

Migraine with visual aura is a risk factor for incident atrial fibrillation

A cohort study

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Study objective

To determine whether migraine with visual aura is associated with atrial fibrillation (AF).

Summary results

Migraine with visual aura is associated with incident AF.

What is known and what this paper adds

Migraine with visual aura is associated with an increased risk of cardioembolic cerebrovascular events such as stroke and TIA. This study shows that migraine with visual aura is also associated with incident AF.

Participants and setting

This study reviewed data for 11,939 participants in the Atherosclerosis Risk in Communities (ARIC) study, which has been following residents of North Carolina, Mississippi, Minnesota, and Maryland since baseline visits in 1987–1989. The included participants completed the second round of follow-up visits in 1993–1995 and had no known history of AF or ischemic stroke at that time.

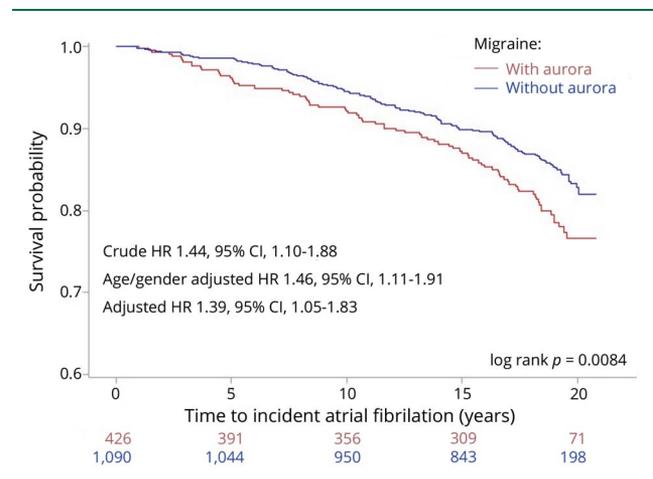
Design, size, and duration

The participants underwent a headache questionnaire administered by trained interviewers during the 1993–1995 visits, and the responses were used to detect cases of migraine with visual aura. Subsequent ARIC follow-up visits occurred in 1996–1998 and 2011–2013. AF diagnoses after the 1993–1995 visits were sourced from study-performed ECGs, hospital discharge codes, and death certificates. Cox proportional hazards models with adjustments for demographic and clinical covariates were used to assess the relationship between migraine with visual aura and incident AF.

Main results and the role of chance

This study identified 1,516 participants with migraine, of whom 426 had migraine with visual aura, and 1,090 had migraine without visual aura. No headache was noted in 9,405. Participants with migraine with visual aura had an increased risk of incident AF relative to participants without headache

Figure Kaplan-Meier survival curves for incident AF in participants with migraine with and without visual aura



(hazard ratio, 1.30; 95% confidence interval, 1.03–1.62) and participants with migraine without visual aura (hazard ratio, 1.39; 95% confidence interval, 1.05–1.83).

Bias, confounding, and other reasons for caution

The presence of patent foramen ovale is an important potential unmeasured confounder. Some cases of incident AF might have been missed, and strict migraine criteria were used.

Generalizability to other populations

This study's large sample size favors the generalizability of the results.

Study funding/potential competing interests

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A draft of the short-form article was written by M. Dalefield, a writer with Editage, a division of Cactus Communications. The authors of the full-length article and the journal editors edited and approved the final version.

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