Renal failure mortality and occupational silica exposure

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ABSTRACT

Background: This study is set against a background of growing interest in the possible association between occupational exposure to respirable crystalline silica and renal disease.

Aims: This study attempted to evaluate the association between deaths attributed to renal failure and occupational silica exposure.

Methods: A case referent study based on a large engineering company, with a mortality database established from death certificates routinely collected by the pension department, containing data from 1969 to 1997. Cases and referents were drawn from the company’s mortality database. Cases were male ex-employees who died from renal failure. Hygienists used job histories from human resource records to determine occupational exposure to silica.

Results: Of 150 cases, 113 (75%) with an available job history were included in the study, along with 226 referents. Of these 339 individuals only 18 were considered to have been exposed to silica. Ex-employees who died from renal failure did not show increased occupational exposure to silica compared with those ex-employees who died from other (non-silica related) causes. Odds ratio 0.384 (95% confidence interval 0.109-1.354) p=0.197.

Conclusion: It has not been possible to reach a conclusion on whether occupational exposure to silica is associated with subsequent mortality from renal failure. There are inconsistencies among the published epidemiological studies and further research is required.

Keywords: Silica, kidney disease, renal failure, occupational exposure.