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Objectives To test the association between occupational exposure to trichloroethylene (TCE) and risk of non Hodgkin lymphoma (NHL), we conducted a pooled analysis of four international case-control studies.

Methods Studies were selected which included state-of-the art retrospective assessment of occupational exposure to TCE and histological information on lymphoma subtype. Overall, the pooled study population included 3788 NHL cases and 4279 controls. Summary indicators of exposure were harmonised across studies. We conducted unconditional logistic regression analysis to test the association between the harmonised TCE exposure estimates and NHL and its major subtypes, adjusting by age, gender, and study.

Results Among the total study population, risk of follicular lymphoma, but not NHL overall or other subtypes, increased by probability ($p = 0.02$) and intensity level ($p = 0.04$) of TCE exposure. When the analysis was restricted to subjects most likely exposed to TCE, risk of NHL overall ($p = 0.009$), follicular lymphoma ($p = 0.04$), and chronic lymphocytic leukaemia (CLL) ($p = 0.01$) showed a linear increase by duration of exposure. No heterogeneity in NHL risk associated with high probability of exposure to TCE (all intensity levels combined) was detected.

Conclusion With due caution because of several limitations, our pooled analysis supports the hypothesis of an increased risk of NHL, and particularly of the follicular lymphoma and CLL subtypes, associated with occupational exposure to TCE.

380 MULTIPLE PESTICIDE EXPOSURES AND THE RISK OF MULTIPLE MYELOMA IN CANADIAN MEN

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Objectives Multiple myeloma (MM) has been linked to certain agricultural exposures, including pesticides, however the effects of exposure to multiple pesticides have not been explored. This analysis investigated the association between self-reported use of multiple pesticides and MM risk. Commonly used pesticide combinations and interactive effects were also assessed.

Methods A frequency matched population-based case-control study was conducted among men in 6 Canadian provinces between 1991 and 1994. Data from 342 MM cases and 1506 controls were analysed using logistic regression to calculate odds ratios (OR) and 95% confidence intervals (CI). Pesticides were grouped by type, chemical class and carcinogenicity. Carcinogenic probability values were created using evaluations from the International Agency for Research on Cancer and U. S. Environmental Protection Agency. Regression models were adjusted for age, province of residence, use of proxy respondents, smoking, and selected medical history variables. Trends were examined using ordinal variables. Commonly used pesticide combinations were assessed for interaction on the additive scale using the interaction contrast ratio (ICR).

Results Multiple pesticide use was not associated with monotonically increasing odds of MM, although positive trends were observed for "probably" carcinogenic pesticides ($p_{trend} = 0.01$), insecticides ($p_{trend} = 0.07$), and fungicides ($p_{trend} = 0.05$). Higher odds of MM were observed among men who reported using at least one carbamate pesticide (OR = 1.99, 95% CI: 1.19–3.33), one phenoxyherbicide (OR = 1.60, 95% CI: 1.11–2.30), 3 or more "probably" carcinogenic pesticides (OR = 2.14, 95% CI: 1.01–4.52), and 3 or more organochlorines (OR = 2.26, 95% CI: 1.07–4.78). Investigating commonly used pesticide combinations, revealed increased odds among men who used both chlordane and mecoprop (OR = 2.18, 95% CI: 1.12–4.27; ICR = 0.63).

Conclusions Focusing on multiple pesticides is important because this more accurately reflects how exposures occur in occupational settings. Although the overall pattern of results was complex, excess risks observed for certain pesticide types and chemical classes suggest these may be MM risk factors.

381 ENDOCRINE DISRUPTORS AND THE RISK OF LYMPHOMA IN THE EPILYMPH STUDY

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Objectives Some industrial chemicals and pesticides might have endocrine disrupting effects. While some pesticides and solvents have been associated with an increased risk of lymphoma, whether this would be the result of their potential endocrine disrupting effect has not been investigated as yet. We explored the role of occupational exposure to endocrine disruptors in lymphoma aetiology.

Methods The Epilymph study is a multicenter case-control study carried out in six European countries from 1998 to 2004. We evaluated 2,457 controls and 2,013 lymphoma cases and its subtypes. Information on occupational history was collected through face-to-face interviews. We applied a job-exposure matrix (JEM) for endocrine disrupting chemicals to assess occupational exposures (Brouwers *et al*. 2009). We evaluated exposure to ten chemical groups: polycyclic aromatic hydrocarbons, polychlorinated organic compounds, pesticides, phthalates, solvents, bisphenol-A, alkylphenolic compounds, brominated flame retardants, metals and a miscellaneous group.

Results Prevalence of ever occupationally exposed among controls ranged from 1% (bisphenol-A) to 48% (solvents). Risks for non-Hodgkin lymphoma (NHL) and chronic lymphocytic leukaemia (CLL) were increased with cumulative exposure to endocrine disruptors among men (OR = 1.20 CI95%:1.04–1.38 and 1.28 CI95%:1.01–1.61, respectively). However, none of the individual chemical groups evaluated was associated with NHL or follicular lymphoma risk. For other subtypes such as CLL, multiple myeloma, Hodgkin lymphoma and T-cell neoplasms risks were increased with several exposures, including metals