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Abstract 115: Brain and Other Nervous System Tumor Risk among Workers at the Long Beach Naval Shipyard: A Retrospective Cohort Study

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INTRODUCTION: To assess associations between long-term occupational exposures at the Long Beach Naval Shipyard (LBNSY) and the incidence and mortality of brain and other nervous system (ONS) tumors.

METHODS: The population sample included in a pilot study (PSC) consisted of 1,681 workers who completed health and exposure questionnaires in 1983 and 1985. In addition, a partial cohort (PC) from the LBNSY containing 13,932 workers randomly selected from employment records was also studied. Standardized incidence ratios (SIRs), standardized mortality ratios (SMRs), and proportional mortality ratios (PMRs) with 95% confidence intervals (CIs) were calculated based on data available from California's Cancer Registry and Death Data Files compared to the general population of California.

RESULTS: The pilot study had a significantly decreased all cancer incidence (SIR 0.7; 95% CI 0.61-0.80) and decreased all cancer mortality (SMR 0.89; 95% CI 0.74-1.08); however, the larger partial cohort demonstrated an increased cancer mortality (PMR 1.24; 95% CI 1.17-1.30). Brain and ONS cancer incidence (PSC n=6: PC n=19) was elevated in the pilot study (SIR 1.25; 95% CI 0.56-2.78), but mortality was decreased overall in both cohorts (SMR 0.87; 95% 0.28-2.69; PMR 0.87; 95% CI 0.56-1.37). Occupations at greatest risk for brain and ONS tumors were electricians, equipment cleaners, machinists, painters, pipefitters, and possibly welders.

CONCLUSIONS: Although the total cancer incidence within the shipyard was decreased, cancers of the brain and ONS were increased overall, with particular occupations at greatest risk.

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