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Blood cancers from environmental exposure near an oil refinery

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The oil refinery located in Hooven, Ohio operated from 1931 to 1986 producing gasoline, jet fuels, diesel, home-heating oils and sulfur. The refinery has a history of leaks, spills, fires, explosions and air pollution while operating. Dozens of nearby residents sustained exposures to odors and emissions from numerous accidental releases and fires while the plant was operating. After the plant closed, continuing exposure included contaminated soil and ground water that led to massive vapor intrusion and air pollution. Many homes had monitoring wells in the basements that documented the presence of shallow pools of liquid petroleum. Environmental investigations revealed a large (236 acre) plume of non-aqueous liquid phase hydrocarbons (80% gasoline) floating on the groundwater beneath the village of Hooven in 2003. Ground water testing beneath homes in the 1990's revealed benzene at maximum levels of 3.6 PPM. Soil vapor levels were not available. We present 4 cases of lymphohematopoietic cancers in residents who lived in the air plume and had documented exposure to low levels of benzene. All 4 individuals resided for years within a few hundred yards of the refinery. There were 2 cases of multiple myeloma, 1 case of acute myeloid leukemia (AML), and Hodgkin's lymphoma. Modeled levels of benzene ranged from 0.125 to 3.12 PPM years. These levels of exposure are consistent with the current research on environmental exposure and blood cancers. A study by the state revealed a significant excess of other cancers in the area.

Biography

James Dahlgren, MD, is a Board Certified Internist Retired Assistant Professor from UCLA School of Medicine. He has been in Private Practice of internal medicine with a sub specialty in toxicology for over forty years. He has studied and treated thousands of patients with toxic chemical injuries including numerous victims of toxic chemical poisoning including the subjects dramatized in the Erin Brockovich movie. He has been treating and evaluating people with exposures of oil field chemicals since the 1970's.

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