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EFFECT OF CATHETER ABLATION ON PROGRESSION OF PAROXYSMAL ATRIAL FIBRILLATION

ACC Poster Contributions
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Session Title: Clinical Electrophysiology -- AF Therapies
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Objective: To determine the effect of radiofrequency catheter ablation (RFA) on progression of paroxysmal atrial fibrillation (AF).

Background: Progression to persistent AF may occur in up to 50% of patients with paroxysmal AF receiving pharmacological therapy. Hypertension, age, prior transient ischemic event, chronic obstructive pulmonary disease, and heart failure (HATCH score) have been identified as independent risk factors for progression of AF.

Methods: RFA was performed in 504 patients (mean age: 58±10 years) to eliminate paroxysmal AF. A repeat RFA procedure was performed in 193 patients (38%). Clinical variables predictive of outcome and their relation to progression of AF after RFA were assessed using multivariate analysis

Results: At a mean follow-up of 27±12 months after RFA, 434/504 patients (86%) were in sinus rhythm; 49/504 patients (9.5%) continued to have paroxysmal AF; and 14 (3%) were in atrial flutter. Among the 504 patients, 7 (1.5%) progressed to persistent AF. In patients with recurrent AF after RFA, paroxysmal AF progressed to persistent AF in 7/56 (13%, P<0.001). The progression rate of AF was 0.6% per year after RFA (P<0.001 compared to 9% per year reported in pharmacologically treated patients). Age>75 years, duration of AF >10 years and diabetes were independent predictors of progression to persistent AF. The HATCH score was not significantly different between patients with paroxysmal AF who did and did not progress to persistent AF (0.7±0.8vs. 1.0±0.5, P=0.3).

Conclusions: Compared to a historical control group of pharmacologically-treated patients with paroxysmal AF, RFA appears to reduce the rate of progression of paroxysmal AF to persistent AF. Age, duration of AF, and diabetes are independent risk factors for progression to persistent AF after RFA. HATCH score is not predictive of progression of paroxysmal AF after the RFA and should not be used in patient selection for RFA.