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Nerve Conduction Velocity Studies of Workers Employed in the Manufacture of Phenoxy Herbicides

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DISCUSSION

An increased prevalence of slowed nerve conduction velocities was found among chemical workers exposed to the phenoxy herbicides 2,4,5-T and 2,4-D and related contaminants (chlorinated dioxins). Conduction velocities of the median motor and sural sensory nerves were significantly slower in the study versus the control group. Slowed sural sensory velocity was significantly correlated with duration of employment.

In addition to occupational exposure, important public health questions are raised regarding environmental presence of these chemicals. Much public debate and concern was evident among the citizens of Arkansas in response to the toxic waste problem at the Jacksonville plant, while worldwide concern was stimulated by the episode in Seveso, Italy. Early detection of adverse health effects can help to provide guidance concerning implementation of preventive and control measures. Since slowed nerve conduction velocity can be an important early indicator of toxic exposure, the study of the relationship of such signs of neurological impairment to adverse effects in other body systems, either concomitant or delayed, remains an important clinical and scientific endeavor.