results adjusted for known CVM risk factors in order to draw an appropriate conclusion.

132

OCCUPATIONAL URANIUM EXPOSURE AND CARDIOVASCULAR MORTALITY: COHORT AND NESTED CASE-CONTROL STUDIES FOR A BETTER RISK ASSESSMENT

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10.1136/oemed-2011-100382.132

Objectives The risk of cardiovascular mortality (CVM) among French uranium workers after protracted low-dose exposure to different uranium compounds, was investigated among 2897 workers (79892 person-years) employed at Pierrelatte uranium processing plant (1960–2006).

Methods Cumulative exposure to different uranium compounds, classified by isotopic composition and solubility-type, was assessed using a plant-specific job-exposure-matrix linked to individual job records. HRs and associated 95%-CIs (HR (95% CI)) were estimated using Cox regression models accounting for sex, calendar period, initial socioeconomic status and associated exposure. Case-control study was nested into the cohort to address the role of individual biological and lifestyle parameters.

Results At the end of follow-up, 111 cases of CVM were observed. The CVM risk was increased only among workers exposed to insoluble compounds of reprocessed (HR=2.07(0.99 to 4.99), n=9) and natural uranium (HR=1.73 (1.11 to 2.69), n=41), after adjustment for solvents and heat exposure. The nested case-control study including all the CVM cases and 397 referents (matched 1:3 by sex and 5-year age class) is still ongoing for database completion (achieved at 75%) and analyses. Anthropometric (height, weight), bio-medical (blood and urine biochemical analyses, diagnostic X-ray exposure), anamnesis and treatment, as well as smoking and alcohol consumption data were computerised on the annual basis using individual workers' occupational medicine records.

Conclusions Our cohort study is the first suggesting an increasing risk of CVM related to insoluble uranium exposure and the importance of solubility. The nested case-control study will refine our exposure-response analysis and provide