

THE EFFECT OF NICOTINE DEPENDENCE ON OUTCOMES AFTER CORONARY ARTERY BYPASS GRAFTING

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Background: Tobacco smoking is a risk factor for developing coronary artery disease. Little is known regarding nicotine dependence and outcomes after coronary artery bypass grafting (CABG). We aimed to evaluate the impact of nicotine dependence on short-term outcomes after CABG.

Methods: Using 2006 Nationwide Inpatient Sample database, we identified 62,661 discharge records of patients who underwent isolated CABG. Of these patients, 8364 had the diagnosis of nicotine dependence and 54,297 did not. Student t and χ^2 tests were used to detect intergroup differences. Multivariable logistic regression analysis was used to identify independent predictors of outcome measures.

Results: Patients with nicotine dependence who underwent CABG were younger (59 ± 10 vs 67 ± 11 years) and consisted of slightly higher percentage of male (75.8% vs 70.6%) than patients without nicotine dependence ($P < 0.05$ for all). There was a higher percentage of patients with nicotine dependence who had prior myocardial infarction (42.8% vs 32.9%), peripheral vascular disease (10.4% vs 6.9%), and chronic obstructive pulmonary disease (34.5% vs 16.8%) than patients without nicotine dependence ($P < 0.05$ for all). Patients with nicotine dependence had a lower unadjusted in-hospital post-CABG mortality rate than patients without nicotine dependence (1.4% vs 3.2%, $P < 0.0001$). After adjusting for potential confounding factors such as age, gender, and comorbidities, nicotine dependence was found to be independently predictive of decreased in-hospital mortality (OR 0.7, 95%CI 0.5-0.8; $P < 0.0001$), decreased lengths of hospital stay (1.5 days, 95%CI 1.3-1.8, $R^2 = 0.06$; $P < 0.0001$), and higher prevalence of routine disposition from hospital (OR 1.3, 95%CI 1.2-1.4; $P < 0.0001$).

Conclusion: Nicotine dependence is independently associated with improved early outcomes for patients who underwent CABG. This association may be attributable to a heightened sense of motivation for these patients to leave the hospital sooner after CABG. Further research is needed to determine the mechanism which underlies this association.