

Hoe om te gaan met device-gedetecteerd of postoperatief atriumfibrilleren



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8^e Nationale Antistollingsdag
Zeist, 2 November 2021

Disclosures M.E.W. Hemels:

Sprekersvergoeding: Astra Zeneca, Bayer, BMS/Pfizer, Biotronik, Boehringer Ingelheim, Daiichi Sankyo, Medtronic, Roche Diagnostics

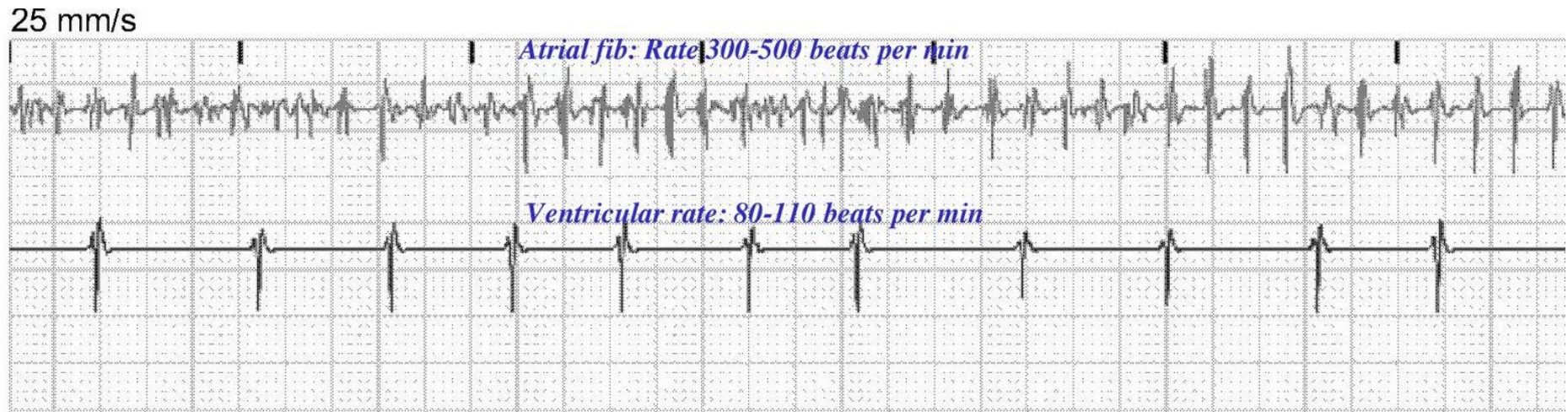
Local PI (in Rijnstate) van ARTESIA-studie en NOAH-studie

Vrouw, 77 yr, DDD PM i.v.m. sinusarresten

- Frequent asymptomatische supraventriculaire extrasytolen (SVES)
- Niet eerder atriumfibrilleren gediagnosticeerd
- Bij laatste controle: 'Atrial High Rate Episodes' (AHRE), variërend van 1 minuut to 2 uur, totale 'AT/AF' burden 1.3% gedurende de afgelopen 3 mnd, totaal 20 episodes
- (virtuele) CHA₂DS₂-VASc score 3



Pollvraag 1: Hoe noemen we deze bevinding?



- A. Géén AF
- B. Subklinisch AF
- C. Klinisch AF

Leeftijdsspecifieke incidentie van ischemisch CVA

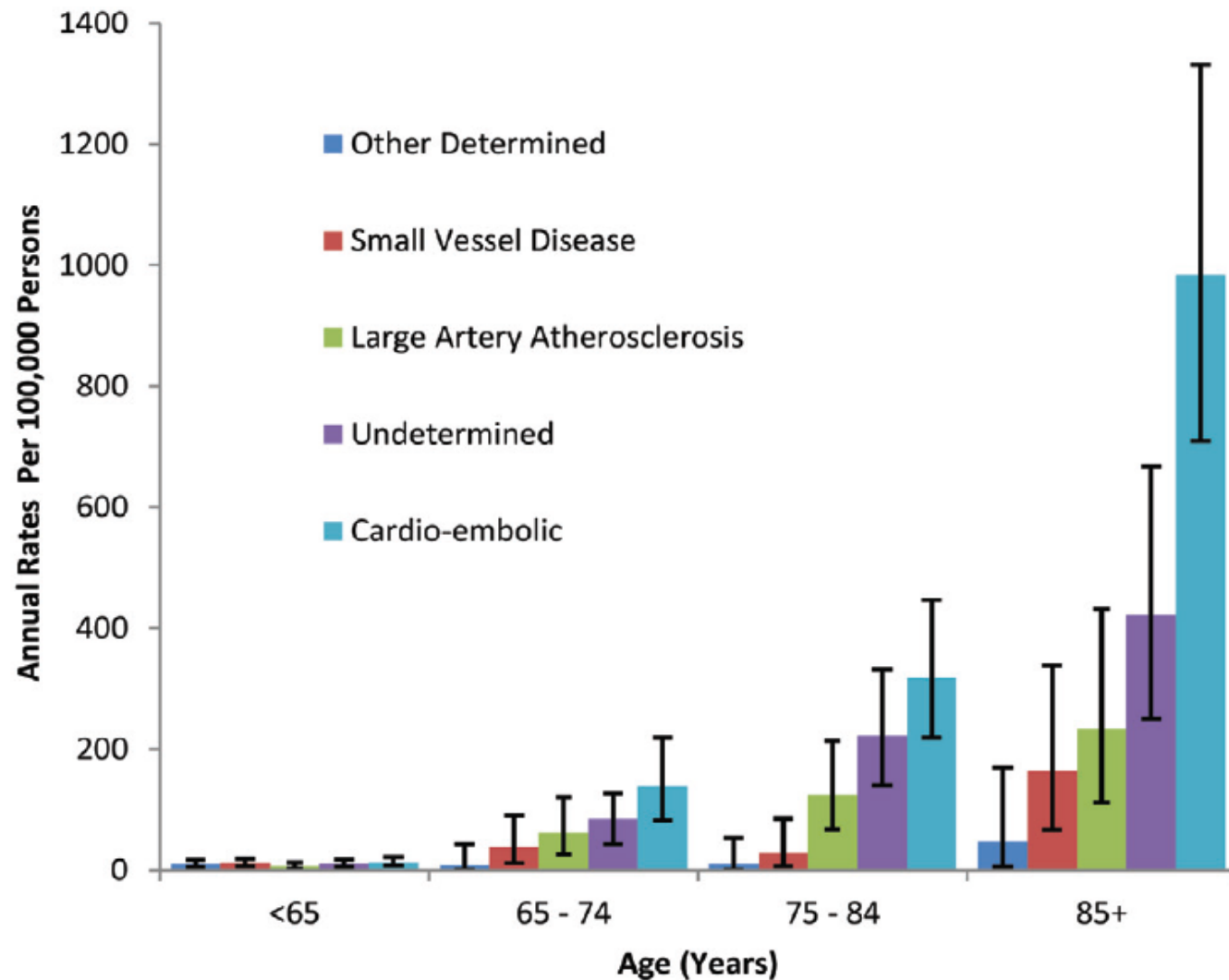
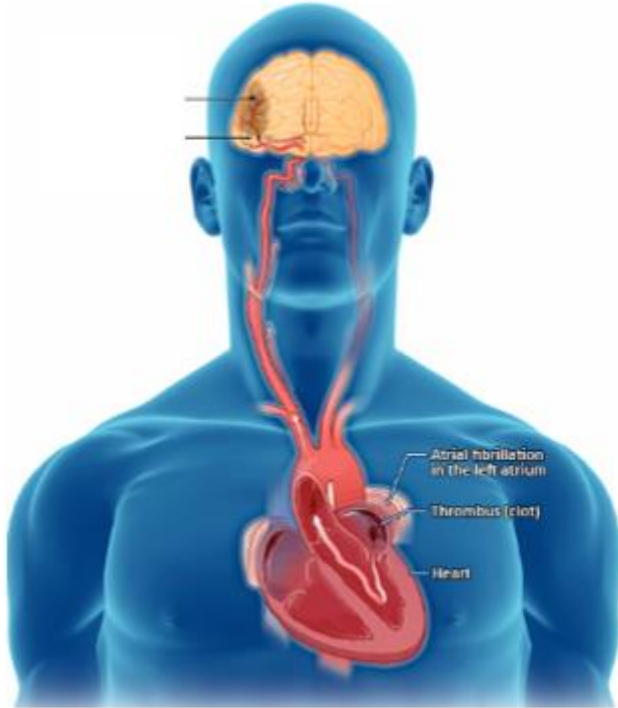


Figure 3. Age-specific incidence rates for all ischemic stroke subtypes in Adelaide (2009–2010).

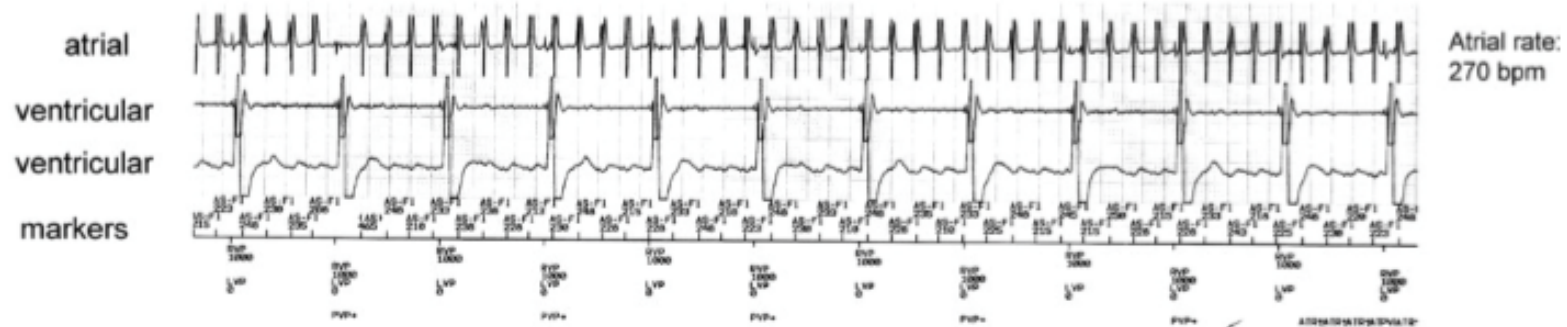
SPAF



stroke risk 4,5x ↑

CHADSVASc Risk factor		score	Stroke risk
CHF	1	0	0%
Hypertension	1	1	1.3%
Age ≥ 75 yr	2	2	2.2%
Diabetes	1	3	3.2%
Stroke/TIA	2	4	4.0%
Vascular disease	1	5	6.7%
Age 65-75 yr	1	6	9.8%
Sex female	1		

dd-SCAF: is it different from AF?

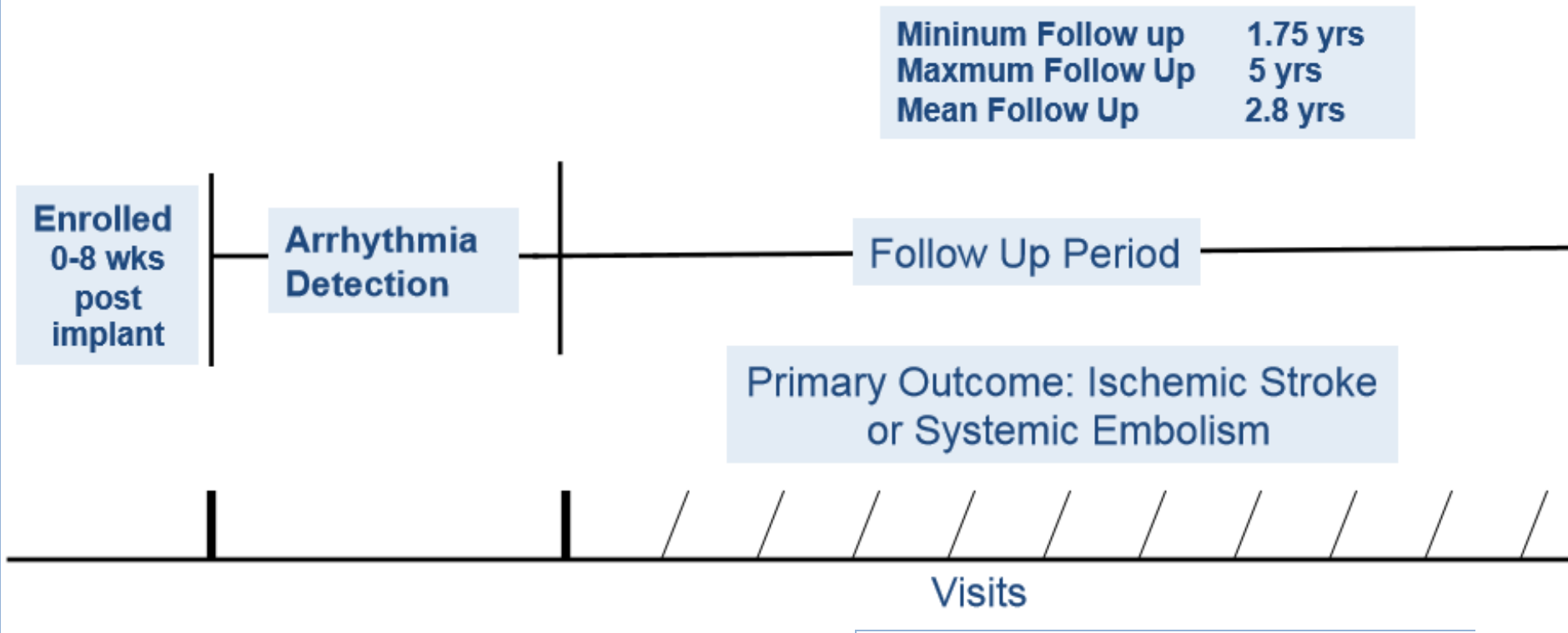


- **(dd-)SCAF** = (device detected) SubClinical Atrial Fibrillation
- **SCAF** is a variant of clinical AF but differs in that SCAF:
 - is often asymptomatic; episodes short in duration
 - would not be detected by means other than an implanted device with 24/7 recording

is the cardiovascular risk with SCAF the same as with AF?

ASSERT: is SCAF is associated with risk?

Prospective study to determine if AHRE are associated with increased risk of stroke



ASSERT: is SCAF is associated with risk?

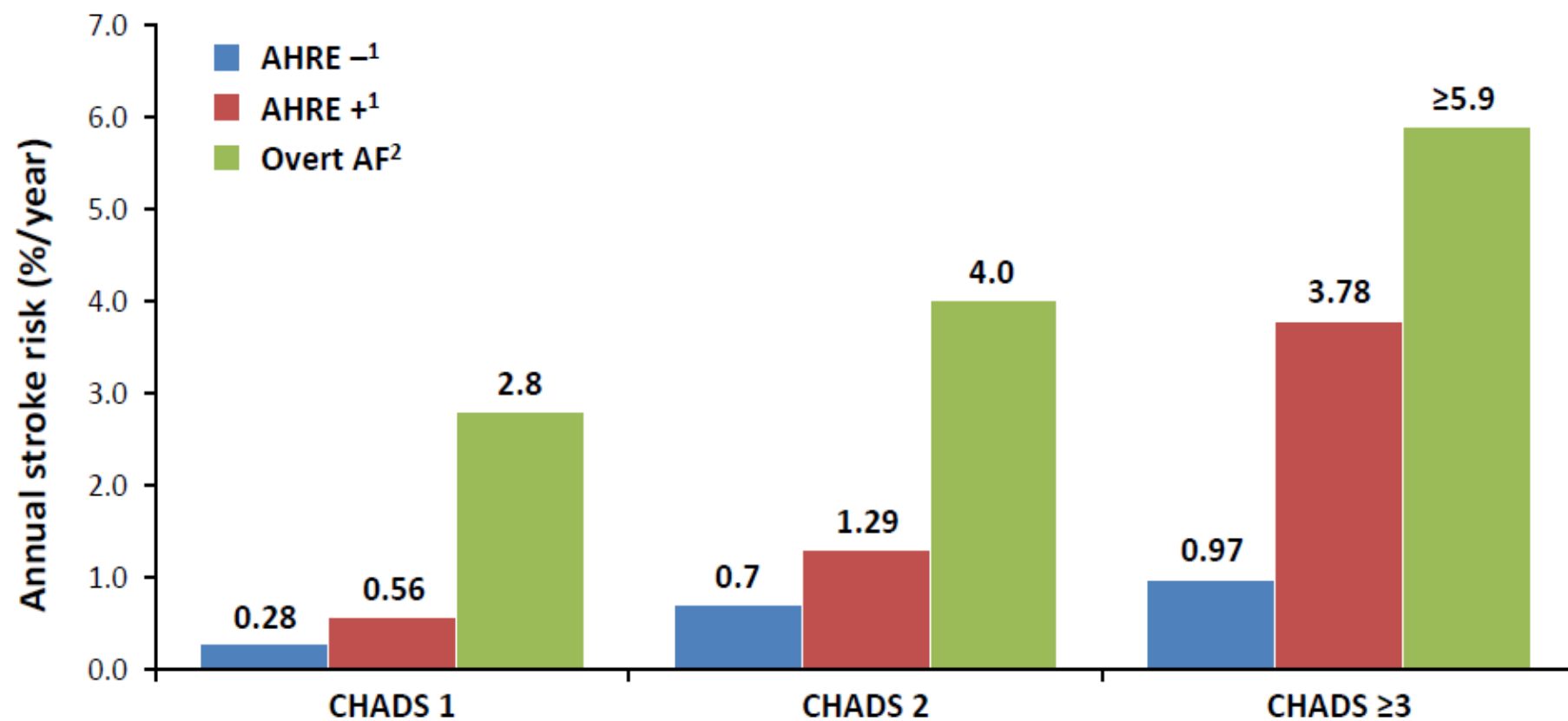
- 2580 PM/ICD pts \geq 65 years + hypertension
 - no history of AF, not using VKA
- **AHRE** = atrial rate >190 BPM, >6 min
 - Monitor from enrolment to 3 month for AHRE
 - Prospective follow up for stroke from 3 month visit onwards, mean follow up 2.8 yr
 - 10.1% had episode(s) of AHRE in first 3 month
 - 36% of pts had at least one episode of AHRE
- adjudication of all available AHRE

ASSERT: is SCAF is associated with risk?

baseline	AHRE before 3 month visit	
	no n = 2319	yes n = 261
age	76.3	77.0
CHADS ₂	2.26	2.21

	event %/yr		HR	95% CI	p
	AHRE no	AHRE yes			
Stroke / SE	0.69	1.69	2.49	1.28 – 4.85	0.007
Clinical AF/AFL	1.22	6.29	5.56	3.78 – 8.17	<0.001

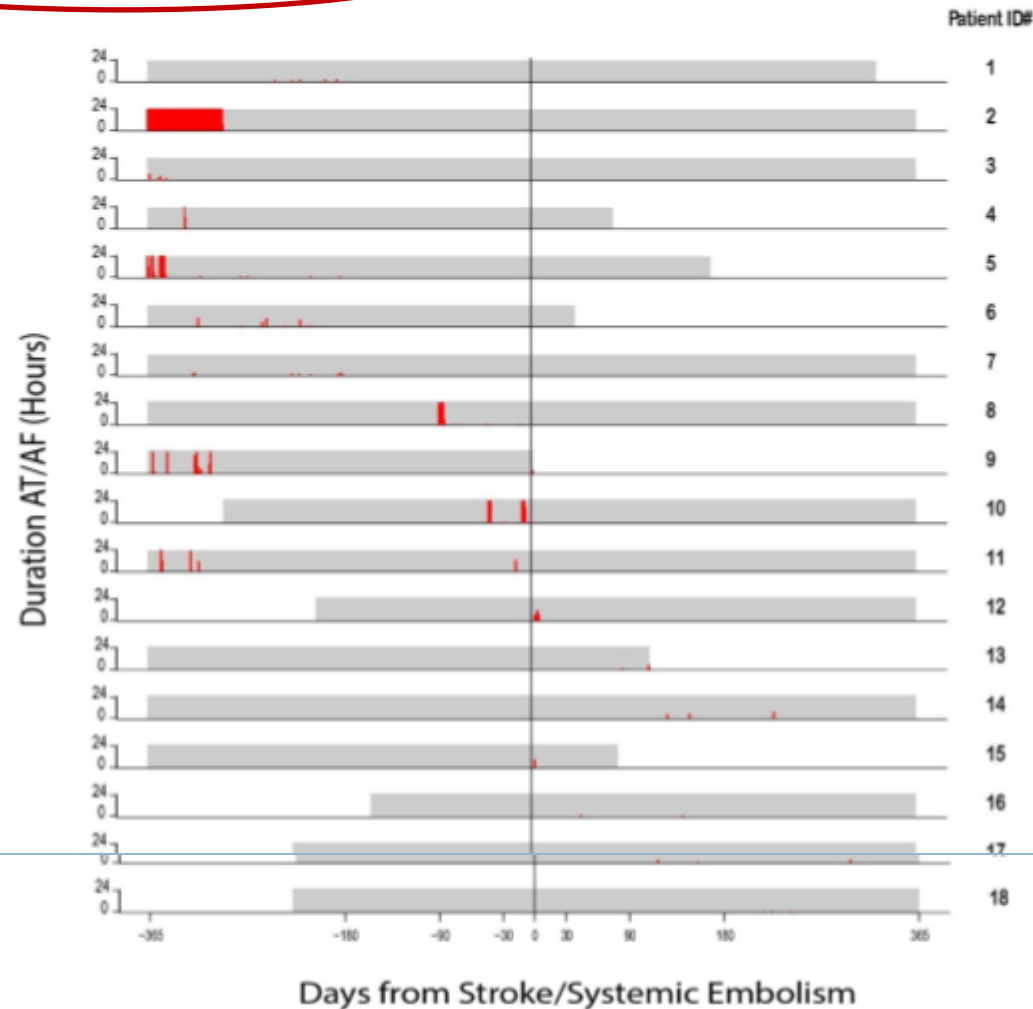
ASSERT: Annual stroke risk – SCAF versus AF



Created from Healey JS, et al. 2012 and Gage BF, et al. 2001

Is risk of SCAF the same as of AF?

- no temporal relationship between SCAF and stroke:



*Brambatti et al.
Circulation. 2014;129:2094-2099*

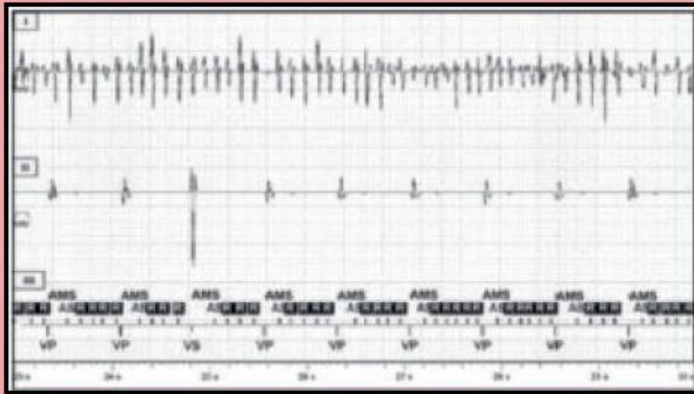
conclusion

- SCAF
 - present in 36% of PM-pts during 2.8 yr follow up
 - associated with a **2.5-fold increase** in risk for stroke
 - in CHADS₂ ≥3 increased stroke risk to 3.78%/yr

No symptoms attributable to AF and NOT previously diagnosed with clinical AF

Physician-confirmed:

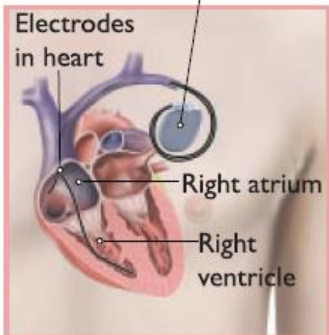
- CIED-recorded electrograms with AHRE



- ICM-recorded AF

Pacemaker/implantable defibrillator inserted under the skin

Insertable Cardiac Monitor (ICM)



ECG

No AF on ECG

Subclinical AF

Awaiting evidence from ongoing RCTs

Go to section 16

ECG showing AF (physician-confirmed)

- Entire conventional 12-lead ECG, or
- An ECG strip with ≥ 30 sec of AF (including wearable-recorded ECGs)



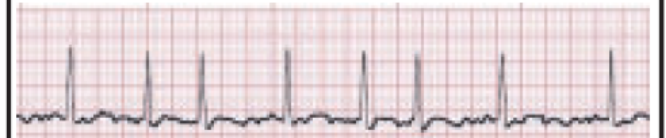
- AF symptoms present or absent

Clinical AF

Manage AF

ECG showing AF (physician-confirmed)

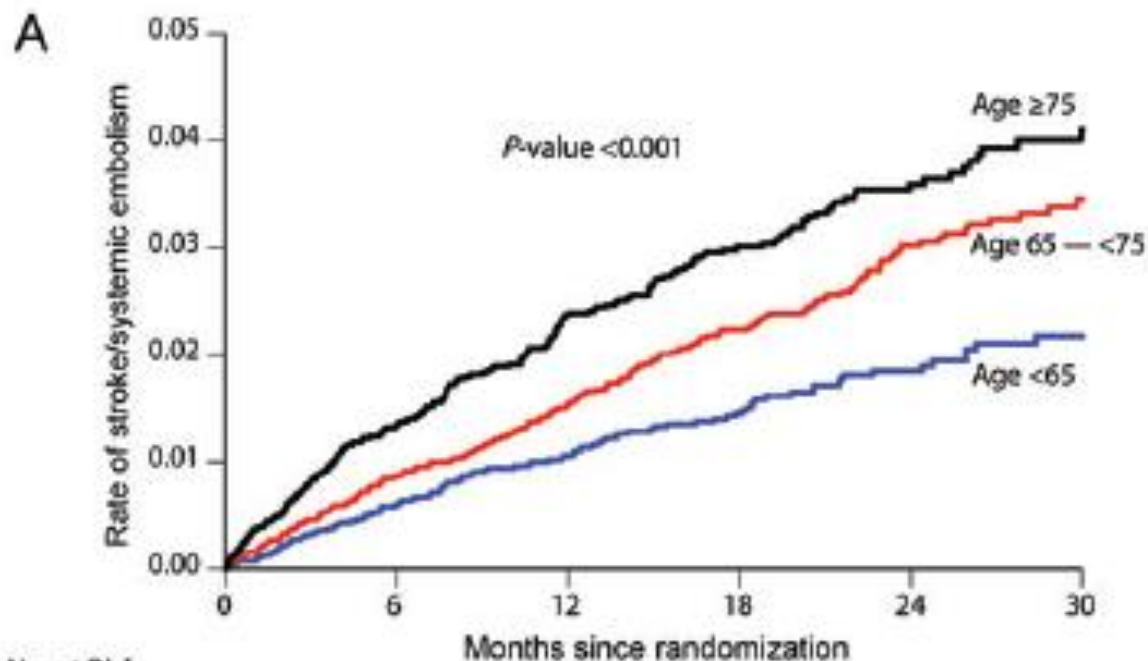
- Entire conventional 12-lead ECG, or
- An ECG strip with ≥ 30 sec of AF (including wearable-recorded ECGs)



- AF symptoms present or absent

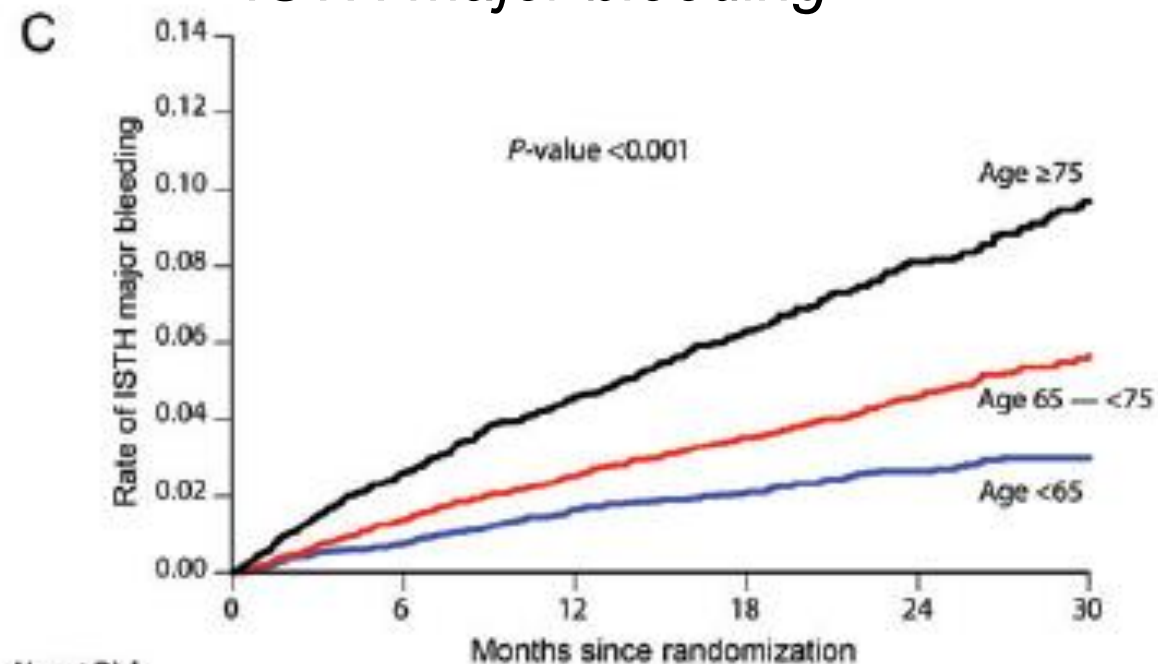
Risico op beroerte en bloeding bij AF naar leeftijd

Stroke or systemic embolism



No. at Risk	0	6	12	18	24	30
Age <65	5471	5236	5094	3731	2217	1165
Age 65 – <75	7052	6763	6561	4753	2698	1341
Age ≥ 75	5678	5347	5086	3539	1954	1016

ISTH major bleeding



No. at Risk	0	6	12	18	24	30
Age <65	5455	4934	4634	3366	2017	1027
Age 65 – <75	7030	6268	5878	4205	2364	1173
Age ≥ 75	5655	4811	4387	2990	1623	806

Figure 1 Kaplan–Meier curves for outcomes according to age category.

ESC AF guidelines recommendations

Recommendations for management of patients with AHRE

Recommendations	Class ^a	Level ^b
In patients with AHRE/subclinical AF detected by CIED or insertable cardiac monitor, it is recommended to conduct: <ul style="list-style-type: none">● Complete cardiovascular evaluation with ECG recording, clinical risk factors/comorbidity evaluation, and thrombo-embolic risk assessment using the CHA₂DS₂-VASc score.⁴⁶⁹● Continued patient follow-up and monitoring (preferably with the support of remote monitoring) to detect progression to clinical AF, monitor the AHRE/subclinical AF burden (especially transition to ≥ 24 h), and detect changes in underlying clinical conditions.⁴⁶⁹	I	B

AF = atrial fibrillation; AHRE = atrial high-rate episode; CIED = cardiac implantable electronic device; ECG = electrocardiogram.

^aClass of recommendation.

^bLevel of evidence.

2020 ESC AF guidelines recommendation?

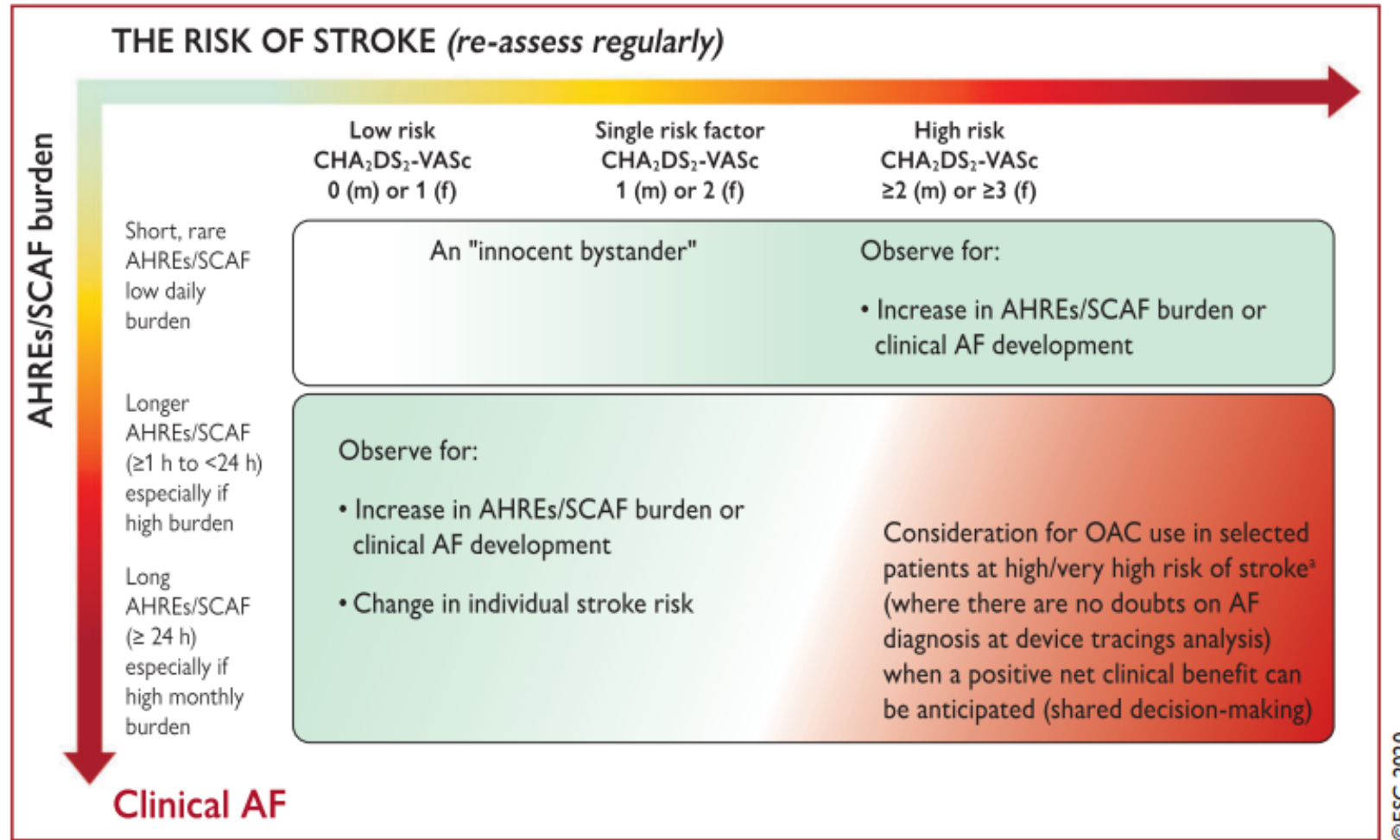


Figure 25 Proposed management of AHRE/subclinical AF. AF = atrial fibrillation; AHRE = atrial high-rate episode; CKD = chronic kidney disease; CHA₂DS₂-VASc = Congestive heart failure, Hypertension, Age ≥75 years, Diabetes mellitus, Stroke, Vascular disease, Age 65 - 74 years, Sex category (female); f = female; LA = left atrium; LoE = level of evidence; m = male; OAC = oral anticoagulant; SCAF = subclinical atrial fibrillation. ^aHighly selected patients (e.g. with previous stroke and/or age ≥75 years, or ≥3 CHA₂DS₂-VASc risk factors, and additional non-CHA₂DS₂-VASc stroke factors such as CKD, elevated blood biomarkers, spontaneous echo contrast in dilated LA, etc); selected patients (e.g. with previous stroke and/or age ≥75 years, or ≥3 CHA₂DS₂-VASc risk factors, etc).

Conclusions subclinical AF

- High incidence of AHRE (10% >3 mnd; 36% >2.5 jr)¹
- Elevated stroke risk in AHRE, but lower than in clinical AF
- Incidence of clinical AF in AHRE is elevated (6% with AHRE versus 1%/jr in patients without history of AHRE)¹
- AHRE < 24 uur → search for clinical AF (72hHolter)²
 - Artesia trial
 - NOAH trial
- AHRE > 24h + CHA₂DS₂-VASc 2 or more → NOAC^{2,3,4}
- AHRE < 24h + stroke, HCM, mitraalstenosis → (N)OAC^{2,3}
- AHRE risk marker for cardiovascular disease? Modifier stroke risk?

¹ Healey J, et al. ASSERT. NEJM 2012

² Kirchhof P, et al. AF Guidelines. EHJ 2016

³ Camm AJ et al. Europace 2016

⁴ Van Gelder IC et al. ASSERT subanalysis. EHJ 2017

Postoperatief atriumfibrilleren

- De incidentie van postoperatief AF na niet-cardiale chirurgie is circa 3%
- De incidentie van postoperatief AF na cardio(thoracale) chirurgie is hoger, tot wel 20% na hoogrisico cardiale/cardiothoracale chirurgie
- Patiënten waarbij postoperatief AF optreedt hebben een hoger (lange termijn) risico op een ischemisch CVA dan patiënten waarbij géén postop. AF optreedt
- Er is echter nog onvoldoende specifiek bewijs voor het gunstige effect van lange termijnbehandeling met orale anticoagulantia in geval van postoperatief AF
- Er is een verschil in lange termijn risico op een ischemisch CVA tussen postoperatief AF na cardiale chirurgie versus niet cardiale chirurgie

¹ Butt J, et al. JACC 2018

² Butt J, et al. JAMA 2018

³ ESC AF guidelines. EHJ 2020

Pollvraag 2:

Bij welke groep is het langetermijnrisico op ischemisch CVA over het algemeen hoger?

- A. AF na cardiale chirurgie
- B. AF na niet-cardiale chirurgie

2020 ESC AF guidelines recommendations

Recommendations for postoperative AF

Recommendations	Class ^a	Level ^b
Perioperative amiodarone or beta blocker therapy is recommended for the prevention of postoperative AF after cardiac surgery. ^{1390,1492}	I	A
Long-term OAC therapy to prevent thromboembolic events should be considered in patients at risk for stroke with postoperative AF after non-cardiac surgery, considering the anticipated net clinical benefit of OAC therapy and informed patient preferences. ^{1404,1405,1408,1409}	IIa	B
Long-term OAC therapy to prevent thromboembolic events may be considered in patients at risk for stroke with postoperative AF after cardiac surgery, considering the anticipated net clinical benefit of OAC therapy and informed patient preferences. ^{1404,1405,1408,1409}	IIb	B
Beta-blockers should not be used routinely for the prevention of postoperative AF in patients undergoing non-cardiac surgery. ¹⁴¹⁰	III	B

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AF = atrial fibrillation; OAC = oral anticoagulant.

^aClass of recommendation.

^bLevel of evidence.

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