

Association of atrial fibrillation and dementia by oral anticoagulation: national cohort study of 328,132 patients

Presenter: Chenyi Gao; **Authors:** Lan Mu, Chenyi Gao, Charis Xuan Xie, Ramesh Nadarajah, Gregory Y.H. Lip, Clare J Talyor, Emma Svennberg, Giuseppe Boriani, Ben Freedman, Isabelle C. Van Gelder, A John Camm, Chris P Gale, Jianhua Wu

Key Takeaway:

1. Incident AF linked to higher risks of all-cause and vascular dementia, independent of stroke
2. Strong age effect: highest excess risk in individuals diagnosed <65 years
3. Oral anticoagulation associated with lower dementia risk vs no treatment in eligible AF patients

INTRODUCTION

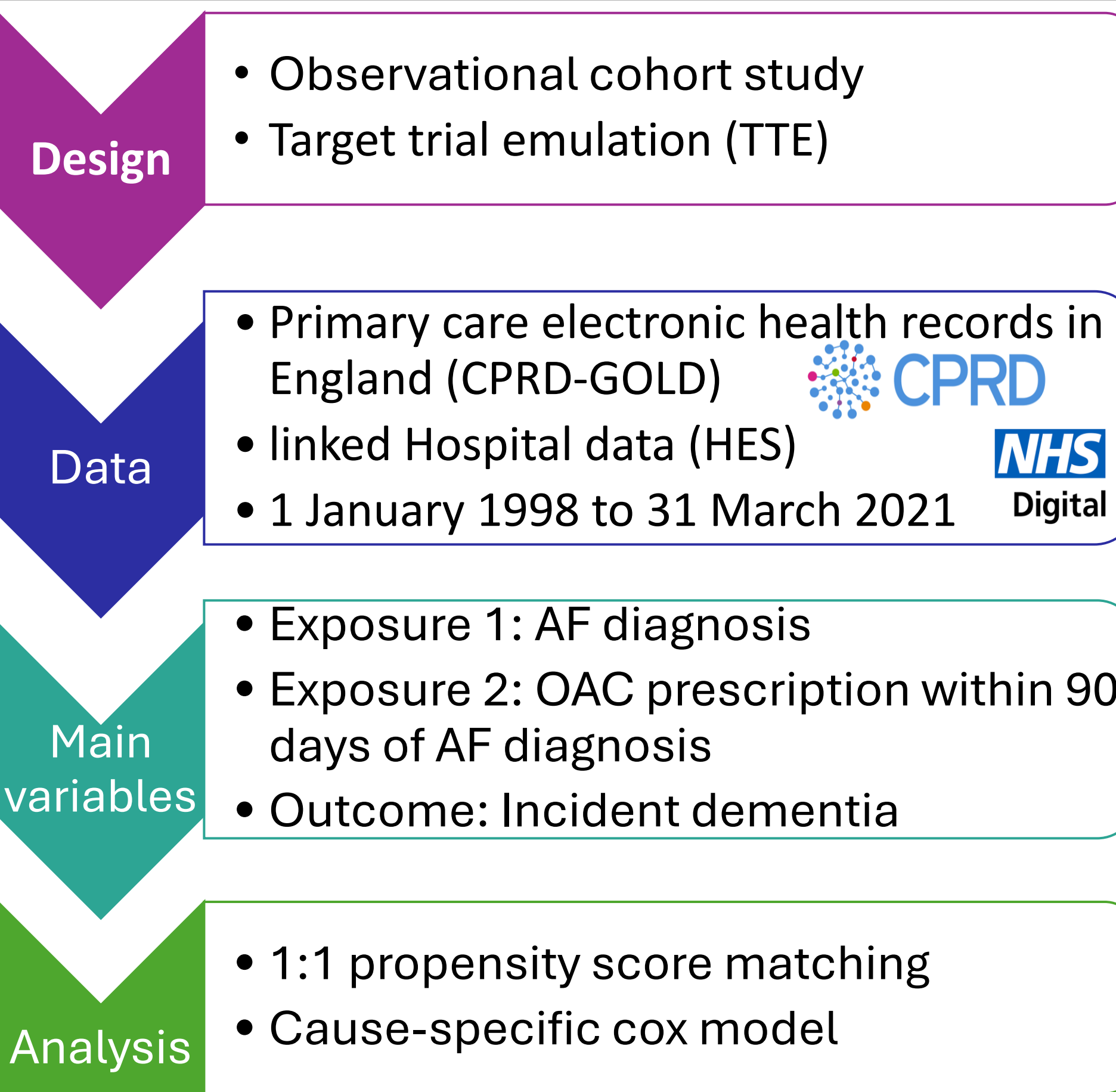
Background

- Atrial fibrillation (AF) is associated with cognitive decline and dementia
- Risk estimates vary across studies due to stroke, competing mortality, and dementia subtype differences
- Oral anticoagulation (OAC) may reduce dementia risk by preventing stroke
- Existing observational studies are limited by confounding, immortal time bias, and treatment misclassification

Objective

- Evaluate associations between AF and dementia
- Assess the impact of OAC initiation on dementia risk in AF patients at elevated stroke risk

METHODS



Descriptive Information

- AF cohort N= 164,066 (and 1:1 matched Control)
- OAC cohort N= 18,042 (and 1:1 matched AF Control)
- 1,321,055 person-years of follow-up (median 2.9 years [IQR 1.0–6.0])
- Mean age : 75.0 (SD 12.3)
- 47.9% were women.

AF & dementia association

- AF was linked to higher risk of all-cause (HR 1.21, 95% CI 1.18–1.24) and vascular dementia (HR 1.63, 1.54–1.73)
- Results were similar after censoring for stroke (all-cause HR 1.19, 1.16–1.23; vascular HR 1.63, 1.52–1.75).

OAC & dementia TTE

OAC initiation was linked to lower risk of all-cause dementia (HR 0.75, 95% CI 0.68–0.82; 5-year ARD –1.49%, –2.47 to –0.53) and vascular dementia (HR 0.82, 0.69–0.97).

Figure 2. Target trial emulation of cumulative incidence of all-cause and vascular dementia by OAC initiation.

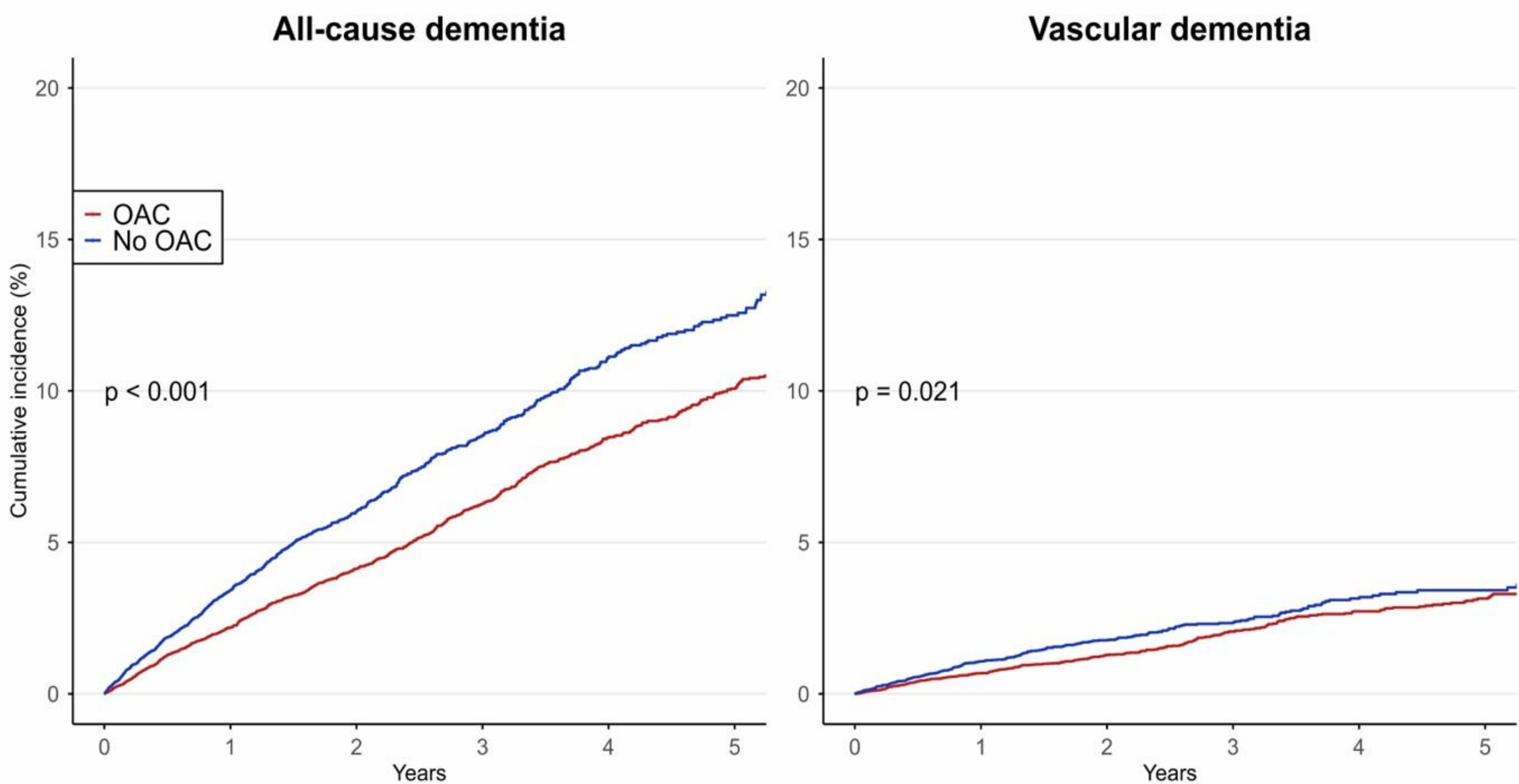
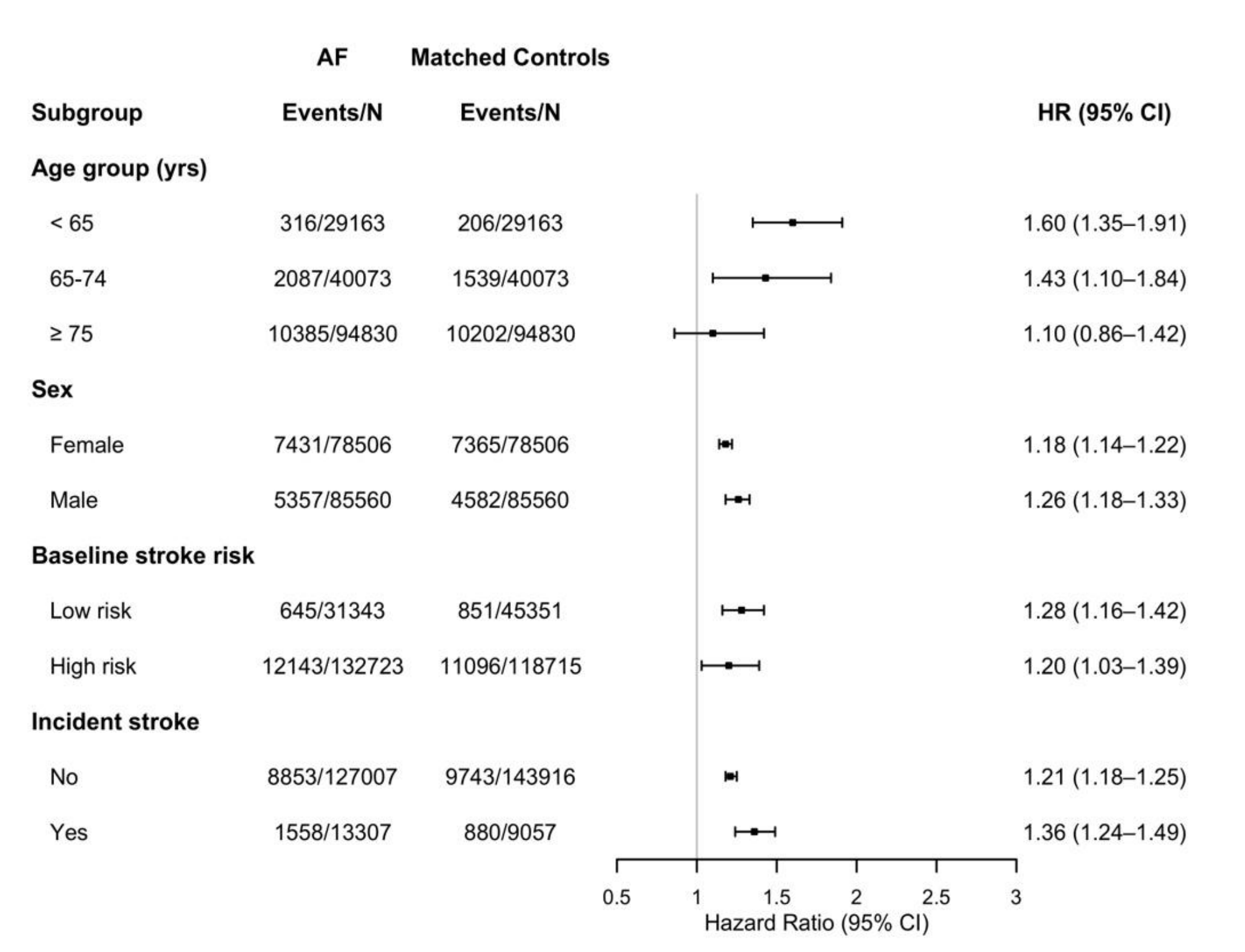


Figure 1. Forest plots showing subgroup-specific hazard ratios for the association between atrial fibrillation and risk of all-cause All-cause dementia



- The greatest excess risk of dementia was observed among individuals diagnosed AF before age 65 years.

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CONCLUSIONS

- Incident AF was associated with increased risk of all-cause and vascular dementia
- This association was not fully explained by stroke and was stronger for vascular dementia.
- Among guideline-eligible patients, OAC initiation was linked to lower dementia risk.
- These findings highlight dementia as a key outcome of AF and suggest OAC may delay cognitive decline.

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CONTACT

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