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ACCEPTED MANUSCRIPT

Excess Lung Cancer Occurrence in Poultry Plants. Occupational Risk Factors: Findings for Oncogenic Viruses Exposure and Other Occupational Exposures

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ABSTRACT

Certain viruses naturally infect and cause cancer in chickens and turkeys. Humans are widely exposed. The viruses cause cancer in primates, and transform human cells in vitro, but it is not known if they cause cancer in humans, mainly because of the lack of epidemiologic evidence. We conducted cohort mortality studies of workers in poultry slaughtering/processing plants across the United States, because they have the highest human exposures. An excess of lung cancer and other deaths was recorded in the poultry workers. Here, we report on a case-cohort study of the lung cancer deaths nested within these cohorts, that was conducted to provide epidemiologic evidence linking these viruses with human cancer occurrence, while adjusting for possible confounders, including workplace chemical carcinogens. We obtained interviews for 339 lung cancer deaths and 457 controls, selected from our combined cohorts of 30,411 poultry plant workers and 16,405 non-poultry workers, belonging to United Food & Commercial Workers unions. Data was analyzed by both logistic regression and Cox regression, adjusting for smoking and other confounders. Lung cancer risk

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