

Prevalence of silent vascular brain lesions among patients with atrial fibrillation and no known history of stroke

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on behalf of the Swiss-AF investigators

Declaration of interest

- Consulting/Royalties/Owner/ Stockholder of a healthcare company (David Conen received consulting fees from Servier, Canada)

Disclosures

- David Conen received consulting fees from Servier, Canada

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Background I

- Atrial fibrillation (AF) is the most common cardiac arrhythmia in the general population¹
- The incidence of AF is estimated to double until 2060²
- Patients with AF have an increased risk of stroke, death, congestive heart failure and poor quality of life^{3,4}

¹Camm AJ et al. Guidelines for the management of atrial fibrillation: the Task Force for the Management of Atrial Fibrillation of the European Society of Cardiology (ESC). Eur Heart J. 2010;31:2369-429

²Krijthe et al. Projections on the number of individuals with atrial fibrillation in the European Union, from 2000 to 2060. Eur Heart J. 2013;34(35):2746-2751

³Conen D, Chae CU, Glynn RJ, et al. Risk of death and cardiovascular events in initially healthy women with new-onset atrial fibrillation. JAMA. 2011;305(20):2080-2087.

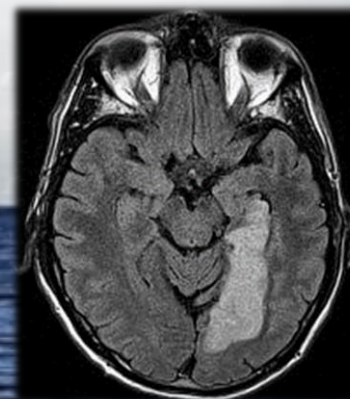
⁴Chatterjee NA, Chae CU, Kim E, et al. Modifiable Risk Factors for Incident Heart Failure in Atrial Fibrillation. JACC Heart Fail. 2017;5(8):552-560.

Background II

- More recent evidence suggests that patients with AF also face an increased risk of cognitive decline and dementia¹
- The underlying mechanisms for this relationship is currently unknown

¹ Kalantarian S et al. Cognitive impairment associated with atrial fibrillation: a meta-analysis. Ann Intern Med. 2013;158:338-46.

Clinically overt ischemic infarction



6% / year

Aim & hypothesis

- To assess the frequency of silent brain lesions among AF patients without a clinical history of stroke or transient ischemic attack in a large and unselected sample of patients with documented AF
- We hypothesized that patients with documented AF have a large number of previously unknown brain lesions

Methods

- Ongoing prospective multicenter observational cohort study (n=2415 patients enrolled among 14 centers in Switzerland)
- Eligibility criteria: history of documented AF, age ≥ 65 years
- Standardized information on personal characteristics, risk factors, co-morbidities, antithrombotic treatment and other factors was obtained
- Brain magnetic resonance imaging (MRI) was obtained according to a standardized protocol
- Brain MRIs were analyzed in a central core lab by blinded assessors

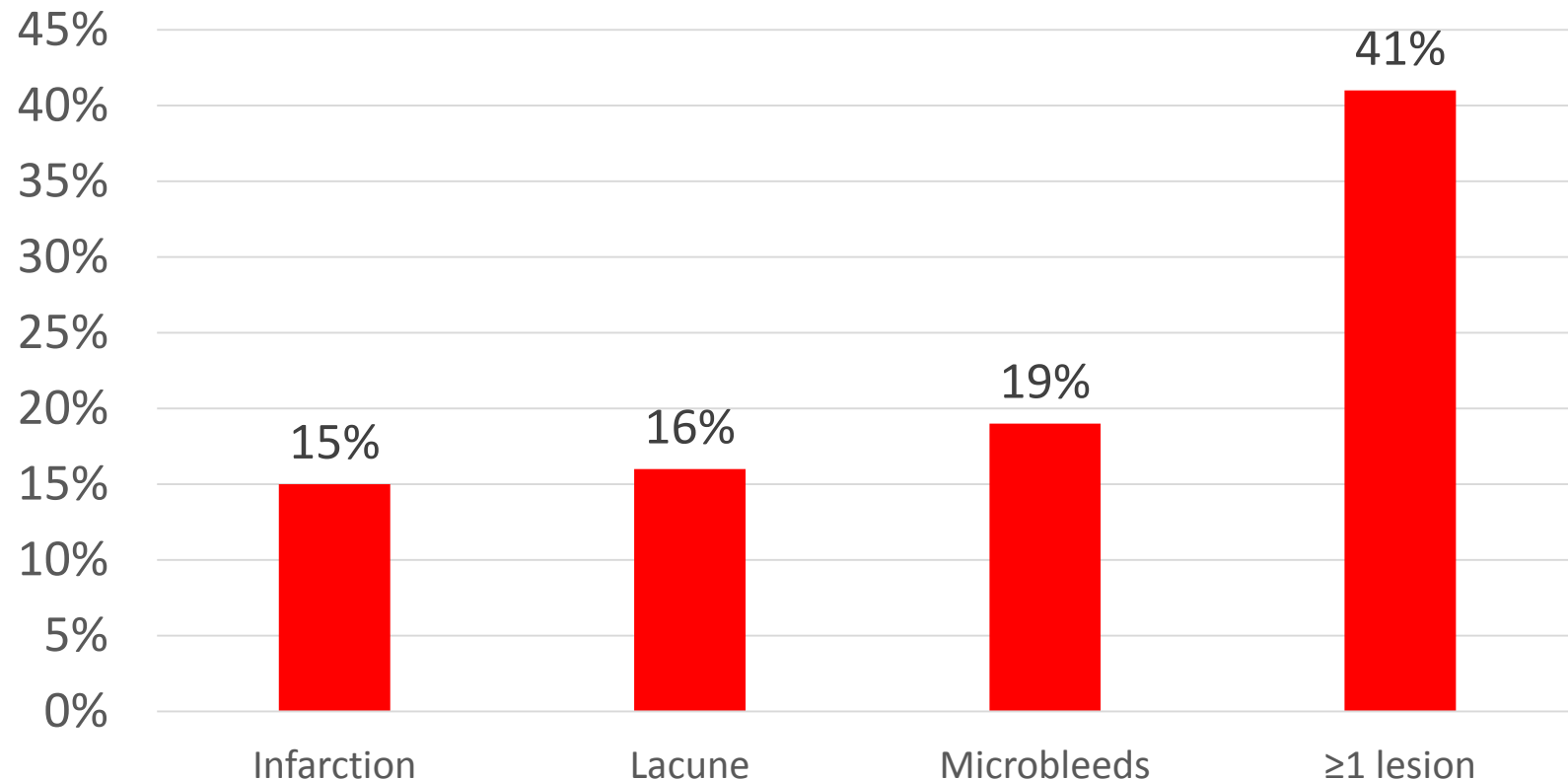
Results

- Brain MRI scans available in 1'736 patients
- 13% had a history of stroke, 9% a history of a TIA, leaving 1'388

Variable	n=1'388
Mean age	72 ± 9
Female Sex	27 %
Paroxysmal AF	45%
Oral Anticoagulation	90%
History of hypertension	68%
History of diabetes	14%
History of coronary artery disease	26%
History of heart failure	21%
CHA ₂ DS ₂ -VASc score	2.8 ± 1.4

Results II

Prevalence of silent MRI lesions



Conclusion

- Four out of ten patients with AF but without a clinical history of stroke or transient ischemic attack had clinically unrecognized ('silent') brain lesions
- These silent lesions may at least in part explain the increased risk of cognitive decline in patients with AF
- The relationships of individual brain lesions with cognitive function needs to be assessed in future studies
- Better brain protection in AF patients seems warranted