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Short Communication

The Right Atrial Area as a New Factor to Predict Pulmonary Vein Ablation Success

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Introduction

Until now, few factors to predict successful pulmonary vein ablation have been identified, none of them with high predictive values.

The objective of our study was to compare different predictive factors of atrial fibrillation (AF) recurrence after pulmonary vein ablation, including two new parameters: the right atrial area and the index right atrial volume.

Methods

We retrospectively analyzed data from 66 patients. We included echocardiogram parameters of patients whose echocardiogram had been performed within 18 months prior to the ablation. We excluded patients with left ventricular dysfunction (defined as a left ventricular ejection fraction <50%), a previous diagnostic of cardiomyopathy or those with poor image quality in the echocardiogram.

For this analysis, we considered atrial fibrillation recurrence as the presence of AF of 30 seconds or longer demonstrated by a standard electrocardiogram or in a 24- hour Holter electrocardiogram within a year after the ablation procedure.

Results

Our population was made up of 63.6% of males with a median age of 58.6 years, 42.3% with hypertension, 6.1% with diabetes, 42.44% with dyslipidemia, 43.9% with persistent AF and 56.1% with paroxysmal AF.

Conclusions

Al though our study was limited because of a low number of patients and it is a retrospective analysis, we conclude that the use of anti-arrhythmias drugs and previous ablation procedures are recurrence predictors of A Fata year. We found an important and first-described trend towards that pre-taking beta-blockers and a higher right atrial area have a relation to the recurrence of AF.

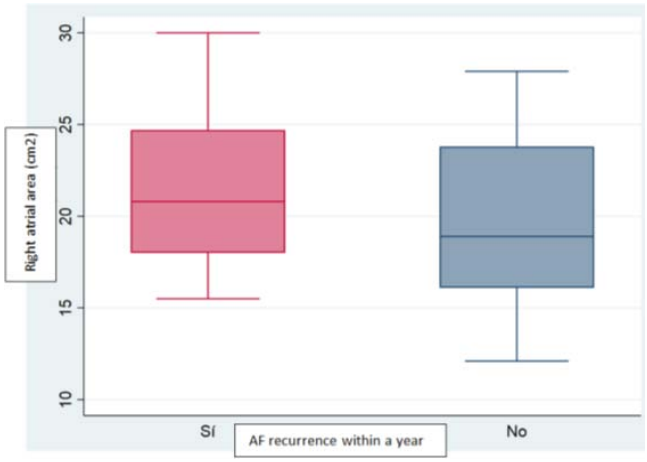

Figure:

Table: The following table shows the unvariant analysis.

Variable (previous to ablation)	Media or percentage in patients with recurrence ± standard deviation	Media or percentage in patients without recurrence ± standard deviation	Comparative test (confident interval of the difference of 95%)	Significance (p value)
Treatment with ACEi/AIIRA(%)	26.7+11.8	24.1±8.1	-25.9 to 31.0	0.43
Treatment with beta-Blockers (%)	80.0±10.7	58.6±9.3	-7.4 to 50.1	0.07
Treatment with anti arrhythmias Drugs (%)	46.7±13.3	79.3±7.7	0.9 to 64.3	0.02
Previous ablation Procedure (%)	6.7±6.7	27.6±8.4	-0.8 to 42.6	0.03
Length of the left atria (mm)	38.2±3.9	34.6±2.6	-5.6 to 12.9	0.2
Index volumen of the LA(ml/m²)	45.1±3.8	40.1±3.1	-5.2 to 15.3	0.16
Index volumen of the RA (ml/m²)	35.9±2.6	31.3±2.6	-3.7 to 12.8	0.14
RA area(cm²)	22.0±1.2	19.7±0.9	-0.7 a 5.4	0.06
Septal E/e' relation	11.0±1.5	12.3±1.1	-5.6 a 3	0.7
Lateral E/e' relation	6.4+-1.0	9.7±1.1	-6.7 a 0.1	0.97

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