129 MORTALITY FROM RENAL DISEASE IN TWO COHORTS EXPOSED AT WORK TO CRYSTALLINE SILICA

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10.1136/oemed-2011-100382.129

Objectives To assess the probability of a causal relationship between mortality ascribed to renal cancer and chronic renal disease in two cohorts, one of American industrial sand workers and the other of British pottery workers.

Methods The two cohorts were quite similar in that both were designed to determine whether occupational exposure to silica was a cause of lung cancer. Both studies then turned to the question of whether the same was true of renal cancer and chronic renal disease. Both cohorts were redefined with minor changes and continued their efforts at tracing all surviving members in relation to quantitative re-estimation of quartz exposure.

Results The sand workers study was terminated at the end of 2000 and the pottery workers at the end of 2008. By then the total number of deaths in the American cohort had reached 1021 (SMR 1.21) and the British cohort 1904 (SMR 1.04). The later data were confined to Stoke on Trent, the main location of the pottery industry. Mortality in sand workers related to renal disease was, for renal cancer 10 (SMR 2.02) and chronic renal disease 14 (SMR 3.50). Mortality in pottery workers was, for renal cancer 19 (SMR 1.47) and chronic renal disease 19 (SMR 2.39).

Conclusions The number of deaths from renal disease in these two cohorts was small but the pattern in the two cohorts is similar. The findings in the sand workers cohort were published in 2005 when it was concluded that excess mortality from renal disease lacked causal explanation. The same remains true of both cohorts.