

# Study: Early rhythm control is safe, effective in atrial fibrillation patients irrespective of genetic predisposition

June 2 2023

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A sub-study analysis of the EAST—AFNET 4 trial revealed how genetic risk for atrial fibrillation (AF) and stroke interacts with early rhythm

control therapy: Early rhythm control reduces cardiovascular events in patients with AF across the spectrum of genetic AF and stroke risks. The findings were published in the journal *Cardiovascular Research*.

The EAST—AFNET 4 (Early Treatment of Atrial Fibrillation for Stroke Prevention) trial demonstrated that rhythm control therapy—with [antiarrhythmic drugs](#) or atrial fibrillation ablation—delivered within one year after AF diagnosis improves outcomes in patients with AF and comorbidities.

Early rhythm control (ERC) with antiarrhythmic drugs and/or AF ablation reduced the primary outcome, a composite of cardiovascular death, stroke, and hospitalization for worsening heart failure or [acute coronary syndrome](#), in 2789 patients with early AF and [cardiovascular risk factors](#) compared to usual care (UC) over a 5-year follow-up time.

The causes for [atrial fibrillation](#) and stroke are manifold and also comprise a heritable component. The [genetic risk](#) can be quantified by polygenic risk scores (PRS) using data from large genome-wide association studies. In a [collaboration](#) with the Broad Institute of MIT and Harvard in Cambridge, U.S., these PRS were tested in the EAST—AFNET 4 study.

Dr. Shinwan Kany, University Medical Center Hamburg Eppendorf, Hamburg, Germany, explained, "Prior studies suggest that patients with a [genetic predisposition](#) to AF may suffer more recurrent AF on rhythm control therapy. Additionally, studies using PRS for stroke identified AF patients with an increase in stroke risk when otherwise classified as low risk by CHA<sub>2</sub>DS<sub>2</sub>-VASc. This information suggests that early rhythm control therapy could be less effective or less safe in patients with an elevated genomic risk for AF. To assess this, we analyzed the association between genetic AF and stroke risk and [cardiovascular events](#) in the EAST—AFNET 4 bio-sample study."

In the EAST—AFNET 4 bio-sample sub-study, patients were asked to donate a [blood sample](#) for later analyses. For the present analysis, [blood samples](#) from 1567 of the 2789 trial patients were analyzed. Of these patients, 793 were randomized to early rhythm control, 774 to usual care. They had a median age of 71 years and comprised 44% women. Baseline characteristics were similar between randomized groups.

Consistent with the EAST—AFNET 4 main trial, early rhythm control reduced the primary outcome compared with usual care in the bio-sample sub-population (HR 0.67, p

Citation: Study: Early rhythm control is safe, effective in atrial fibrillation patients irrespective of genetic predisposition (2023, June 2) retrieved 20 April 2024 from <https://medicalxpress.com/news/2023-06-early-rhythm-safe-effective-atrial.html>

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