Clinical applications

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Prevalence and predictors of left atrial thrombi in patients scheduled for electrical cardioversion of nonvalvular atrial fibrillation

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Background: Transesophageal echocardiography (TEE) showed the presence of thrombi in 12 to 26% of patients with atrial fibrillation (AF).

Purpose: To assess clinical and echocardiographic variables associated with thrombi in the left atrium (LA) prior to electrical cardioversion in patients with nonvalvular atrial fibrillation (AF).

Methods: Cross-sectional study including 188 patients. Clinical and echocardiographic variables were analyzed. Qualitative variables are expressed in percentages and quantitative variables in mean and standard deviations. Qualitative variables were analyzed by the Chi square method. A value of p <0.05 was considered statistically significant.

Results: Mean age was 60.7 ± 12.3 and 75.5% males. The mean CHA2DS2-VASc and HAS-BLED scores were 2.43 ± 1.6 and 1.06 ± 1 . The percentage of paroxysmal AF was 49.7%, nonparoxysmal 23.2% and atrial flutter 27%. Mean ejection fraction (EF) was $52.2 \pm 13\%$. The prevalence of thrombus was 12.3%.

Female gender (p = 0.0275), heart failure (p = 0.0006), CHA2DS2-VASc score \geq 2 (p = 0.0015), EF <50% (p = 0.0089), moderate/severe spontaneous echocardiographic contrast (p = 0.000042) and LA appendage emptying velocity \leq 20 cm/sec (p = 0.0000001) are associated to the presence of thrombi in the LA. No thrombi were detected in patients with CHA2DS2-VASc score of 0.

History of previous anticoagulation for over thirty days or creatinine clearance <56 ml/min were not predictors of LA thrombi.

Conclusion: Female gender, heart failure, EF <50% and CHA2DS2-VASc score ≥2, emptying velocity of less than 20 cm/sec and spontaneous echocardiographic contrast were univariate predictors of thrombi in the LA. CHA2DS2-VASc score of 0 is a strong predictor of absence of thrombi.