Radiofrequency ablation of complex fractionated atrial electrograms (CFAE): preferential sites of acute termination and regularization in paroxysmal and persistent atrial fibrillation.

INTRODUCTION: Complex fractionated atrial electrograms (CFAE) have been described as a new target for ablation of atrial fibrillation (AF). This prospective study evaluates the acute effects of CFAE ablation in patients with paroxysmal or persistent AF and analyzes the preferential anatomic sites where these effects occur.

METHODS AND RESULTS: Ablation of CFAE was performed in 66 symptomatic patients (mean age of 58 +/- 12 years) with paroxysmal (n = 36) or persistent AF (n = 30). Termination or regularization of AF during ablation of CFAE was achieved in 56 of 66 patients (84%), with termination in 28 of 66 patients (42%) and regularization of AF in 28 of 66 patients (42%). Ablation of CFAE showed no effect in 10 of 66 patients (16%). Termination of AF occurred at 53 sites and AF regularization at 81 sites. The preferential sites of AF termination or regularization were found around the pulmonary veins (termination n = 15; regularization n = 22), at the anterior wall (termination n = 14; regularization n = 19) and at the interatrial septum (termination n = 8; regularization n = 17). CONCLUSION: Termination or regularization of AF was achieved acutely in 84% of patients by ablation of CFAE. The preferential sites of AF termination or regularization were found around the
pulmonary veins, at the anterior wall of the LA and at the interatrial septum. These findings may have implications for future ablation concepts.