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Case-Control Study of Gliomas of the Brain among Workers Employed by a Texas City, Texas Chemical Plant

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Abstract. A Texas petrochemical plant had elevated standardized mortality ratios for neoplasms of the brain. A case-control study examined possible associations between gliomas of the brain and job title, departmental employment history, chemical exposure history, geographic location within plant, dates of employment, and residence. The greatest apparent risks were associated with exposure to carbon dioxide, diethyl sulfate, diethylene glycol, ethanol, ethylene, isopropanol, methane, tetraethylene glycol, and vinyl acetate; with first employment in the 1940s or early 1950s, and with residence in La Marque, Tex. No significant differences between cases and controls were apparent in duration of exposure to any of these chemicals.

Introduction

In February 1979, the National Institute for Occupational Safety and Health (NIOSH) and OSHA, with the aid of the company management, began an investigation of a cluster of primary brain tumors at a chemicals and plastics plant in Texas City, Tex. Alexander et al. [1] have described the characteristics of the brain tumor cases and the methods for case identification. Two retrospective cohort mortality studies of all male hourly workers employed at this plant from 1941 through 1977 have been reported [2,

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