Cigarette smoking: a risk factor for postoperative morbidity and 1-year mortality following craniotomy for tumor resection.

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Abstract

OBJECT: Identifying risk factors for surgical morbidity and mortality might improve the safety and efficacy of neurosurgical intervention. Cigarette smoking is a relatively common practice and is associated with several adverse health outcomes. The authors examined the relationship between smoking and intraoperative blood loss, postoperative outcomes, and survival following craniotomy for tumor resection.

METHODS: A consecutive population of patients undergoing craniotomy for tumor resection between 2006 and 2009 was identified. Using multivariable models and Cox proportional hazard regression analysis, the authors assessed the relation between smoking and operative outcomes including blood loss, complication rates, hospital length of stay, 30-day mortality, and 1-year survival among patients who underwent craniotomy for tumor resection.

RESULTS: A total of 453 patients were included in this study: 237 patients never smoked, 54 quit smoking for at least 1 year, and 162 were current smokers. Current smoking status was an independent risk factor for higher intraoperative blood loss, complication risk, and lower 1-year survival following intervention relative to patients who never smoked. Patients who quit smoking had significantly higher mean blood loss, but did not carry a higher risk for other outcomes such as postoperative complications and 1-year mortality compared with patients who never smoked.

CONCLUSIONS: Current cigarette smoking is associated with poor surgical outcome and lower 1-year survival after undergoing craniotomy for tumor resection. However, quitting smoking and implementing strict smoking cessation programs may help mitigate these risks. Future research might investigate mechanisms underlying these associations.

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