



Imaging

ECHOCARDIOGRAPHIC PREDICTORS FOR PROGRESSION TO PERSISTENT OR PERMANENT ATRIAL FIBRILLATION IN PATIENTS WITH PAROXYSMAL ATRIAL FIBRILLATION: E6P STUDY

Poster Contributions

Poster Sessions, Expo North

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Background: Paroxysmal atrial fibrillation (AF) frequently progresses to persistent/permanent AF. We investigated echocardiographic predictors of AF progression.

Methods: We conducted a multicenter, prospective, observational study and included 313 paroxysmal AF patients with 2D speckle tracking echocardiography. LA diameter, volume, and mechanical function were estimated. The ratio of E/e' to global LA strain was used as an index of LA stiffness.

Results: Progression of AF to persistent/permanent stage occurred in 52 (17%) patients (median follow-up, 26 months). LA diameter, volume index, expansion index, active emptying fraction and LA stiffness index were significant predictors for AF progression. LA diameter ≥ 40 mm and volume index ≥ 34.3 ml/m² were associated with hazard increase for AF progression (HR, 2.0 and 2.6; $p=0.016$ and 0.001). LA stiffness index ≥ 0.34 was associated 2.8-fold hazard increase for AF progression (HR, 2.8; $p=0.001$). In a subgroup with a LA volume index < 34.3 ml/m², patients with LA stiffness index ≥ 0.34 had significantly worse event-free survival ($p=0.006$). However, in a subgroup with a LA volume index ≥ 34.3 ml/m², event-free survival was not significantly different by LA stiffness index ($p=0.281$).

Conclusions: Echocardiographic measure of LA diameter, volume, and mechanical function, including LA stiffness were associated with AF progression. LA stiffness could provide additional prognostic information in patients with paroxysmal AF but with normal LA volume.

Figure. Kaplan-Meier event-free survival stratified by LA maximal volume index (LAVI_{max}) and LA stiffness index

