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Cancer incidence in Czech black coal miners in association with coal workers' pneumoconiosis in the period 1992-2013

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The aim of the study was comparison of cancer incidence risk of lungs, stomach, colon, bladder and kidney in ex-miners of black-coal mines and the general male population of the Czech Republic. Two cohorts of ex-miners according presence of coal workers' pneumoconiosis (CWP) were analyzed. The first cohort included the miners without CWP (N=6,687) and the second cohort included the miners who were compensated for CWP (N=3,476). Personal and occupational data was merged with the data in the National Population Register and the National Oncological Register for the period from 1992 to 2013. Cancer risk in miners in comparison with the general male population of the Czech Republic was evaluated by SIR (Standardized Incidence Ratio) and 95% confidence interval (CI). About twice as high risk of lung cancer was found in miners with CWP (SIR=2.01; 95% CI 1.70–2.36). Lung cancer risk correlated with the severity of CWP (simple CWP SIR=1.99; 95% CI 1.64–2.38, progressive massive fibrosis SIR=3.18; 95% CI 1.79–5.09). No increased risk of lung cancer was found in the ex-miners without CWP. The risk of malignant neoplasm at the other selected sites was comparable with the risk in general male population of the Czech Republic. This study found increased lung cancer risk in coal miners with CWP, but not without CWP, comparing with the general population. These results confirmed previous analysis that was a basis for the inclusion of lung cancer in association with CWP into a new Czech list of occupational diseases.

Biography

Hana Tomášková graduated Technical University and she has completed her PhD at Medical Faculty, University of Plucky, Czech Republic in the Hygiene, preventive medicine and epidemiology. She is working as a biostatistician and epidemiologist at the Institute of Public Health in Ostrava, and as a lecturer at Department of Epidemiology and Public Health, Medical Faculty, Ostrava University. She is involved in occupational and environmental epidemiology. She has published more than 20 papers in ISI journals. She has served as a Research Team Member in two International Projects and 15 National Projects.

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