

Chapter

1. Asbestos Exposure Assessment, Risk Identification, and Substitutes

Section

C. Epidemiology of ARDs

No./Title

16. Occupational, domestic and environmental mesothelioma risks in the British population: a case-control study

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Introduction

Asian context

Implementation of surveillance programs to monitor asbestos-related diseases (ARDs) in general and mesothelioma in particular among a wide range of occupations is essential to manage the diseases.

Critical appraisal

Odds ratios (ORs) were converted to lifetime risk (LR) estimates for Britons born in the 1940s. High ORs were observed for certain occupations, i.e., high-risk occupations.

Unique keywords

Mesothelioma risk, occupation

Abstract

We obtained lifetime occupational and residential histories by telephone interview with 622 mesothelioma patients (512 men, 110 women) and 1,420 population controls. Odds ratios (ORs) were converted to lifetime risk (LR) estimates for Britons born in the 1940s. Male ORs (95% confidence interval (CI)) relative to low-risk occupations for >10 years of exposure before the age of 30 years were 50.0 (25.8-96.8) for carpenters (LR 1 in 17), 17.1 (10.3-28.3) for plumbers, electricians and painters, 7.0 (3.2-15.2) for other construction workers, 15.3 (9.0-26.2) for other recognized high-risk occupations and 5.2 (3.1-8.5) in other industries where asbestos may be encountered. The LR was similar in apparently unexposed men and women (approximately 1 in 1,000), and this was approximately doubled in exposed workers' relatives (OR 2.0, 95% CI 1.3-3.2). No other environmental hazards were identified. In all, 14% of male and 62% of female cases were not attributable to occupational or domestic asbestos exposure. Approximately half of the male cases were construction workers, and only four had worked for more than 5 years in asbestos product manufacture.



Annotation

Fact 1

- Odd Ratios (95% CI) and corresponding Lifetime Risk for male mesothelioma employed only in low-risk occupations for >10 years of asbestos exposure before 30 years of age were highest for carpenters (OR 50.0 (25.8-96.8), LR 5.9%) and high for electricians, painters and plumbers (OR 17.1 (10.3-28.3), LR 2.0%).

Fact 2

- Living with a potentially exposed worker before 30 years of age (OR 2.0, 95% CI; 1.3-3.2) corresponded to an increase in LR.

Fact 3

- Unexplained risk of mesothelioma due to ambient or unreported asbestos exposure or to other or natural causes is similar for non-industrial (including retail, office, educational, health-care and agricultural) and low-risk industrial work.

Fact 4

- At least 30% of female mesothelioma cases are caused either by environmental asbestos exposure or by occasional or ambient exposure in occupational settings which were classified as low risk.

Fact 5

- The mesothelioma death rate in the British population is still increasing above 60 years of age, but the reduction in asbestos use since the mid-1970s has been followed 20 years later by a rapid fall in the number of mesothelioma deaths at 35-49 years of age in men, although less in women.

References