Baseline Predictors of Smoking at 52 Weeks Post-Acute Coronary Syndrome

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Background: Smokers with an enzyme-positive acute coronary syndrome (ACS) are advised to immediately quit smoking. However, many patients return to smoking within 52 weeks. The predictors of smoking relapse in this patient population remain poorly understood.

Methods: Using data from an ongoing multi-center, double-blind, placebo-controlled clinical trial, we examined baseline predictors of smoking status at 52 weeks post-ACS. Smoking was determined by biochemically-validated carbon monoxide readings and self-reports at clinic visits. Multivariable analyses were conducted using multiple logistic regression, and model selection was performed using the Akaike Information Criterion (AIC). Patients lost to follow-up were assumed to have returned to smoking.

Results: At the time of analysis, data were available for 147 patients at 52-week follow-up. Patients were primarily male (86%), and the mean age was 54±10 years. Two-thirds of patients were admitted with a STEMI, and half underwent PCI or CABG during their index admission. Patients at admission smoked a mean of 33±13 years, had a median of 1 previous quit attempt (IQR=0-2), and 33% reported living with other smokers. At 52 weeks, 65% of patients returned to smoking. Similar to previous trials, 31% of patients were lost to follow-up. Previous myocardial infarction (MI) and number of cigarettes smoked per day were found to be independent predictors of smoking (Table).

Conclusions: Prior history of MI and baseline number of cigarettes smoked are important predictors of smoking at 52 weeks post-ACS. These findings highlight the need for aggressive smoking cessation therapy post-ACS.

Variable	Univariable		Multivariable	
	OR	95% CI	OR	95% CI
Prior myocardial infarction (MI)	3.61	1.00-13.0	4.05	1.11-14.7
Number of cigarettes smoked per day	1.04	1.00-1.07	1.04	1.00-1.08

Candidate variables included baseline demographics and clinical characteristics, as well as smoking history.