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Alcohol-Related Predictors of Postoperative Delirium in Major Head and Neck Cancer Surgery

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Background: Despite the potential adverse impact of heavy alcohol consumption on postoperative outcome, screening for alcohol consumption prior to surgery is often haphazard. The objective of this study was to determine which alcohol-use–related findings on preoperative laboratory testing and medical history were most predictive of postoperative delirium.

Methods: The study population was an inception cohort of 805 patients undergoing medical evaluation from 1994 through 2004 prior to major surgery to resect squamous cell carcinoma of the head and neck. Fifteen patient variables were analyzed for correlation with postoperative delirium. This included 5 medical variables, 2 surgical variables, and 8 preoperative alcohol-use questions. The alcohol-use questions consisted of modified versions of the 4 CAGE questions and 4 additional questions about recent alcohol use, abstinences from alcohol in the prior year, alcohol withdrawal symptoms, and memory loss episodes ("blackouts" associated with heavy drinking). Logistic regression with stepwise selection was used to analyze the data.

Results: Ninety-two (11.4%) of the 805 surgeries were complicated by postoperative delirium. After multivariable logistic regression, 7 variables remained significantly correlated with postoperative delirium: age (OR: 1.05/yr, $P < .01$), pre-existing cognitive impairment (OR: 2.65, $P = .02$), poor functional status (OR: 2.23, $P = .02$), mean corpuscular volume greater than 95 fL (OR: 2.20, $P < .01$), duration of surgery (OR: 1.003/min, $P < .01$), patient report of not going without alcohol for at least 1 week in the prior year (OR: 2.32, $P = .01$), and having ever been advised by others to cut back on alcohol consumption (OR: 2.28, $P < .01$).

Conclusions: In a population at risk for heavy alcohol consumption, specific findings associated with heavy alcohol consumption may help to identify patients at risk for postoperative delirium. These findings include an elevated mean red blood cell volume, patient report of uninterrupted daily alcohol intake, and patient report of having ever been advised to reduce alcohol consumption.