Deformacija lijevog atrijsa kao predskazatelj povrata fibrilacije atrijsa nakon kateterske ablacije u bolesnika s paroksizmalnom fibrilacijom atrijsa i očuvanom sistoličkom funkcijom lijeve klijetke

Left atrial strain predicts atrial fibrillation recurrence after catheter ablation therapy in patients with sinus rhythm and preserved left ventricular systolic function

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UVOD: Radiofrekventna kateterska ablacija (CA) učinkovita je terapijska opcija u liječenju bolesnika s fibrilacijom atrijsa (FA). Cilj istraživanja bio je ispitati ulogu novih ehokardiografskih parametara na ishod liječenja bolesnika s FA.

METODE: U istraživanje je uključeno 110 bolesnika sa simptomatskom paroksizmalnom FA koji su liječeni CA tijekom 2009. i 2010. godine (prosječna dob 59 godina, 37% žena, prosječan CHA₂DS₂-VASc zbroj 1,37, EFLV 62%). Određivani su: globalna uzdužna deformacija lijevog atrijsa (LA-GS) i lijevog ventrikula (LV-GS) te su zajedno s ostalim standardnim ehokardiografskim parametrima uspoređeni između skupina bolesnika sa i bez povrata FA nakon CA.

REZULTATI: Tijekom perioda praćenja od 16±6 mjeseci, u 44 bolesnika (40%) zabilježen je povrat FA. Ti si bolesnici bili stariji (61 vs 58 godina; p=0,05), s nižim vrijednostima LA-GS (22% vs 31%; p<0,001) i LV-GS (-15,6% vs -17,4%; p=0,001) u usporedbi s bolesnicima koji su održali sinusni ritam. Volumen lijevog atrijsa (LAVI), CHA₂DS₂-VASc zbroj i trajanje FA nisu se značajnije razlikovali među skupinama. Analizom ROC krivulja LA-GS bio je bolji pokazatelj povrata FA u usporedbi s LV-GS (AUC: 0,87 vs. 0,69; p=0,002) te LAVI (AUC: 0,87 vs. 0,59; p<0,001). Vrijednosti LA-GS <24,5% zabilježile su osjetljivost od 75% i specifičnost od 91% u predviđanju ishoda liječenja. Multivarijatnom regresijskom analizom LA-GS bilo kao binarna (HR=8,91, 95% CI=4,35-18,27; p<0,001) ili kontinuirana varijabla (HR=0,88, 95% CI=0,85-0,92; p<0,001) bio je jedini nezavisan pretkazatelj povrata FA nakon CA.

ZAKLJUČAK: Globalna uzdužna deformacija lijevog atrijsa snažan je nezavisan pretkazatelj povrata FA nakon kateterske ablacije u bolesnika s paroksizmalnom fibrilacijom atrijsa i očuvanom sistoličkom funkcijom lijeve klijetke.

INTRODUCTION: Radiofrequency catheter ablation (CA) is an effective treatment option for patients with symptomatic atrial fibrillation (AF). The aim of the study was to investigate the role of novel echocardiographic parameters as predictors of outcome in AF treated with CA.

METHODS: We studied 110 patients with symptomatic paroxysmal AF who underwent CA and transthoracic echocardiographic examinations between 2009 and 2010 (mean age 59 years, 37% women, CHA₂DS₂-VASc score 1.37, LVEF 62%). The left atrial (LA-GS) and left ventricular (LV-GS) global longitudinal strains were measured by two-dimensional speckle tracking echocardiography and together with other standard echocardiographic parameters were compared between the patients with and without AF recurrence.

RESULTS: During the mean follow-up period of 16±6 months, 44 patients (40%) had AF recurrence. These patients tended to be older (61 vs 58 y; p=0.05), had a lower LA-GS (22% vs 31%; p<0.001) and a lower LV-GS (-15.6% vs -17.4%; p=0.001) compared to patients who maintained sinus rhythm. Left atrial volume index (LAVI) (28.6 vs 25.7 ml/m²; p=0.19), CHA₂DS₂-VASc score (p=0.23) and AF duration (p=0.43) did not significantly differ between the groups. ROC analysis revealed that LA-GS was the best parameter for predicting AF recurrence when compared to LV-GS (AUC: 0.87 vs. 0.69; p=0.002) and LAVI (AUC: 0.87 vs. 0.59; p<0.001). LA-GS <24.5% had 75% sensitivity and 91% specificity for predicting outcome. LA-GS correlated with LV-GS (r=-0.43; p<0.001), but not with LAVI (p=0.24). By multivariate stepwise Cox regression analysis, LA-GS entered either as binary (<24.5%) (HR=8.91, 95% CI=4.35-18.27; p<0.001) or continuous variable (HR=0.88, 95% CI=0.85-0.92; p<0.001) was the only independent predictor of AF recurrence.

CONCLUSION: Left atrial function assessed by LA-GS is an independent predictor of AF recurrence after CA therapy in patients with sinus rhythm and preserved left ventricular systolic function.

LITERATURE

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