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Usefulness of CHADS2-VASc score in predicting stroke in patients with atrial fibrillation and heart failure with preserved ejection fraction

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Topic(s):
Heart Failure in Atrial Fibrillation

Citation:
Objective – To compare the utility of CHADS2-VASc score in predicting annual risk of stroke in patients with heart failure and preserved ejection fraction (HFpEF) to those with reduced ejection fraction (HFrEF).

Methods – We investigated 2,922 patients with known AF who were admitted to the center for acute decompensated HF. Anti-coagulation therapy was prescribed based on CHADS2-VASc score or physician’s discretion. Subjects were divided into four pre-specified groups based on HF type and median CHADS2-VASc score: HFpEF with CHADS2-VASc <5 (N=731), HFpEF with CHADS2-VASc =5 (N=1,102), HFrEF with CHADS2-VASc <5 (N=563) and HFrEF with CHADS2-VASc ≥5 (N=526). The primary endpoint was an ischemic stroke at 1 year.

Results – Mean age of the study population was 79±11 years, of whom more than half were women. The median CHADS2-VASc score for the entire study population was 5.0 [IQR 25%-75%: 4-6] Stroke rate for the entire study population was 6.6%. Multivariate Cox regression proportional hazards regression analysis revealed that in both HFrEF and HFpEF patients, each one-point increment in CHADS2-VASc was associated with a corresponding 28% increase in stroke risk (p<0.001). Interaction analysis showed no differences in predicting the risk of stroke in patients with CHADS2-VASc<5 and those with CHADS2-VASc≥5 (p for interaction 0.97 and 0.85, respectively).

Conclusions – Our findings key that the CHADS2-VASc score is a valid and powerful predictor of subsequent stroke among patients admitted with acute heart failure decompensation regardless of heart failure type.
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