Smoking and adult glioma: a population-based case-control study in China.


Abstract

BACKGROUND: Smoking increases the risk of numerous cancers; however, an association of smoking with adult gliomas has not been found in a population.

METHODS: This case-control study included 4556 glioma cases (ICD-9 code 191.0-191.9) aged ≥30 years and 9112 controls from a national survey of smoking and mortality in China in 1989-1991. Controls from 325 255 surviving spouses of all-cause deaths were randomly assigned to cases in each of 103 areas according to sex and age groups at a ratio of 2:1. Smoking information was ascertained retrospectively by interviewing surviving spouses.

RESULTS: After adjustment for confounders, smoking increased the risk of glioma deaths by 11% (odds ratio [OR] = 1.11; 95% confidence interval [CI]: 1.03-1.21). Compared with non-smokers; the increased risk was 9% (OR = 1.09; 95% CI: 0.99-1.20) in men and 16% (OR = 1.16; 95% CI: 1.00-1.36) in women. The risk increased with age and doses. For individuals aged ≥50 years, smoking was associated with higher risk of glioma death by 25% (OR = 1.25; 95% CI: 1.15-1.38); this increased risk for smokers who smoked ≥20 cigarettes daily for ≥30 years was 53% (OR = 1.53; 95% CI: 1.34-1.74). There were similar findings in both men and women and with either pathology-based or non-pathology-based comparisons.

CONCLUSIONS: This study indicates that smoking is associated with glioma deaths in the Chinese population. Long-term heavy smoking could be a factor for risk stratification in individuals attending brain tumor clinics.

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KEYWORDS: case-control; death; epidemiological design; glioma; smoking

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