

Parental prenatal smoking and risk of childhood acute lymphoblastic leukemia.

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Abstract

The association between parental smoking and risk of childhood acute lymphoblastic leukemia (ALL) was investigated in an Australian population-based case-control study that included 388 cases and 868 controls aged <15 years, recruited from 2003 to 2006. Both of the child's parents provided information about their smoking habits for each year from age 15 years to the child's birth. Data were analyzed by logistic regression. Maternal smoking was not associated with risk of childhood ALL, but the odds ratio for paternal smoking of ≥ 15 cigarettes per day around the time of the child's conception was 1.35 (95% confidence interval: 0.98, 1.86). The associations between parental smoking risk of childhood ALL did not differ substantially by immunophenotypic or cytogenetic subtype. Meta-analyses of paternal smoking, including results from the Australian Study of Causes of Acute Lymphoblastic Leukemia in Children and those of previous studies, produced summary odds ratios of 1.15 (95% confidence interval: 1.06, 1.24) for any paternal smoking around the time of the child's conception and 1.44 (95% confidence interval: 1.24, 1.68) for smoking ≥ 20 cigarettes per day at that time. Study results suggest that heavier paternal smoking around the time of conception is a risk factor for childhood ALL. Men should be strongly encouraged to cease smoking, particularly when planning to start a family.

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