Do patients with device-detected atrial fibrillation and prior stroke benefit from anticoagulation?

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In patients with device-detected atrial fibrillation and a prior stroke, oral anticoagulation increases bleeding without a clear reduction in stroke. This finding was presented by Prof. Paulus Kirchhof, University Medical Center Hamburg-Eppendorf (UKE), Hamburg, Germany, in a

late-breaking clinical trials session at the annual congress of the American Heart Rhythm Society (HRS 2024) held in Boston, U.S., May 16–19.

Device-detected atrial fibrillation (DDAF) are short and typically rare episodes of atrial fibrillation (AF) detected by pacemakers, defibrillators, and implanted loop recorders capable of continuous rhythm monitoring. Device-detected atrial fibrillation is found in every fifth patient with a cardiac implanted electronic device.

Device-detected atrial fibrillation can lead to stroke, but the stroke risk in patients with device-detected atrial fibrillation appears lower than the stroke risk in patients with ECG-documented atrial fibrillation (1%/year).

Anticoagulation effectively prevents stroke in patients with ECG-documented AF. It is particularly effective in patients with AF and a prior stroke or transient ischemic attack (TIA) who are at high risk of recurrent stroke. In patients with a prior stroke without ECG-documented AF, oral anticoagulants mainly increase bleeding with only a weak effect on ischemic stroke.

The NOAH—AFNET 6 (Non vitamin K antagonist Oral anticoagulants in patients with Atrial High-rate episodes) trial found that anticoagulation expectedly increases bleeding events in patients with device-detected atrial fibrillation while the stroke preventing effect was smaller than expected.

The weak effects of anticoagulation are also found in patients with long episodes of device-detected AF ≥24 hours and in patients with a high comorbidity burden (CHA2DS2VASc score 5–9).

A meta-analysis of NOAH—AFNET 6 and the similar study ARTESiA (Apixaban for the Reduction of Thrombo-Embolism in Patients with Device-Detected Sub-Clinical Atrial Fibrillation) confirmed an increase in bleeding and detected a small reduction in ischemic strokes with anticoagulation.

Prof. Kirchhof, principal investigator of the NOAH—AFNET 6 trial, explained, "Patients with a history of stroke are often anticoagulated when device-detected AF is found. However, we do not know whether they really benefit from this treatment. Data on the effectiveness and safety of anticoagulation in this patient group are ambiguous.

"We planned and conducted this prespecified sub-analysis of NOAH—AFNET 6 to assess the treatment effect of anticoagulation in patients with device-detected AF with and without prior stroke."

The analysis population consisted of 253 patients with device-detected AF and a prior stroke or TIA and 2281 patients without prior stroke or TIA. Participants were mean 78 years old; 36.4% were women.

All patients were randomized into two cohorts: one receiving anticoagulation with edoxaban, the other without anticoagulation. A sensitivity analysis looked only at patients with a prior stroke. This patient population was outside of the approved indication of edoxaban.

In patients with a prior stroke or TIA, a primary outcome event (stroke, systemic embolism or cardiovascular death) occurred in 14 of 122 patients receiving anticoagulation (5.7%/patient-year), and in 16 of 131 patients without anticoagulation (6.3%/patient-year). This is not a significant difference between treatment groups.

The rate of stroke was lower than expected with and without anticoagulation. In the anticoagulation group 4 of 122 patients

(1.6%/patient-year), in the no anticoagulation group 6 of 131 patients (2.3%/patient-year) experienced strokes.

There was no treatment interaction between prior stroke and anticoagulation therapy. Anticoagulation appeared to increase major bleeding in patients with prior stroke or TIA compared to no anticoagulation.

Prof. Kirchhof concluded, "The findings are consistent with the main trial: In the absence of ECG-documented AF, anticoagulation had only a minor effect on stroke and systemic embolism, even in this high-risk population of patients with prior stroke.

"More studies are needed to identify patients with device-detected AF at high risk of stroke and to precisely determine the risk and benefit of anticoagulation in these patients.

"Our analysis is the first of its kind, but it also has limitations: NOAH—AFNET 6 only enrolled only 253 patients with a prior stroke or TIA, and patients were randomized several years after the stroke or TIA event."

Further information may emerge from similar analyses in the ARTESiA trial.

Prof. Andreas Goette, St. Vincenz Hospital, Paderborn, Germany, who was involved in the NOAH—AFNET 6 trial and in the meta-analysis stated, "Anticoagulation reduces stroke by a small absolute amount. This desirable effect comes at the price of an increase in major bleeding events.

"Clinicians need to consider these effects when making individual decisions on anticoagulation in patients with device-detected atrial

fibrillation, especially in those with a prior stroke."

More information: Diener HC, Becher N, Sehner S, Toennis T et al, Anticoagulation in patients with device-detected atrial fibrillation with and without a prior stroke or transient ischemic attack. The NOAH-AFNET 6 trial.

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