

Mortality from liver angiosarcoma, hepatocellular carcinoma, and cirrhosis among vinyl chloride workers

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BACKGROUND

Occupational exposure to vinyl chloride monomer (VCM) has been established as a cause of hepatocellular carcinoma (HCC) and liver angiosarcoma (ASL). However, some controversy remains due to conflicting results on liver cirrhosis, and to evidence on HCC based on few confirmed cases. The aim of the study is to clarify the association between VCM exposure and mortality from liver diseases.

METHODS

In a cohort of 1658 workers involved in VCM production and polymerization, Poisson regression was adopted to estimate rate ratios (RR) across categories of VCM exposure for mortality due to ASL (n = 9), HCC (n = 31) confirmed by histological/clinical records, and the combination of deaths from liver cirrhosis and from liver cancer with clinical/histological evidence of cirrhosis (n = 63).

RESULTS

Cumulative VCM exposure was associated with study outcomes; RRs in the highest compared to the lowest exposure category were: ASL 91.1 (95%Confidence Interval 16.8-497), HCC 5.52 (2.03-15.0), liver cirrhosis 2.60 (1.19-5.67).

CONCLUSIONS

The risk of death from liver cirrhosis, as well as from HCC in the largest available series of confirmed cases, increased with VCM exposure.

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