Medical Xpress

CHADS2 risk score assigns over one-third of stroke patients to low or intermediate stroke risk

September 1 2013

The CHADS2 stroke risk scores 0 or 1 assign more than one-third of patients in atrial fibrillation with stroke to low or intermediate risk not mandating oral anticoagulation, according to research presented at ESC Congress 2013 today by Professor Michael Nabauer from Germany.

In contrast, a CHA2DS2-VASc score of 0 identifies a subgroup of patients with very low stroke risk unlikely to benefit from anticoagulation treatment.

Professor Nabauer said: "AF is the most frequent cardiac arrhythmia requiring hospitalisation and has a 1-2% prevalence in the general population. AF is associated with a significant risk of stroke with frequently disabling consequences. While oral anticoagulation is very effective in preventing ischaemic strokes in AF, it increases bleeding risk. Identification of patients with low risk of stroke not requiring oral anticoagulation is important to maximise anticoagulation benefit while avoiding the cost, hassle, and bleeding risk of oral anticoagulation."

The present study tested stroke risk stratification schemes for identifying patients with very low stroke risk who may not benefit from oral anticoagulation. The analysis was based on the prospective registry of the German Competence Network on Atrial Fibrillation (AFNET) which started in 2004-2006 and includes 9,575 patients with AF. Follow-up was for a mean of 5.1 years, and stroke events were adjudicated by a

critical event committee.

On enrolment, 47.7% of patients with non-valvular AF (n=8,847) in the AFNET registry were assigned a CHADS2 score of 0 (16.2%) or 1 (31.5%) indicating that oral anticoagulation was not definitively recommended. Surprisingly, 35.8% (145 out of 405) of strokes and other thromboembolic events (transient ischaemic attack, systemic embolism) during follow-up occurred in this patient subgroup initially classified by CHADS2 to have low or intermediate stroke risk (CHADS2=0: 45, CHADS2=1: 100 events).

Professor Nabauer said: "This finding suggests that classes CHADS2 0 and 1 contain subgroups of patients with significant stroke risk that may be identified by refined stroke risk stratification."

The CHA2DS2-VASc score, which adds age 65-74 years, vascular disease and female gender as stroke risk factors to the CHADS2 score, has been put forward to improve risk stratification in patients with low stroke risk and is the recommended risk stratification scheme in the ESC Guidelines on atrial fibrillation.1,2

In the current study, application of the CHA2DS2-VASc score reclassified 53.8% of patients with CHADS2 scores 0 or 1 to a CHA2DS2-VASc score of 2 and higher, where oral anticoagulation is the recommended treatment. Conversely, CHA2DS2-VASc assigned a very low stroke risk score of 0 to 55.6% of patients previously classified as CHADS2=0 (9.0% of all patients).

Professor Nabauer said: "Only 8 strokes and other thromboembolic events were observed in these patients classified as CHA2DS2-VASc=0 during the follow-up period (strokes occurring in association with cardioversion or ablation were excluded). This finding supports the use of CHA2DS2-VASc stroke risk stratification to identify patients at very

low stroke risk who may not benefit from oral anticoagulation for ischaemic stroke prevention."

He concluded: "A CHADS2 score of 0 or 1 does not appear to be suitable to identify patients with AF at low risk for stroke while CHA2DS2-VASc picks up these patients. The risk of stroke in patients with a CHA2DS2-VASc score of 0 over a mean follow up of 5.1 years was very low. Our data support the current recommendation that oral anticoagulation is not beneficial in patients with 'lone AF' or a CHA2DS2-VASc score of 0."

More information: 1 Guidelines for the management of atrial fibrillation. European Heart Journal. 2010;31:2369-2429.

2 2012 focused update of the ESC Guidelines for the management of atrial fibrillation. European Heart Journal. 2012;33:2719-2747

Provided by European Society of Cardiology

Citation: CHADS2 risk score assigns over one-third of stroke patients to low or intermediate stroke risk (2013, September 1) retrieved 26 April 2024 from https://medicalxpress.com/news/2013-09-chads2-score-assigns-one-third-patients.html

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