Predictors of emergency medical services utilization after different preventive counseling programs in paroxysmal atrial fibrillation patients after catheter ablation

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Background: Catheter ablation (CA) is known to reduce atrial fibrillation (AF) burden, but even after CA patients (pts) may remain symptomatic and seek for emergency care.

Purpose: To identify predictors of emergency medical services (EMS) utilization after different preventive counseling programs in paroxysmal AF pts after CA.

Methods: This is a secondary analysis of a randomized controlled trial in AF pts after CA (radiofrequency or cryoballoon) assessing the effects of a long-term preventive counseling program encompassing remote support. Pts were randomized into 3 groups in 1:1:1 ratio. During hospitalization for CA pts from all groups received single-session preventive counseling with focus on their individual cardiovascular risk factors profile. After discharge, pts from Group 1 received remote preventive counseling by phone and pts from Group 2 by email every two weeks for the first 3 months after enrollment (a total of 6 sessions). Group 3 received usual care. At baseline and at 12 months of follow-up, pts underwent assessments of their demographic parameters (age, sex, education level, marital status, and socioeconomic status) and psychological status (stress level using a 10-point visual analogue scale [VAS] and anxiety and depression by the Hospital Anxiety and Depression Scale [HADS]; transthoracic echocardiography, ECG and 24-hour ECG monitoring. A multivariate regression analysis of seeking for EMS was performed with patients' baseline parameters as independent variables.

Results: A total of 135 pts aged 35 to 80 years were enrolled (mean age 57.3±9.1 years, 51.8% men). Over 1 year of follow-up, 53 study participants called the ambulance (which made up for 90 calls) with no significant differences between the study groups. Age (odds ratio [OR] 1.8, 95% confidence interval [CI] 1.1–2.9; P=0.010), stress level ≥7 points (OR 3.2, 95% CI 1.4–7.5; P=0.007), left ventricular (LV) ejection fraction ≤62% (OR 2.6, 95% CI 1.1–6.1; P=0.024); and left atrial (LA) diameter ≥42 mm (OR 3.6, 95% CI 1.5–8.5; P=0.003) were independent predictors of an EMS call.

Conclusions: Age, perceived stress level, reduced LV function and LA size were independent predictors of EMS utilization after CA regardless of preventive counseling interventions.

	Odds ratio	95% Confidence interval	p
Age groups: 30–39 years, 40–49 years, 50–59 years, 60–69 years, 70–79 years	1.8	1.1–2.9	0.010
Left atrium size (≥42 mm)	3.6	1.5–8.5	0.003
Left ventricular ejection fraction (≤62%)	2.6	1.1–6.1	0.024
Stress level (≥7 points)	3.2	1.4–7.5	0.007