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Cancer risk in Japanese chromium platers, 1976-2003.

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OBJECTIVE: The aim of our prospective cohort study was to assess cancer mortality risks among chromium platers. **METHODS:** The cohort comprised 1193 male platers (626 with exposure to chromium, the remainder with no exposure) with a follow-up period of 27 years (1 October 1976 to 31 December 2003). Mortality risk was assessed by the standardized mortality rate (SMR) with reference to the national population. **RESULTS:** Lung cancer mortality was elevated only in the chromium plater subgroup, with borderline statistical significance [SMR=1.46, observations (Obs)=28, 95% confidence interval (95% CI) 0.98-2.04]. The chromium plater subgroup also showed elevated mortality risks for brain tumor (SMR=9.14, Obs=3, 95% CI 1.81-22.09) and malignant lymphoma (SMR=2.84, Obs=6, 95% CI 1.05-5.51). Risks were particularly elevated for lung cancer (SMR=1.59, Obs=23, 95% CI 1.01-2.38) and malignant lymphoma (SMR=3.80, Obs=6, 95% CI 1.39-8.29) in those with initial chromium exposure prior to 1970. **CONCLUSIONS:** In Japan, occupational exposure to chromium through work as a chromium plater is a risk factor for lung cancer, especially for platers working prior to 1970. Occupational chromium exposure may also increase the risk of brain tumor and malignant lymphoma.

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