

AAN 75th ANNUAL MEETING ABSTRACT

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Abstract Title: The Effect of Catheter Ablation on Cognitive Outcomes in Elderly Patients with Atrial Fibrillation: SAGE-AF

Press Release Title: Could Fixing a Problem with the Heart Be Good for Your Brain?

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Objective: To cross-sectionally and longitudinally examine the association between catheter ablation (CA) and cognitive function among older patients with atrial fibrillation (AF).

Background: It is believed that patients with AF have long-term cognitive deficits and decline due to alteration of the cerebrovascular hemodynamic profile. Therefore, treatment of the underlying arrhythmia should lead to less cognitive impairment in those who undergo catheter ablation.

Design/Methods: Patients with AF $\geq$ 65-years-old were recruited into the SAGE (Systematic Assessment of Geriatric Elements)-AF study from internal medicine and cardiology clinics in Massachusetts and Georgia between 2016 and 2018. Cognitive function was assessed using the Montreal Cognitive Assessment (MoCA) tool at baseline, one-, and two years. Cognitive impairment was defined as a MoCA score $\leq$ 23. Multivariate adjusted logistic regression was used to associate the risk of cognitive decline and hemorrhagic events with CA versus medical management.

Results: 887 participants were included in this analysis. On average, the participants were 75.2 ± 6.7 years old, 48.6% women and 87.4% white non-Hispanic. 193 (21.8%) participants received a CA prior to enrollment and more frequently had an implantable cardiac device (ICD) (45.6% vs 27.5%, $p < 0.001$) and persistent AF (31.1% vs 22.5%, $p < 0.05$). Participants who had previously undergone CA were significantly less likely to develop cognitive impairment during the two-year study period (aOR 0.64, 95% CI 0.46-0.88) than those who were only medically managed. No significant differences in hemorrhagic/ischemic events were observed in patients who underwent CA vs. medical management. Furthermore, a subgroup analysis of patients treated with warfarin versus all other anticoagulants (OACs) did not reveal a significant effect on cognitive decline.

Conclusions: Those who underwent CA in addition to medical management developed less cognitive impairment than medical treatment alone for atrial fibrillation.