Mechanic at risks for Leukemia

OBJECTIVE AND METHODS--This historical cohort study investigated causes of death among car and mobile equipment mechanics in the District of Columbia's Department of Public Works. Men who were employed for at least one year between 1977 and 1989 were eligible for inclusion in the cohort; follow up was up to the end of 1991. Three cases of leukaemia (index cases) had been reported among these workers before the inception of this study. This research was undertaken to estimate the relative risk of haematological cancer among mechanics working for the District of Columbia.

RESULTS--Among the 335 male fleet maintenance workers, the all cause standardised mortality ratio (SMR) was 0.50 (33 observed deaths, 95% confidence interval (95% CI) 0.35-0.70), and the all cancer SMR was 0.55 (nine deaths, 95% CI 0.25-1.05). Three deaths from lymphatic and haematopoietic cancer were observed; the SMR was 3.63 (95% CI 0.75-10.63). In the subgroup with highest potential for exposure to fuels and solvents, the SMR for leukaemia and aleukaemia was 9.26 (two deaths, 95% CI 1.12-33.43), and the SMR for other lymphatic and haematopoietic neoplasms was 2.57 (one death from malignant lymphoma, 95% CI 0.06-14.27).

All three lymphatic and haematopoietic cancer deaths were among car and mobile equipment mechanics (one was an index case). The two additional index cases were a fourth mechanic who died of leukaemia in 1992, after mortality follow up ended, and a fifth mechanic who was diagnosed with leukaemia in 1988 and is still alive.

CONCLUSION--Many garage mechanics in this cohort regularly used petrol to clean parts and to wash their hands; some workers would occasionally siphon petrol by mouth. Benzene, a recognised cause of haematological cancer, is a component of petrol. Previous research indicates that garage mechanics may be at risk of leukaemia and other haematological cancers, presumably due to exposure to petrol; this study supports those findings.