

A Pilkington et al. Occupational and Environmental Medicine. November (2001) Vol.58 # 11 p 702.

Acute neurological effects of exposure to organophosphates (OP) have been known for many years. This study was designed to determine the effects, if any, of cumulative low-level exposure. 612 sheep-dipping farmers, 53 no-dipping farmers and 107 ceramics workers were included in the study.

Symptoms questionnaire (muscle weakness, sensory symptoms, sweating, fainting, impotence all could be signs of PNS deficit or autonomic deficit) and quantitative sensory tests (vibration and thermal thresholds), developed by the Mayo clinic, were applied.

Exposure from 1970 onwards was assessed by means of recalled job history. Exposure vs. task matrix was established by an elaborate and thorough occupational hygiene study. [D Buchanan et al. Occupational and Environmental Medicine. November (2001) Vol.58 # 11 p 694.]

No evidence of association between cumulative exposure and thermal or sensory thresholds (i.e. the semi objective tests) was found.

For concentrate handlers (dipping solutions are usually prepared *in situ*, from concentrate) there was evidence of sensory and vibration threshold shift.

28% of sheep dippers had autonomic signs, compared with 21% of other farmers and 10% of ceramics workers.

Self-reported symptoms were more common among concentrate handlers than those who never handled; OR = 3.43 (95% CI = 1.63 to 7.23) but sig. very doubtful.

Comment

Stronger associations have been found for age and country of residence, with neurological symptoms.

If there is a chronic effect of long term low-level exposure, it was not convincingly demonstrated by this study.

Suitable gloves, worn during concentrate handling, should provide adequate protection against exposure [Diazinon can penetrate intact skin but is not usually present in high concentration in the air around dipping stations.]

