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Occupational exposures in rare cancers: A critical review of the literature☆

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Abstract

The contribution of occupational exposures to rare cancers, which represent 22% of all cancers diagnosed annually in Europe, remains insufficiently considered. We conducted a comprehensive review of occupational risk factors in 67 rare cancers (annual incidence <6/100,000). An examination of relevant articles in PubMed (1960–2012) and the International Agency for Research on Cancer (IARC) monographs revealed that 26 cancer sites, such as mesothelioma, nasal, larynx, liver, ovarian cancer, bone sarcoma, and hematopoietic malignancies were consistently linked to occupational factors. Main exposures included asbestos, wood dust, metals/metalloids, formaldehyde, benzene, vinyl chloride, and radiation. There was inconsistent evidence regarding 22 rare malignancies. We did not identify relevant data for 19 rare cancers. Despite limitations of published evidence, our review provides useful information that can facilitate the identification of work-related factors that contribute to rare cancers. International collaborations, development of improved exposure assessment methods, and molecular approaches can improve future studies.

Keywords: Rare cancer; Occupational; Exposure; Epidemiology; IARC; Classification