



ACC.15

TCT@ACC-12 | innovation in intervention

A312
JACC March 17, 2015
Volume 65, Issue 10S

Arrhythmias and Clinical EP

ASSOCIATION BETWEEN LEFT VENTRICULAR DIASTOLIC WALL STRAIN AND RECURRENCE OF ATRIAL FIBRILLATION IN PATIENTS UNDERGOING CATHETER ABLATION OF PAROXYSMAL ATRIAL FIBRILLATION

Poster Contributions

Poster Hall B1

Saturday, March 14, 2015, 10:00 a.m.-10:45 a.m.

Session Title: What's Going On in the World of Atrial Fibrillation?

Abstract Category: 4. Arrhythmias and Clinical EP: AF/SVT

Presentation Number: 1115-247

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Background: In patients with left ventricular diastolic dysfunction, an elevated left atrial pressure would increase the atrial arrhythmogenic substrate. Recently, diastolic wall strain (DWS) has been reported to indicate left ventricular distensibility as a novel and simple echocardiographic index. The objective of this study was to assess the impact of DWS on clinical outcome after radiofrequency catheter ablation of paroxysmal atrial fibrillation (PAF).

Methods: This single-center observational study comprised 109 consecutive patients undergoing a first procedure of PAF ablation (age; 67.9 ± 7.8 years, male; 52.6%). We calculated DWS as: (left ventricular posterior wall thickness at end-systole - left ventricular posterior wall thickness at end-diastole) / left ventricular posterior wall thickness at end-systole. Atrial fibrillation recurrence was defined as documentation of any atrial tachyarrhythmias after an initial three months of blanking period.

Results: In 109 patients, 12% patients had history of heart failure, 61% patients had hypertension, and 16% patients had diabetes mellitus. During an average of 17.9 ± 16.7 months, 32% patients developed atrial fibrillation recurrence. After multivariate analysis, low DWS \leq the best predictive value of 0.393 was an independent predictor of recurrence (odds ratio 2.89, 95% confidence interval 1.23-6.80; $P = 0.015$).

Conclusion: Underlying diastolic dysfunction was associated with worse outcome of catheter ablation of PAF.

