



Occupational exposure to chlorinated solvents and risk of head and neck cancer in men: a population-based case-control study in France

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BACKGROUND: Few epidemiological studies have investigated the link between occupational exposure to solvents and head and neck cancer risk, and available findings are sparse and inconsistent. The objective of this study was to examine the association between occupational exposure to chlorinated solvents and head and neck cancer risk.

METHODS: We analyzed data from 4637 men (1857 cases and 2780 controls) included in a population-based case-control study, ICARE (France). Occupational exposure to five chlorinated solvents (perchloroethylene [PCE], trichloroethylene [TCE], methylene chloride [MC], chloroform [CF], and carbon tetrachloride [CT]) was assessed through job-exposure matrices. Odds ratios (ORs) and confidence intervals (95% CI) were estimated by unconditional logistic regression, adjusted for age, tobacco smoking, alcohol consumption, asbestos exposure, and other potential confounders.

RESULTS: We observed no association between chlorinated solvent exposure and head and neck cancer risk, despite a non-significant increase in risk among subjects who had the highest cumulative level of exposure to PCE, (OR = 1.81; 95% CI = 0.68 to 4.82). In subsite analysis, the risk of laryngeal cancer increased with cumulative exposure to PCE (p for trend = 0.04). The OR was 3.86 (95% CI = 1.30 to 11.48) for those exposed to the highest levels of PCE. A non-significant elevated risk of hypopharyngeal cancer was also observed in subjects exposed to the highest levels of MC (OR = 2.36; 95% CI = 0.98 to 5.85).

CONCLUSION: Our findings provide evidence that high exposure to PCE increases the risk of laryngeal cancer, and suggest an association between exposure to MC and hypopharyngeal cancer. Exposure to other chlorinated solvents was not associated with the risk of head and neck cancer.

Résumé en anglais

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