Abstract: P1038

**Atrial fibrillation type and renal dysfunction as important predictors of left atrial thrombus in atrial fibrillation - Proposal of a new score**

**Authors:**
M Gawalko¹, A Kaplon-Cieslicka¹, M Budnik¹, M Peller¹, I Gorczyca², A Michalska², A Bodys¹, R Ulinski¹, M Zochowski¹, A Babiarz¹, P Scislo¹, J Kochanowski¹, KJ Filipiak¹, G Opolski¹, ¹Medical University of Warsaw, 1st Department of Cardiology - Warsaw - Poland, ²Swietokrzyskie Cardiology Center, 1st Department of Cardiology and Electrotherapy - Kielce - Poland,

**Topic(s):**
Atrial Fibrillation - Treatment

**Citation:**
Background: In non-valvular atrial fibrillation (AF), the CHA2DS2-VASc score is recommended for the assessment of thromboembolic risk. However, it might not include all relevant predictors of left atrial appendage (LAA) thrombus formation.

Purpose: To identify predictors of LAA thrombus in AF patients and to enhance the prognostic value of the CHA2DS2-VASc score.

Methods: The study included 1033 consecutive AF patients (derivation cohort) referred for catheter ablation or direct current cardioversion, in whom transesophageal echocardiography (TOE) was performed prior to the procedure. Logistic regression analysis was used to identify predictors of LAA thrombus on TOE. New predictors were included in the CHA2DS2-VASc score. Receiver operating characteristic (ROC) curves were constructed to compare the new score with the CHA2DS2 and the CHA2DS2-VASc score both in the derivation and the validation (n=320) cohort.

Results: In the derivation cohort, median age was 60 years, median CHA2DS2-VASc score was 2, 45% patients received vitamin K antagonists (VKA), and 44% - non-VKA oral anticoagulants (NOAC). On TOE, LAA thrombus was present in 59 (5.7%) patients. In univariate analyses, predictors of LAA thrombus were: older age, diabetes, heart failure, prior stroke, transient ischemic attack or peripheral embolism, respiratory disease, AF type (persistent/"permanent" vs paroxysmal) and renal dysfunction. In multivariate analysis, aside from variables encompassed by the CHA2DS2-VASc score, LAA thrombus predictors included AF type and renal dysfunction. These predictors were consequently incorporated into the CHA2DS2-VASc score. In ROC analysis, area under the curve (AUC) for the new score (CHA2DS2-VASc-RAF score) was significantly higher (0.81) than for the CHA2DS2 and the CHA2DS2-VASc score (0.71 and 0.70, respectively). In the validation cohort, the CHA2DS2-VASc-RAF score also performed significantly better (AUC of 0.88) than the CHA2DS2 and the CHA2DS2-VASc score (AUC of 0.63 and 0.60, respectively).

Conclusion: In a real-world population of AF patients with majority treated with OAC, LAA thrombus was found in approximately 6%. Two variables not included in the CHA2DS2-VASc score (AF type and renal dysfunction) proved to be strong, independent predictors of LAA thrombus, and might improve thromboembolic risk stratification.
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1 Medical University of Warsaw, 1st Department of Cardiology - Warsaw - Poland, 2 Swietokrzyskie Cardiology Center, 1st Department of Cardiology and Electrotherapy - Kielce - Poland

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DERIVATION COHORT

VALIDATION COHORT

ROC Curve (Area)

CHA2DS2-VASc-RAF: 0.81
CHA2DS2-VASc: 0.71
CHA2DS2: 0.70

ROC Curve (Area)

CHA2DS2-VASc-RAF: 0.88
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CHA2DS2: 0.60