

Arrhythmias and Clinical EP

CIRCULATING MICRORNA PATTERNS ARE ASSOCIATED WITH POST-ABLATION RECURRENCE OF ATRIAL FIBRILLATION

Poster Contributions
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Background: Dysregulation of microRNAs (miR) expression is observed in atrial fibrillation (AF) and adverse myocardial remodeling. We hypothesized that selected circulating miRs will identify patients at high risk of AF recurrence after ablation.

Methods: Consenting AF patients (n=141) undergoing AF ablation were included in this study. Patients were followed for 1 yr post ablation and stratified based on the recurrence (n=86) or no recurrence (n=55) of AF at 1 yr, excluding the initial 90-day blanking period. Plasma was obtained during the baseline AF ablation procedure. Assessment of several AF-associated miRs (-21;-29a-133a;-133b;-150;-328) was performed with TaqMan miR assays. Data presented as fmol/ μ l.

Results: The average age of the recurrence group was 69 years (IQR: 63-75) and for the no recurrence group 68 years (IQR 62-74), p=.57. Median expression of miRs associated with atrial structural remodeling were lower in patients with AF recurrences at 1 year (miR21: 1.04 vs 0.55, p=0.01; miR150: 2.87E+06 vs 6.07E+06, p=0.002). MiR- 328 involved in electrical remodeling was reduced in those with AF recurrences (6.66E+05 vs 2.44E+06, p=0.04)

Conclusions: Drawn before AF ablation, circulating miR-21,-150 and -328 were significantly reduced in patients with AF recurrence post ablation consistent with adverse structural and electrical remodeling as pathologic mechanisms driving. The potential use of these markers to assist in selection of candidates for AF ablation requires further study.

