OCCUPATIONAL EXPOSURES AND LUNG CANCER RISK BY HISTOLOGICAL TYPE IN CANADA

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Objectives To examine the associations between self-reported occupational exposures and lung cancer risk by histological type in Canada.

Methods We utilise the lung cancer component of the National Enhanced Cancer Surveillance System, which includes 3280 lung cancer cases, with histology, and 5073 population controls collected between 1994 and 1998 in eight Canadian provinces. A mailed research questionnaire collected detailed information on socio-demographic characteristics, specific occupational exposures, and lifetime occupational and residential histories. Occupational exposures to seventeen carcinogens were examined using self-reports of each substance an individual had worked with for over 1 year and the total years of exposure. Lifetime occupational histories were also collected and included specific questions on the number of years working in the presence of dusts/odours from industry and regular smokers.

Results In a joint model including all substances and adjusting for smoking pack-years, years since quitting smoking and 11 other individual-level variables, individuals ever exposed to asbestos had increased odds of lung cancer (OR: 1.32 95% CI: 1.06 to 1.65) compared to non-exposed individuals. Increased though non-significant risks were also seen for several other exposures. Working in the presence of dusts/odours from industry and regular smokers were both associated with increased, though non-significant, odds of lung cancer. Large differences in risk were observed for several exposures by lung cancer histology.

Conclusions A large percentage of study participants were exposed to carcinogenic substances at work and several were associated with increased lung cancer risk, especially by histological subtypes. Future work will refine exposure assessment using job-exposure matrices.