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## A Novel User-Friendly Score (HAS-BLED) To Assess 1-Year Risk of Major Bleeding in Patients With Atrial Fibrillation: The Euro Heart Survey

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Objective

Despite extensive use of oral anticoagulation (OAC) in patients with atrial fibrillation (AF) and the increased bleeding risk associated with such OAC use, no handy quantification tool for assessing this risk exists. We aimed to develop a practical risk score to estimate the 1-year risk for major bleeding (intracranial, hospitalization, hemoglobin decrease >2 g/L, and/or transfusion) in a cohort of real-world patients with AF.

Methods

Based on 3,978 patients in the Euro Heart Survey on AF with complete follow-up, all univariate bleeding risk factors in this cohort were used in a multivariate analysis along with historical bleeding risk factors. A new bleeding risk score termed HAS-BLED (Hypertension, Abnormal renal/liver function, Stroke, Bleeding history or predisposition, Labile international normalized ratio, Elderly (>65 years), Drugs/alcohol concomitantly) was calculated, incorporating risk factors from the derivation cohort.

## Results

Fifty-three (1.5%) major bleeds occurred during 1-year follow-up. The annual bleeding rate increased with increasing risk factors. The predictive accuracy in the overall population using significant risk factors in the derivation cohort (C statistic 0.72) was consistent when applied in several subgroups. Application of the new bleeding risk score (HAS-BLED) gave similar C statistics except where patients were receiving antiplatelet agents alone or no antithrombotic therapy, with C statistics of 0.91 and 0.85, respectively.

## Conclusion

This simple, novel bleeding risk score (HAS-BLED) provides a practical tool to assess the individual bleeding risk of real-world patients with AF, potentially supporting clinical decision making regarding antithrombotic therapy in patients with AF.



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