

Oral anticoagulants, cognition, and clinical outcomes in atrial fibrillation and Alzheimer’s disease: a Swedish nationwide study

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KEY TAKEAWAY

In patients with AF and AD, NOACs appear to be a better treatment option than warfarin in slowing cognitive decline.

Introduction

Use of non-vitamin K oral anticoagulants (NOACs) is associated with reduced dementia risk in patients with atrial fibrillation (AF), but their impact on cognitive function and clinical outcomes in AF patients with Alzheimer’s disease (AD) remains unclear.

Methods

- **Population:** 7,308 individuals with incident AD during May 2007–December 2020 and pre-existing AF identified from the Swedish Registry for Cognitive/Dementia Disorders (SveDem)
- **Exposure:** Anticoagulant use at baseline, categorized as nonuse, warfarin, or NOACs
- **Outcomes & Analyses:**
 - Inverse probability of treatment weighting was employed to balance covariates.
 - Mixed-effects models were used to assess the association between anticoagulant use and cognitive decline measured by the Mini-Mental State Examination (MMSE).
 - Cox proportional hazards models were used to examine risks of all-cause mortality, ischemic stroke/systemic embolism, major bleeding, and fracture.

Results

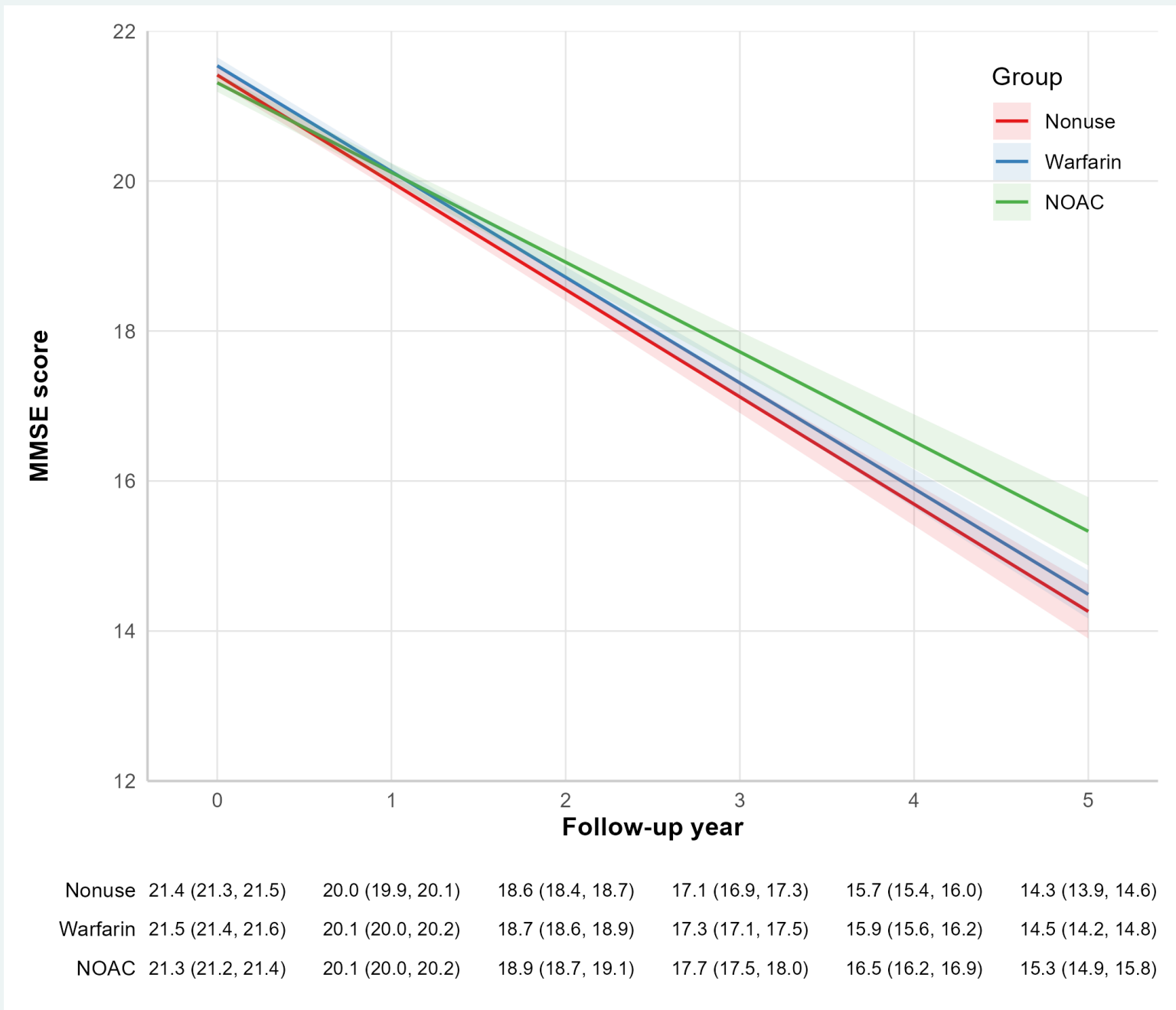


Figure 1. Estimated MMSE score trajectories by oral anticoagulant use

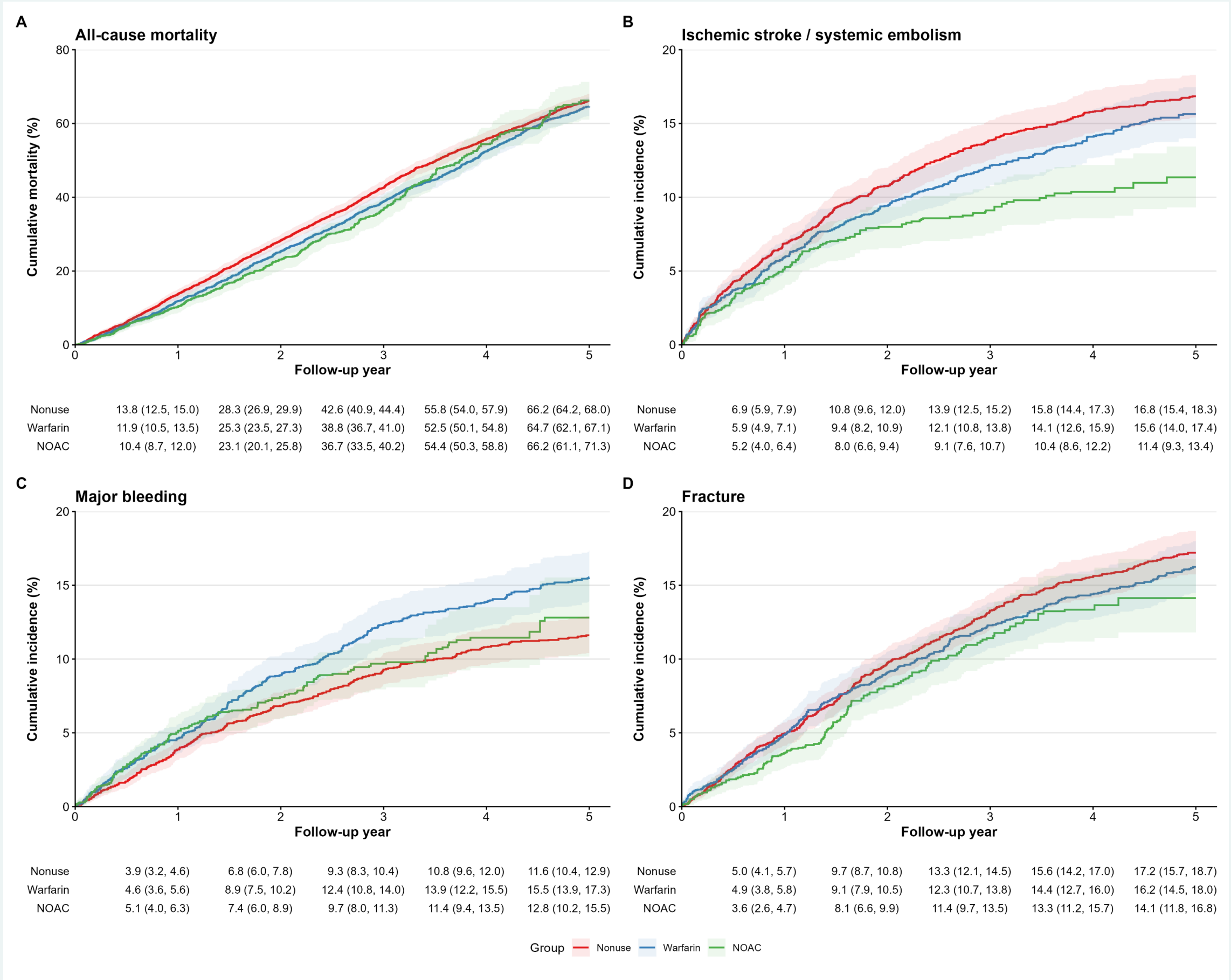


Figure 2. Weighted cumulative incidence of clinical outcomes by oral anticoagulant use

Table 1. Associations between oral anticoagulant use and 3-year clinical outcomes

	No. of events	Incidence rate per 1000 py	Weighted HR (95% CI)	
All-cause mortality				
Nonuse	1383	186.6	Ref	–
Warfarin	795	147.2	0.88 (0.80, 0.97)	Ref
NOAC	410	135.1	0.81 (0.72, 0.91)	0.92 (0.81, 1.05)
Thromboembolic events				
Nonuse	437	62.5	Ref	–
Warfarin	268	52.2	0.85 (0.72, 1.00)	Ref
NOAC	128	44.0	0.66 (0.53, 0.82)	0.78 (0.62, 0.98)
Major bleeding				
Nonuse	293	40.9	Ref	–
Warfarin	265	51.2	1.31 (1.09, 1.56)	Ref
NOAC	125	42.6	1.05 (0.84, 1.32)	0.80 (0.64, 1.01)
Fractures				
Nonuse	436	63.0	Ref	–
Warfarin	253	49.3	0.89 (0.76, 1.06)	Ref
NOAC	135	46.2	0.79 (0.64, 0.97)	0.88 (0.70, 1.11)

Conclusions

In patients with AF and AD, NOAC use was associated with modestly slower cognitive decline and more favorable effectiveness and safety profiles, compared to warfarin or no anticoagulation.



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