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# Association between hormone therapy and glioma risk in US women: a cancer screening trial

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## Abstract

**Objective:** Gliomas are the most common primary brain tumors in adults, and the role of hormone therapy (HT) in their development remains controversial. This study with a cohort design aimed to investigate the association between HT use and glioma risk using the data from the Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial.

**Methods:** We analyzed data from 75,335 women, aged 50-78, who were enrolled between 1993 and 2001. The median follow-up period was 11.82 years. Cox proportional hazard models were used to estimate hazard ratios (HRs) and 95% confidence intervals (CIs) for the relationship between HT use and glioma risk, adjusting for various potential confounders.

**Results:** Over the follow-up period, 101 participants were diagnosed with glioma. After adjusting for relevant variables, there was no significant association between HT use and glioma risk (HR, 1.16; 95% CI, 0.75-1.81). Similarly, no significant associations were found when considering HT status or duration of use. However, in subgroup analysis by education, marital status, body mass index, oral contraceptive, hysterectomy, ovariectomy, ever been pregnant, age at menarche, and age at menopause, we found that a significant positive association was only observed in the group with at least college graduate (HR, 3.00; 95% CI, 1.02-8.84). The interaction effect for education was not significant ( $P = 0.056$ ).

**Conclusions:** Our findings suggest no overall link between HT use and glioma risk. Further research is needed to confirm these results.

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