The young and asymptomatic AF patient: What to do?

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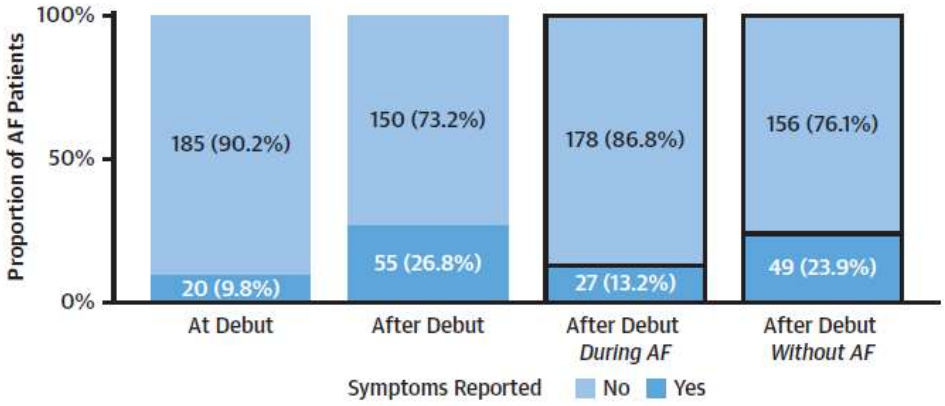
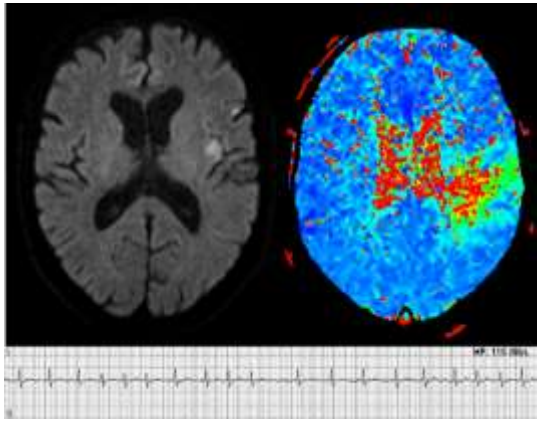
Subclinical atrial fibrillation
Prevalence and significance

Definition: ECG screening
- **no CHF, LV dysfunction**

Prevalence: 10-40%
- **depending on cohorts:**
- LOOP: 590 ILR pat, >70 y Htn, D.m., stroke or CHF
- **AF ≥6min: 205 (35%)**



Significance: morbidity↑
- **Stroke, embolism, cognitive decline**
- Remodeling, progression → permanent
- **CHF, hospitalization, mortality**



LOOP Study: Diederichsen SZ et al. JACC 2019; 74: 2771–81

ESC: CHA_2DS_2-VASc score

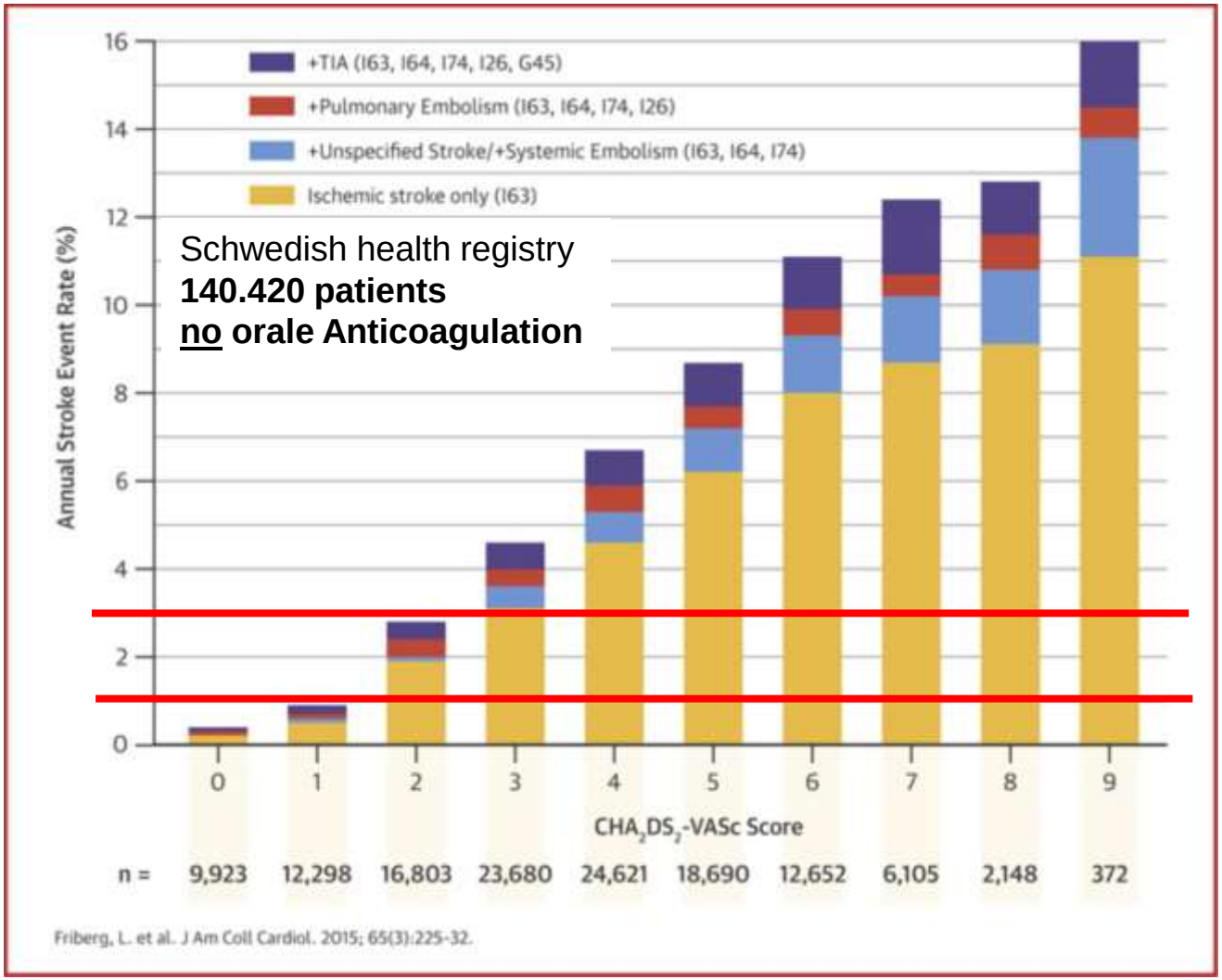
Risikofaktor	Score
Congestive heart failure / LV dysfunktion (LVEF<40%)	1
Arterial hypertension	1
Age ≥ 75 years	**2**
Diabetes mellitus	**1**
Stroke / TIA / thrombembolism	**2**
Vascular disease (Myocardial infarction, PAD, aortic plaques)	1
Age 65-74 years	**1**
Female gender	1

CHA_2DS_2-VASc ≥ 2: oral anticoagulation indicated
Independent of symptoms, atrial fibrillation burden!

ESC Guidelines. Eur. Heart J. 2010; 31: 2369-429

Thrombembolism

CHA_2DS_2-VASc score



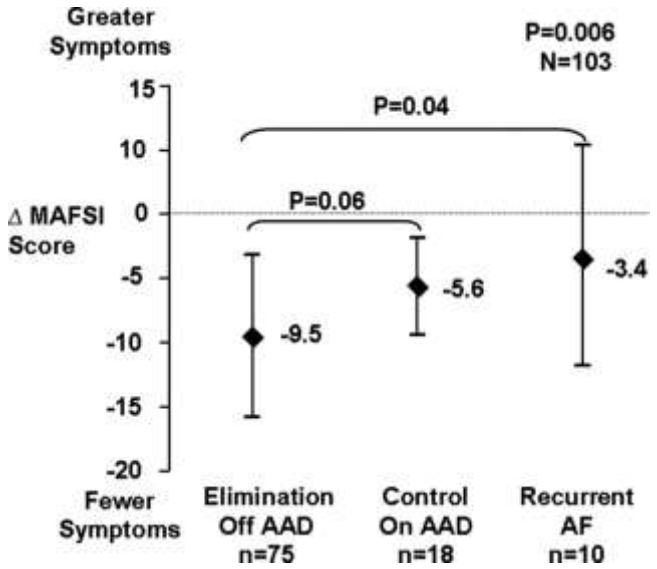
Friberg L et al. JACC 2015; 65 (3): 225-32

Subclinical atrial fibrillation
Relevance of symptoms

Definition of symptoms

- **Physical exercise: capacity, palpitations**
- **Psychological impact: anxiety, depression**
- **Improvement by rhythm control (DC CV) ?**

- **Catheter ablation: Placebo effect!**
- **Low gain of QoL in minimally symptomatic patients!**
- **Reduction on QoL in recurrences!**

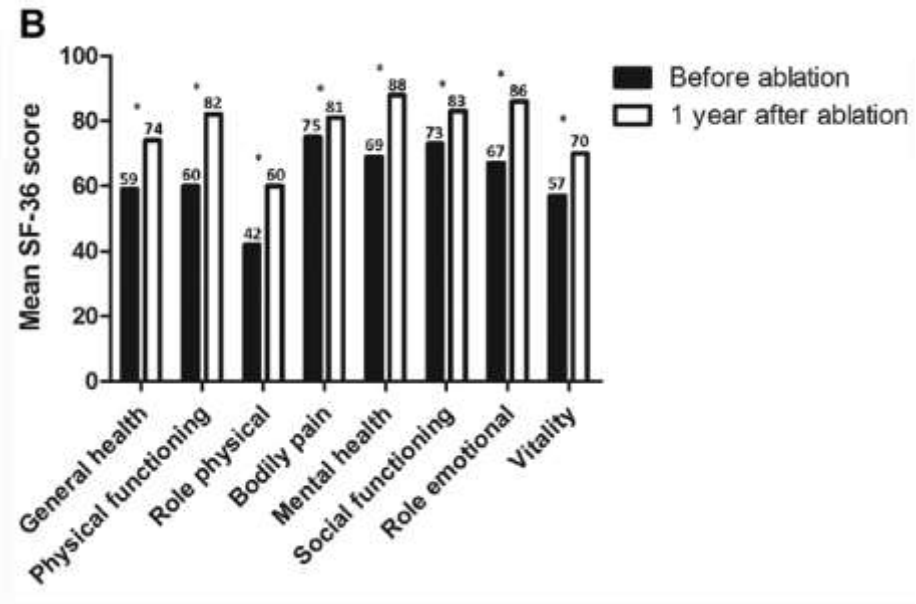


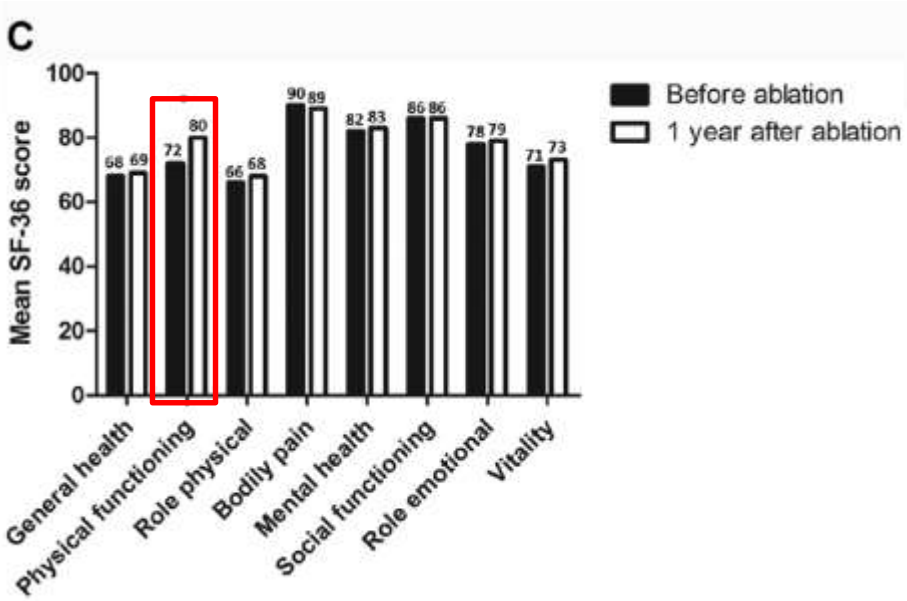
Wokhlu A et al. JACC 2010; 55 (21): 2308-16

Subclinical atrial fibrillation
Effect of ablation

- **CA of drug refractory persistent AF**
- **66 asymptomatic pat.**
- **132 matched symptomatic pat.**

@ 1y: 65% AT, pAF, pers. AF recurrence (w/o AA after single procedure)





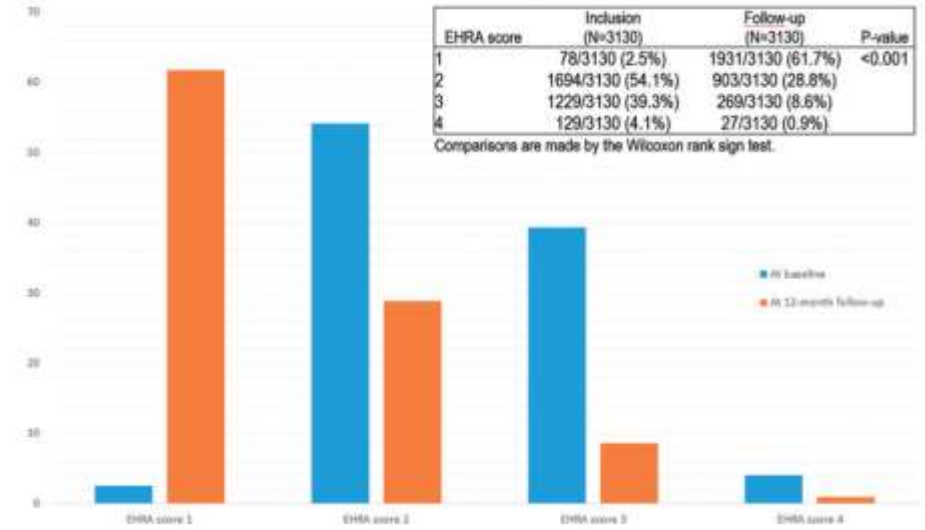
QoL ↑ in symptomatic, but not in asymptomatic patients!

Wu L et al. J Cardiovasc Electrophysiol 2016 (27): 531-5

Does catheter ablation improve clinical outcomes?

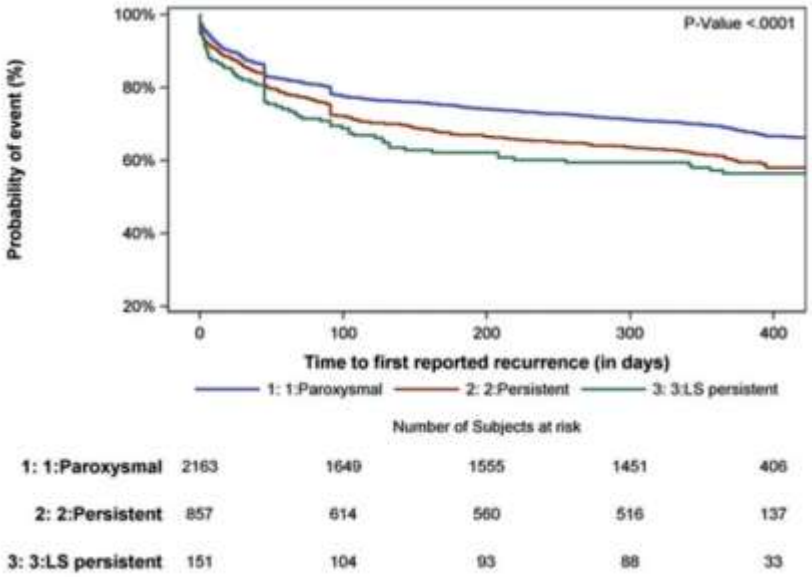
AF ablation: clinical success

EORP AF Ablation 1y F/U



EHRA score	Inclusion (N=3130)	Follow-up (N=3130)	P-value
1	78/3130 (2.5%)	1931/3130 (61.7%)	<0.001
2	1694/3130 (54.1%)	903/3130 (28.8%)	
3	1229/3130 (39.3%)	269/3130 (8.6%)	
4	129/3130 (4.1%)	27/3130 (0.9%)	

Comparisons are made by the Wilcoxon rank sign test.



Recurrence (on ECG): 1086 pat. (34,2%)

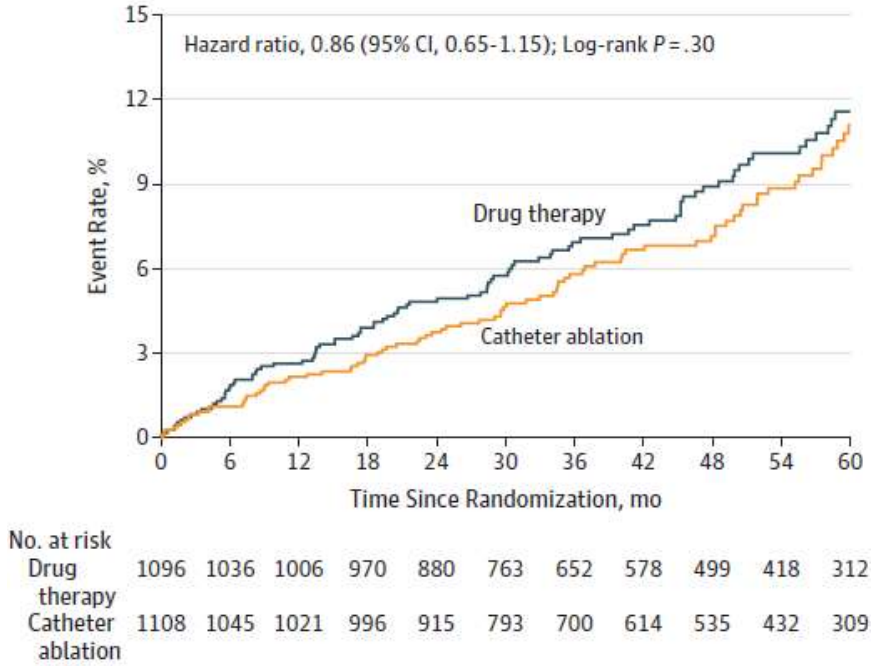
- **pers. AF: 39,8%**
- **PAF: 31,4%**

Arbelo E et al. EHJ 2017; 38: 1303-16

Improvement of prognosis by AF-ablation: CABANA

2204 AF patients; 2009-2016; 106 centers; 10 countries
(43% paroxysmal, 57% persistent)

- med. AA therapy: n=1096
- LACA (PVI plus): n=1108



comb. prim. endpoint:

- mortality
- stroke/TIA
- bleeding
- SCD

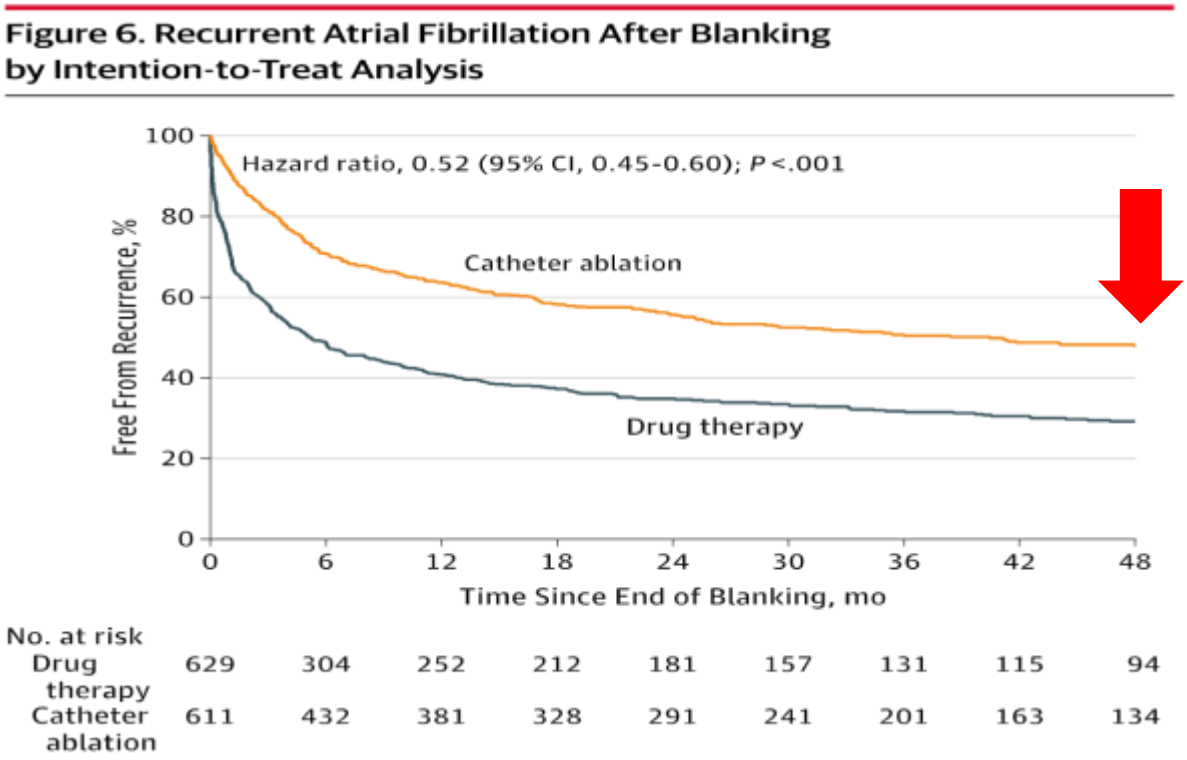
} -14% (n.s.)

Caveats:

- **low event-rate**
- **open-label (Placebo!)**
- **many cross-overs**

Packer D et al. JAMA 2019 Mar 15. doi: 10.1001/jama.2019.0693.

Sinus rhythm after ablation
CABANA



Sec. endpoint: AF-recurrence: 50 (vs. 70) %
Improvement of symptoms by ablation !

Packer D et al. JAMA 2019 Mar 15. doi: 10.1001/jama.2019.0693.

Reduction of stroke rate after successful AF ablation?

Retrospective insurance databases

Authors	Type of Study	AF RFA, No. of Patients	AF No RFA, No. of Patients	Mortality HR (95% CI)	Stroke HR (95% CI)	Heart Failure Hospitalization HR (95% CI)	Follow-Up, y
Reynolds et al[52]	Tomson-Reuters research database	801	801	NA	0.62 (0.44–0.86)	0.69 (0.42–1.15)	3
Chang et al[49]	Taiwan National Health Insurance Claims database	846	11 324	0.88 (0.62–1.23)	0.57 (0.35–0.94)	0.78 (0.55–1.12)	3.5
Karasoy et al[46]	Linked Danish administrative registries	4050	15 848	NA	0.53 (0.43–0.65)	NA	3.4
Friberg et al[47]	Swedish patient register	2836	2836	0.50 (0.37–0.62)	0.69 (0.51–0.93)	NA	4.4
Saliba et al[48]	Database of the largest HMO in Israel	969	3772	0.57 (0.47–0.66)	0.62 (0.47–0.82)	NA	NA

No elimination of stroke / TIA: stop of oAC warranted?

Kalman JM et al. Circulation 2017; 136: 490-9

Risks of catheter ablation

Complications of AF Ablation
EORP AFA 1y F/U

	At inclusion (ablation not performed) (n = 37)	In-hospital (n = 3593)	12-month FU (n = 3180)	Overall (n = 3630)
Cardiovascular (%)	7/29 (24.1%)	147/3591 (4.1%)	35/3173 (1.1%)	183/3613 (5.1%)
Pericarditis	0/29	26/3584 (0.7%)	4/3173 (0.1%)	30/3606 (0.8%)
Cardiac perforation	3/29 (10.3%)	47/3583 (1.3%)	7/3173 (0.2%)	55/3605 (1.5%)
Acute myocardial infarction	0	0	2/3173 (0.1%)	2/3605 (0.1%)
Endocarditis	0	0	2/3173 (0.1%)	2/3605 (0.1%)
Atypical atrial flutter (no AFib)	0	10/3584 (0.3%)	1/3173 (0.0%)	11/3606 (0.3%)
Brady				3%)
Cardi				1%)
Air e				2%)
Cardi				1%)
Hear				1%)
Othe				0%)
Periphe				8%)
AV fi				6%)
Pseu				7%)
Hem				1%)
evacu				
Peripheral thromboembolic event	0	0	1/3173 (0.0%)	1/3609 (0.0%)
Deep vein thrombosis	0	0	2/3173 (0.1%)	2/3609 (0.1%)
Neurological (%)	1/29 (3.4%)	26/3591 (0.7%)	10/3173 (0.3%)	36/3613 (1.0%)
Stroke	0	3/3591 (0.1%)	2/3173 (0.1%)	5/3613 (0.1%)
TIA	1/29 (3.4%)	8/3590 (0.2%)	6/3173 (0.2%)	15/3612 (0.4%)
Phrenic Nerve Damage	0	15/3590 (0.4%)	2/3080 (0.1%)	16/3520 (0.5%)

Complications: 280 pat. (7,8%)

- perforation 47 pat. (1,3%)
- thromboembolism: 11 pat. (0,3%)
- groin-complication: 23 pat. (0,7%)

Arbelo E et al. EHJ 2017; 38: 1303-16

Cerebral lesions after PVI
effect of uninterrupted oAC

131 patients (80 PAF, 51 pers. AF)
CHA_2DS_2-VASc 1.5 ± 1.3 (!)

- pre- / post-procedural brain MRI
- **oAC 6 weeks prior to LACA**
- **continued oAC (VKA 2.0 – 3.0)**
- **ACT >300sec**

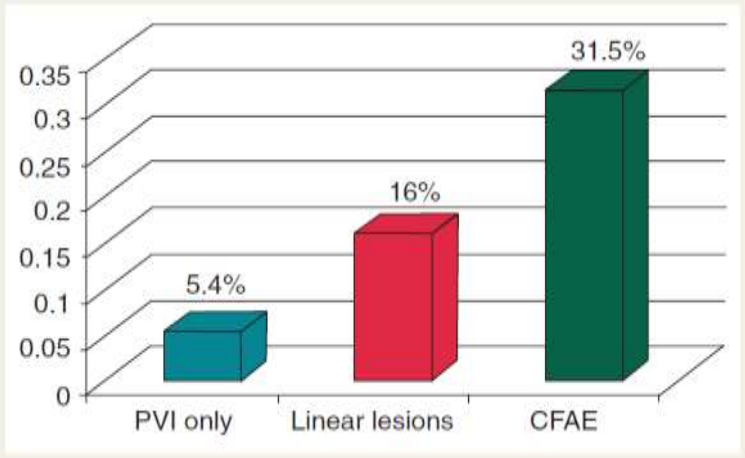


Table 3 Multivariate analysis

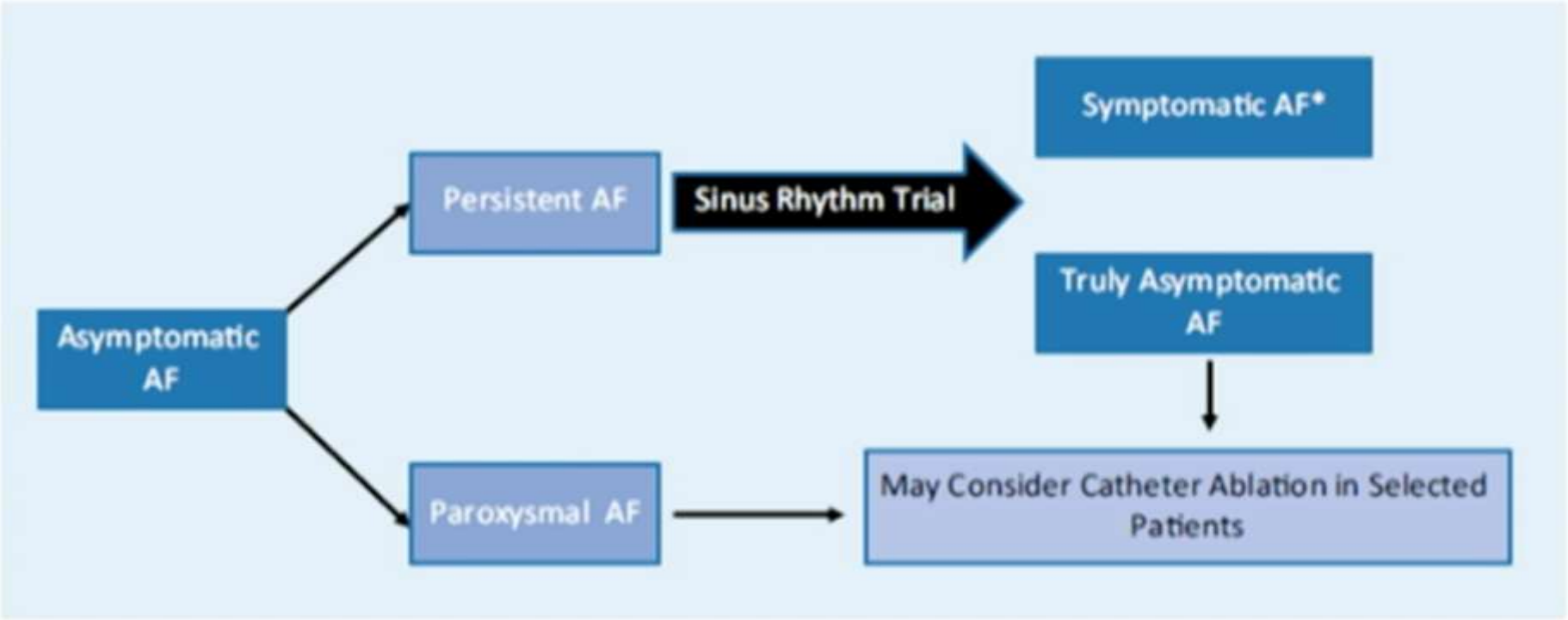
	OR	95% CI, lower limit of OR	95% CI, upper limit of OR	P
Mean Age (year)	1.13	1.03	1.24	0.009
Spontaneous echo contrast in TEE	5.52	1.20	25.44	0.029
CFAE	6.66	1.73	25.64	0.006

new SCL in 16 patients (12,2%)
1.6 ± 1.3 lesions per patient
14 <3mm, 10 4-10mm, 1 >10mm

No prevention of SCL by continuous oAC!

Martinek M et al. Europace 2013; 15: 325-31

Take home message



PRIMUM NON NOCERE !

Take home message

“silent” atrial fibrillation: 10-40%

- **Anticoagulation:** CHA_2DS_2-VASc ≥ 1
- CHF, hospitalization, mortality?

Ablation of “silent” atrial fibrillation

- **Long term sinus rhythm: 65% @ 1y, 30% @ 10y**
- Reduction of progression to permanent AF
- **Reduction of stroke / systemic embolism**
- **Complications: 3-7% (incl. stroke, tamponade)**
- Cerebral lesions, neuropsychological effects

THANK YOU !

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