

# Impairment of the atrial substrates by chronic cigarette smoking in patients with atrial fibrillation.

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摘要

## Abstract

**BACKGROUND:** Smoking is a major risk factor for cardiovascular disease. The impact of smoking on the right and left atrial substrates is unknown. **METHODS:** This study included 88 patients (age 50 +/- 13 years, M/F = 71/17) who underwent four pulmonary veins isolation (PVI) for paroxysmal atrial fibrillation (AF). The mean voltage and total activation time of the individual atria were obtained by using a NavX mapping system, and were compared between the patients with and without a previous smoking history. The dose effect was evaluated by the smoking intensity-duration, defined as the number of packs per day plus how many years they had been smoking. **RESULTS:** The right atrial (RA) mean voltage was lower in the patients with a previous history of smoking than in those without a history of smoking (1.92 +/- 0.49 vs 2.17 +/- 0.56 mV,  $P < 0.05$ ). The left atrial (LA) mean voltage was similar between the two groups (1.73 +/- 0.67 vs 1.82 +/- 0.48 mV,  $P = 0.488$ ). Further, the total activation time of the RA was longer in the patients with a previous history of smoking than in those without a history of smoking, but not so for the LA. Furthermore, the voltage reduction in the RA was related to the smoking intensity-duration (Pearson's correlation,  $r = 0.650$ ,  $P < 0.001$ ). **CONCLUSIONS:** In patients with atrial fibrillation, the RA mean voltage and total activation time were significantly correlated to smoking and had a dose-dependent effect.