non-steroid anti-inflammatory agents or antiplatelets or antipsychotics)</td>
<td>1</td>
<td>1 or 2</td>
<td></td>
</tr>
</tbody>
</table>

Maximum 9 points

**Stroke risk in women**

- Women 20 to 79 years old, the risk of stroke is 4.6-fold greater in women than men. In addition, mortality for women with AF is up to 2.5 times greater than that for men.

- AF sufferers have a five-fold increase in stroke risk compared to the general population. The numbers for women tell a dire story:

*Michelena H, Powell RK, Brady PA, Friedman PA, Ezekowitz MD. Gender in atrial fibrillation: ten years later. Gend Med. 2010;3(1):.
*206-217.
• Stroke is 4th leading cause of death for women
• Women account for more than 60% of stroke related deaths
• After age 75, 60% of those with AF are women
• There have been greater declines in stroke death rates among men than women

• Women are also more likely to experience longer symptomatic episodes, more frequent recurrences and significantly higher ventricular rates during AF

Why are there gender differences in AF?
• Specific AF related differences
• Eg BP is strongly associated with AF in women.
• These differences between men and women with AF may be based in physiology, vascular biology, genetics, hormones, or thromboembolic factors. Certainly, menstrual cycles and hormones play a role in women.

• Stroke risk not greater for women if <65 and no additional stroke risk factors (Lone AF)
• Therefore 50 yo woman with lone AF (CHA2DS2-VASC = 1) may not need anticoagulation

• Swedish study found that the rate of ischemic stroke in AF patients younger than 65 was 47% high in women than men.

• More likely to live with stroke related disability than men and have significantly lower quality of life.

• Women also live longer than men, placing them in the susceptible age range for AF for a longer amount of time.

• Euroheart survey found that women with AF have more than double the thromboembolism risk of men the AF.


• Although heavy alcohol consumption is associated with higher risk of AF among men, there is no such association in women.


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**Treatment Differences**

• Electrocardioversion is used significantly less in women than men

• AF ablation referral less for women than men despite similar outcomes

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**Bleeding and anticoagulation differences**

• Women are also at a higher risk than men for AF-related thromboembolism when off of warfarin.

• When it comes to warfarin, men have been found to have lower warfarin adherence rates than women.

• Warfarin is superior to aspirin in reducing the risk of stroke, especially in women, as it reduces the risk by 84 percent in them compared to 60 percent in men.

• However, women over 75 years old were 54 percent less likely to receive warfarin and twice as likely to receive aspirin.

• But what may be even better news for women is that stroke reduction results of the newer novel oral anticoagulants are even stronger than warfarin.

• When looking to prescribe anticoagulant medication to women, additional risk of bleeding shouldn’t be a concern. Studies have shown bleeding risk for men and women to be about the same.


Case Study

- Mrs Smith
- 55 yo woman
- Episode of severe lower back pain
- Presented to Emergency Department – found to be in AF (HR 120)
- Given analgesia, aspirin and Metprolol
- Self-reverted within 6 hours

• Follow-up in your practice
• ? What next
• CHA2DS2VASc – 1
• ? Anticoagulation ?B-Blocker
• ?Further Investigation

Case Study 2

- 76 yo man
- Routine health check, asymptomatic
- Found to be AF (HR 82)
- NIDDM, Hypertension

• What next?
• ? CHA2DS2VASc
• ?Anticoagulation ?Rate control vs Rhythm

Case Study

- 82 yo woman
- Longstanding history of AF
- Warfarin 2 years
- Presents with large GI bleed. HB 59 (3 units Packed cells. Warfarin ceased.
- Previous Stroke 3 years ago. History of HT.

• What next?
• CHADS2VASc?
• ?start Aspirin ? NOAC (?which one) ?Other
• ? DC cardioversion
• ?AF ablation to reduce risk of stroke
Summary for treatment of AF

- Rate vs Rhythm control
- Anticoagulation vs no Anticoagulation

Rate vs Rhythm

- Rate control is default option unless:
  - AF that is symptomatic (usually young patients with paroxysmal AF)
  - Left ventricular impairment

Anticoagulation vs No Anticoagulation

- CHA$_2$DS$_2$VASC ≥ 1 consider Anticoagulation
- CHA$_2$DS$_2$VASC = 0 No Anticoagulation

Take Home Messages

- AF in women is common and risk of stroke and mortality is significantly higher than compared with men
- Anticoagulation in women (warfarin or NOAC) reduces the risk of stroke significantly greater than men
- In general, bleeding risk on anticoagulation is comparable to men.