The Impact of Smoking on Adverse Clinical Outcomes in Patients with Mild to Moderate Aortic Stenosis

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Background: Aortic stenosis (AS) is a gradually progressive disease and it is well known that the patients (pts) with asymptomatic mild to moderate AS have a good prognosis. Nevertheless, a considerable number of these patients develop symptoms and require surgery within a short time period. We evaluated the impact of smoking on adverse clinical outcomes in pts with mild to moderate AS.

Methods: A total of 221 consecutive pts who had mild to moderate AS were enrolled from January to December 2009. The patients were divided into two groups according to smoking (smoking group: n=21, non smoking group: n=200). Baseline clinical and echocardiographic characteristics were compared between two groups. Results: Baseline clinical characteristics showed that male (71.4% vs 28.0%, p<0.001) and previous coronary artery disease (CAD, 66.7% vs 38.5%, p=0.018) were higher in smoking group. Baseline echocardiographic characteristics including aortic valve peak velocity and mean pressure were similar between two groups. Two years clinical outcomes showed that coronary artery revascularization (CAR, 33.3% vs 6.5%, p=0.001) and myocardial infarction (MI, 9.5% vs 1.0%, p=0.046) were higher in smoking group. But, multivariate analysis showed that smoking was not an independent risk factor of clinical adverse events (OR 2.34, 95% CI: 0.69-7.8, p=0.167).

Conclusions: In this study, smoking was associated with MI and CAR in pts with mild to moderate AS, but smoking was not associated with progression to severe AS. We assumed that smoking is conventional cardiovascular disease, but two years is short period to observe the degree of valvular progress. Therefore, long term follow up should be needed.

P Wave Morphology as an Independent Predictive Value for Recurrence of Atrial Tachyarrhythmias

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Introduction: This study was conducted to investigate the hypothesis that the P wave morphology characterized by amplitude and duration after ablation of atrial fibrillation (AF) is a useful predictor of recurrence of AF after catheter ablation. Method: One hundred one (76 male; 46.7 months of AF duration) patients with paroxysmal AF were included. Standard 12-lead electrocardiography was performed in all patients before and within 1-2 days after ablation. The amplitude (PA1) and duration (PD1) of P wave before and after (PA2, PD2) ablation were measured with a caliper in 12-lead ECGs and the difference between the two were defined as ΔPA and ΔPD, respectively. Recurrence was defined as any atrial tachyarrhythmias (ATs) longer than 30 seconds occurred after 3 months of blanking period. Results: During the follow-up of 31.4±3 months, 24% (24 out of 101) showed recurrence of ATs. The PA1 (1.45±0.50 vs 1.35±0.34mm, p=0.26), PA2 (1.36±0.37 vs 1.19±0.37 mm, p=0.063), and ΔPA (0.10±0.37 vs 0.16±0.23 mm, p=0.338) did not show significant difference between the recurrence group and the non-recurrence group. But in recurrence group, PD1 (105.3±14.1 vs 114.9±14.9 ms, p=0.006) was significantly shorter and PD2 (103.7±17.4 vs 89.9±13.0 ms, p<0.001) was significantly longer than those without recurrence, therefore, ΔPD (1.6±10.4 vs 24.9±11.8 ms, p=0.001) was significantly shorter in the recurrence group. Multivariate cox regression analysis showed diabetes (hazard ratio: 6.043; p=0.016; confidence interval: 1.406-25.968), structural heart diseases (hazard ratio: 2.30; p=0.098; confidence interval: 0.858-6.168), PA2 (hazard ratio: 0.961; p=0.019; confidence interval: 0.929-0.993), PD2 (hazard ratio: 1.053; p=0.001; confidence interval: 1.029-1.078), ΔPD (hazard ratio: 0.923; p<0.001; confidence interval: 0.903-0.945) were independently related to recurrence of ATs after ablation of paroxysmal AF. Conclusion: The P wave duration before and after ablation, and ΔPD was an independent risk factor for predicting recurrence after ablation of paroxysmal AF.