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ORIGINAL CONTRIBUTIONS

Occupational Exposure to Pesticides and Risk of Adult Brain Tumors

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The authors examined incident glioma and meningioma risk associated with occupational exposure to insecticides and herbicides in a hospital-based, case-control study of brain cancer. Cases were 462 glioma and 195 meningioma patients diagnosed between 1994 and 1998 in three US hospitals. Controls were 765 patients admitted to the same hospitals for nonmalignant conditions. Occupational histories were collected during personal interviews. Exposure to pesticides was estimated by use of a questionnaire, combined with pesticide measurement data abstracted from published sources. Using logistic regression models, the authors found no association between insecticide and herbicide exposures and risk for glioma and meningioma. There was no association between glioma and exposure to insecticides or herbicides, in men or women.

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Women who reported ever using herbicides had a significantly increased risk for meningioma compared with women who never used herbicides (odds ratio = 2.4, 95% confidence interval: 1.4, 4.3), and there were significant trends of increasing risk with increasing years of herbicide exposure ($p = 0.01$) and increasing cumulative exposure ($p = 0.01$). There was no association between meningioma and herbicide or insecticide exposure among men. These findings highlight the need to go beyond job title to elucidate potential carcinogenic exposures within different occupations.

central nervous system neoplasms; incidence; pesticides; United States

Abbreviations: CI, confidence interval; JEM, job exposure matrix; OR, odds ratio

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