Association of Single Nucleotide Polymorphisms with the Recurrence of Atrial Fibrillation after Catheter Ablation

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Background: The association of gene variants with the recurrence of atrial fibrillation after catheter ablation is still unclear. Methods: A total of 383 consecutive patients of AF were included, and 189 patients underwent catheter ablation for drug-refractory AF. The single nucleotide polymorphisms (SNPs) (rs13376333, rs2200733, and rs7193343) were genotyped using real-time polymerase chain reaction. Results: The rs7193343 variant was the independent associated factor of non-PAF (paroxysmal AF). In the PAF group, the rs7193343 variant was independently associated with AF recurrence after catheter ablation; however, the rs2200733 and rs13376333 variants were not associated with AF recurrence in this group. The combination of the rs7193343 and rs2200733 risk alleles was associated with a better predictive power in PAF patients. In contrast, in the non-PAF group, the SNPs were not associated with recurrence. Conclusions: The rs7193343 variant was associated with AF recurrence after catheter ablation in the PAF patients but not in the non-PAF patients. The rs7193343 variant was the independent associated factor of non-PAF.

Keywords: atrial fibrillation, single nucleotide polymorphisms, catheter ablation