

Publication

Atopic conditions and brain tumor risk in children and adolescents : an international case-control study (CEFALO)

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A number of epidemiological studies indicate an inverse association between atopy and brain tumors in adults, particularly gliomas. We investigated the association between atopic disorders and intracranial brain tumors in children and adolescents, using international collaborative CEFALO data.; CEFALO is a population-based case-control study conducted in Denmark, Norway, Sweden, and Switzerland, including all children and adolescents in the age range 7-19 years diagnosed with a primary brain tumor between 2004 and 2008. Two controls per case were randomly selected from population registers matched on age, sex, and geographic region. Information about atopic conditions and potential confounders was collected through personal interviews.; In total, 352 cases (83%) and 646 controls (71%) participated in the study. For all brain tumors combined, there was no association between ever having had an atopic disorder and brain tumor risk [odds ratio 1.03; 95% confidence interval (CI) 0.70-1.34]. The OR was 0.76 (95% CI 0.53-1.11) for a current atopic condition (in the year before diagnosis) and 1.22 (95% CI 0.86-1.74) for an atopic condition in the past. Similar results were observed for glioma.; There was no association between atopic conditions and risk of all brain tumors combined or of glioma in particular. Stratification on current or past atopic conditions suggested the possibility of reverse causality, but may also be the result of random variation because of small numbers in subgroups. In addition, an ongoing tumor treatment may affect the manifestation of atopic conditions, which could possibly affect recall when reporting about a history of atopic diseases. Only a few studies on atopic conditions and pediatric brain tumors are currently available, and the evidence is conflicting.

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