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Abstract #59721

Cumulative incidence of chronic beryllium disease in a ceramics factory cohort

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Background: Beryllium, widely used in the aerospace, nuclear, ceramics, and telecommunications industries, can cause sensitization and chronic beryllium disease (CBD) through occupational exposure. We identified 136 beryllium workers first screened for sensitization in 1992 with the beryllium lymphocyte proliferation test (BeLPT). At that time, eight (5.9%) of 136 were found to be sensitized, of whom six (4.4%) had developed CBD. We followed this cohort through 2002 to determine its cumulative incidence of disease. Methods: We attempted to determine current health status for each of the 136 workers. Sensitization was defined as a confirmed abnormal BeLPT, and CBD as lung granulomas on transbronchial biopsy in a sensitized worker. Cumulative incidences of sensitization and disease were calculated. Results: Follow-up status was determined for 115 (85%) of the cohort. By 2002, 24 (17.6%) of the 136 workers were known to be sensitized, of whom 17 (12.5%) had developed CBD. Additionally, 16 (12.5%) of 128 workers who had a negative BeLPT in 1992 were known to be sensitized by 2002, of whom 11 (8.6%) had developed CBD. Conclusions: The cumulative burden of sensitization and disease in this cohort is about three times greater than that found in the 1992 study. Continued surveillance with the BeLPT, and clinical evaluation of sensitized individuals, will be critical to understanding the full burden of disease in this cohort and in establishing industry surveillance policy.

Learning Objectives: Participants will recognize the cumulative incidence of sensitization and disease in beryllium workers may be much higher than reported in cross-sectional surveys.

Keywords: Occupational Disease, Occupational Surveillance

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