

Atrial Fibrillation in Women

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 Healthed Women's Health Update

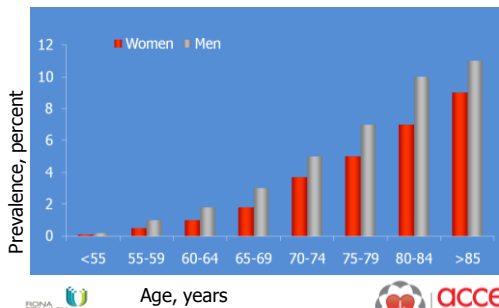


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- Prevalence of AF in Women
- Type of AF in women
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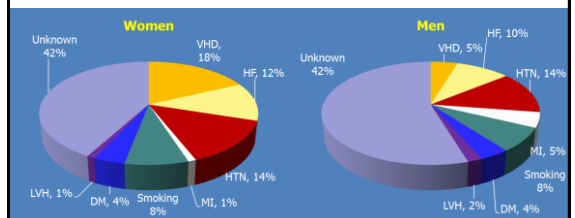
Relationship Between Atrial Fibrillation and Age



Go AS, et al. JAMA. 2001; 285:2370-2375.



Atrial Fibrillation Risk Factors

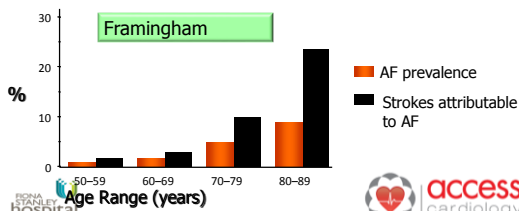


Magnani JW, et al. Circulation 2011; 124: 1982-1993



Stroke and Atrial Fibrillation Burden

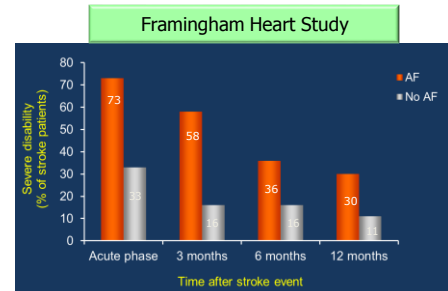
- ▶ Approximately 5-fold increased risk of stroke
- ▶ Quantify stroke risk: CHADS₂/ CHA₂DS₂-VASc
- ▶ AF strokes have worse outcomes



Wolf PA, et al. Stroke 1991; 22: 983-988



Ischemic Strokes in Atrial Fibrillation More Likely to be Severely Disabling



Lin HJ, et al. Stroke. 1996;27:1760-1764.



Stroke Risk

Risk Factors	Score	CHA2DS2-VASc score	Stroke Risk per Year
Congestive Heart Failure/LV dysfunction	1	0	0%
Hypertension	1	1	1.3%
Age ≥ 75 years	2	2	2.2%
Diabetes Mellitus	1	3	3.2%
Stroke/TIA/Thromboembolism	1	4	4.0%
Vascular Disease	2	5	6.7%
Age 65 – 74	1	6	9.8%
Female	1	7	9.6%
Total	9	8	15.2%



Bleeding Risk

Clinical characteristics comprising the HAS-BLED Bleeding Risk Score

Letter	Clinical characteristic*	Points	HAS-BLED score (total points)	Bleeds per 100 patient-years*
H	Hypertension (ie uncontrolled blood pressure)	1	0	1.13
A	Abnormal renal and liver function (1 point each)	1 or 2	1	1.02
S	Stroke	1	2	1.88
B	Bleeding tendency or predisposition	1	3	3.74
L	Labile INRs (for patients taking warfarin)	1	4	8.70
E	Elderly (age greater than 65 years)	1	5 to 9	Insufficient data
D	Drugs (concomitant aspirin or NSAIDs) or alcohol abuse (1 point each)	1 or 2		
		Maximum 9 points		



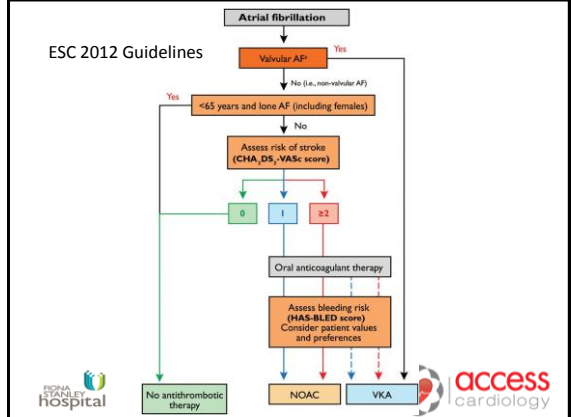
ESC 2012 AF Update Guidelines

Important New Developments

- ▶ Assess stroke risk exclusively with CHA₂DS₂-VASc and no longer use CHADS₂
- ▶ ESC Guidelines recommend anticoagulation for stroke prevention with CHA₂DS₂-VASc score of 1 or greater
- ▶ Preference given to novel, non-monitored anticoagulants: apixaban, rivaroxaban, and dabigatran



ESC 2012 Guidelines



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.

• Michelenia HI, Powell BD, Brady PA, Friedman PA, Ezekowitz MD. Gender in atrial fibrillation: ten years later. *Gen Med.* 2010;3(7): 206-217.



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



- 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

- Volgman AS, Manankil MF, Mookherjee D, Trohman RG. Women with atrial fibrillation: greater risk, less attention. *Gend Med.* 2009;6(3):419-32.
- Roger VL, Go AS, Lloyd-Jones DM, et al. Heart disease and stroke statistics — 2012 update: a report from the American Heart Association. *Circulation.* 2012;125:e2-e220.



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

- Roy D, Talajic M, Dorian P, et al. Amiodarone to prevent recurrence of atrial fibrillation. Canadian Trial of Atrial Fibrillation Investigators. *N Engl J Med.* 2000;342(13):913-920.



- Stroke risk not greater for women if <65 and no additional stroke risk factors (Lone AF)
- Therefore 50 yo woman with lone AF (CHA₂DS₂VASC = 1) may not need anticoagulation

- Mikkelsen AP, Lindhardtsen J, Lip GY, Gislason GH, Torp-Pedersen C, Olesen JB. Female sex as a risk factor for stroke in atrial fibrillation: a nationwide cohort study. *J Thromb Haemost.* 2012;10(9):1745-1751.



- 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.

- Friberg L, Benson L, Rosenqvist M, Lip GY. Assessment of female sex as a risk factor in atrial fibrillation in Sweden: nation-wide retrospective cohort study. *BMJ.* 2012;344:e3522.
- Volgman AS, Manankil MF, Mookherjee D, Trohman RG. Women with atrial fibrillation: greater risk, less attention. *Gend Med.* 2009;6(3):419-32.



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.

- Volgman AS, Manankil MF, Mookherjee D, Trohman RG. Women with atrial fibrillation: greater risk, less attention. *Gend Med.* 2009;6(3):419-32.



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

- Mason PK, Moorman L, Lake D, et al. Gender and racial characteristics of patients referred to a tertiary atrial fibrillation center. *JAFIB.* 2010;2(3):827.



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

• Lip GY, Nieuwlaat R, Pisters R, Lane DA, Cri- jns HJ. Refining clinical risk stratification for predicting stroke and thromboembolism in atrial fibrillation using a novel risk factor- based approach: the euro heart survey on atrial fibrillation. *Chest*. 2010;137:263–72.



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

• Mukamal KJ, Tolstrup JS, Friberg J, Jensen G, Grønbaek M. Alcohol consumption and risk of atrial fibrillation in men and women: the Copenhagen City Heart Study. *Circulation*. 2005;112(12):1736-1742.



Treatment Differences

- Electrocardioversion is used significantly less in women than men
- AF ablation referral less for women than men despite similar outcomes



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

• Fang MC, Singer DE, Chang Y, et al. Gender differences in the risk of ischemic stroke and peripheral embolism in atrial fibrillation: the Anticoagulation and Risk factors In Atrial fibrillation (ATRIA) study. *Circulation*. 2005;112:1687-1691.



- 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.

• Volgman AS, Manankil MF, Mookherjee D, Trohman RG. Women with atrial fibrillation: greater risk, less attention. *Gen Med*. 2009;6(3):419-32.



- 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.

• Kneeland PP, Fang MC. Current issues in patient adherence and persistence: focus on anticoagulants for the treatment and prevention of thromboembolism. *Patient Prefer Adherence*. 2010;4:51-60.



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

- $CHA_2DS_2VASC \geq 1$ consider Anticoagulation
- $CHA_2DS_2VASC = 0$ 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.

