TOTAL EPICARDIAL FAT VOLUME IS ASSOCIATED WITH EARLY RECURRENCE OF ATRIAL FIBRILLATION AFTER CATHETER ABLATION

ACC Moderated Poster Contributions
McCormick Place South, Hall A
Monday, March 26, 2012, 11:00 a.m.-Noon

Session Title: Arrhythmias: AF/SVT: Anatomic Considerations for Ablation of Supraventricular Arrhythmias
Abstract Category: 16. Arrhythmias: AF/SVT
Presentation Number: 1240-345

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Background: Early recurrence of atrial fibrillation (ERAF) after catheter ablation occurs frequently, although it has not been shown to be associated with long-term outcome. The inflammatory response to extensive radiofrequency application within the left atrium has been postulated as a possible mechanism for ERAF following ablative therapy. Recent work has suggested that there is a relationship between epicardial adipose tissue (EAT), which may cause local inflammation, and susceptibility to AF. The objective of this study was to evaluate the relationship between EAT and ERAF after catheter ablation.

Methods: Thirty-eight consecutive drug-refractory symptomatic patients with AF (paroxysmal AF = 32, persistent AF = 6) were treated with extensive pulmonary vein isolation. Total epicardial fat volume was measured before catheter ablation using 256 multi-slice computed tomography in all patients. ERAF was documented on bedside electrocardiographic monitoring, 12-lead electrocardiogram, 24-hour Holter monitoring, and, if necessary, portable electrocardiographic monitoring.

Results: Within the blanking period of 3 months after the procedure, 12 patients (32%) had ERAF. The total volume of EAT was significantly greater in patients with than without ERAF (200 ± 62 cm³ vs 145 ± 37 cm³, p <0.01). In a multivariate logistic regression model, the association between total volume of EAT and ERAF was still significant (p<0.05) after adjustment for other confounders including age, body mass index, type of AF, and left atrial volume. The total volume of EAT was not significantly associated with AF recurrence after the blanking period.

Conclusion: The total amount of epicardial adipose tissue might be associated with early recurrence of AF in patients undergoing catheter ablation for AF.