Hormonal and reproductive factors and risk of glioma: a prospective cohort study.

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Abstract
The etiology of glioma, the most commonly diagnosed malignant brain tumor among adults in the United States, is poorly understood. Given the lower incidence rate of glioma in women than in men, it has been hypothesized that reproductive and hormonal factors may be involved in the etiology of glioma. We conducted a secondary analysis of data from the National Breast Screening Study, which included 89,835 Canadian women, aged 40-59 years at recruitment between 1980 and 1985. Linkages to national cancer and mortality databases yielded data on cancer incidence and deaths from all causes, respectively, with follow-up ending between 1998 and 2000. Cox proportional hazards models were used to estimate hazard ratios and 95% confidence intervals (CI) for the association between hormonal and reproductive factors and risk of glioma. During a mean of 16.4 years of follow-up, we observed 120 incident glioma cases. Compared with women with a relatively early age at menarche (< or =12 years), women who were 13-14 years of age at menarche had a 64% increased risk of glioma (95% CI = 1.01-2.65), and women who were older than 14 years of age at menarche had a 66% increased risk of glioma (95% CI = 0.86-3.20, p(trend) = 0.06). Age at first live birth, parity, menopausal status, use of oral contraceptive and use of hormone replacement therapy were not associated with altered glioma risk in our study population. Additional prospective studies are needed to confirm our findings.

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