

Editorial to “A novel scoring system for stroke risk stratification in Japanese patients with low CHADS₂ scores: Study using a transesophageal-echocardiogram endpoint.”

Atrial fibrillation (AF) has a relation with a risk of thromboembolic events. Of intracardiac thrombi in patients with AF, approximately 90% is located in the left atrial appendage (LAA).¹ Transesophageal echocardiography (TEE) is considered the gold standard for identification of LAA thrombi. Sensitivity is about 95% and specificity is 100% and is widely used in clinical practice to screen for the presence of LAA thrombi in patients with AF. Recent studies reported the prevalence of LAA thrombi in Japanese nonvalvular atrial fibrillation (NVAF) patients on anticoagulation therapy undergoing preprocedural TEE.^{2,3} Kawabata et al² described that the prevalence of LAA thrombus in anti-coagulated Japanese NVAF patients undergoing preprocedural TEE was 2.7%, and this was similar between the warfarin and the DOAC groups. No LAA thrombus was identified in patients with CHA₂DS₂VASc score = 0, or AF patients without a prior stroke. BNP \geq 173 pg/mL was the only independent predictor of LAA thrombus.

Harada et al³ described that LAA thrombus was detected by TEE in 4.4% of AF patients on DOACs undergoing catheter ablation. Significant univariate risk factors for LAA thrombus were persistent AF, CHADS₂ score (\geq 2 points), low-dose treatment and inappropriate dose reduction of DOAC, serum NT-Pro BNP level, left atrial diameter, spontaneous echo contrast by TEE and LAA flow velocity by TEE. In the first TEE findings, the prevalence of AF rhythm at the time of examination and the prevalence of spontaneous echo contrast were higher with LAA thrombus as compared without LAA thrombus. Furthermore, LAA flow velocity was slower in LAA thrombus group.

In this study, no patients with CHADS₂ score of 0 or 1 had LAT if they have neither persistent AF nor inappropriate dose reduction. These findings highlight a low-risk subset of patients for whom TEE may not be required before AF ablation.

In the article published in *Journal of Arrhythmia*, Nagahara et al⁴ investigated reported a novel scoring system for stroke risk stratification in Japanese patients with low CHADS₂ scores: study using a transesophageal-echocardiogram endpoint.

This study showed that even in patents with a low CHADS₂ score of 0 or 1, approximately 10% of the patients have TEE signs of high cardiogenic stroke risk, which may be predicted by dilatation

of the LA in TTE, serum BNP level, enhanced cardiac CT, and type of AF. This study is important to indicate the combination score with CHADS₂ and TEE risk. It may improve stroke risk stratification in AF patients with a low CHADS₂ score. However, there was no case with cardiac thrombus or sludge in the present study. Therefore, I feel that this study needs a long-term follow-up to detect future cardiac thrombus or sludge. Other study supported this study.⁵ Nishikii-Tachibana et al described that LA thrombus were observed in seven patients (2.1%) with a low CHADS₂ score, whereas no LA thrombus were detected in patients with a CHADS₂ score of 0. Nishikii-Tachibana et al established new scoring system (LA volume >50 mL: score 2; EF <56%: score 1; BNP >75 pg/mL: score 1) for evaluating the risk of LA thrombus. Patients with a new score 0 or 1 had no LA thrombus with low CHADS₂ score (score 0 or 1). Using the combination score with CHADS₂ and TEE risk, we may omit TEE in patients with low risk before ablation. I feel that it may be reasonable to use these scores when we perform pulmonary vein isolation. However, further studies will be needed to ascertain the relationship between LA thrombus and LA thrombus risk score.

CONFLICT OF INTEREST

Authors declare no conflict of interests for this article.

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