

Chapter

1. Asbestos Exposure Assessment, Risk Identification, and Substitutes

Section

C. Epidemiology of ARDs

No./Title

7. Are current or future mesothelioma epidemics in Hong Kong the tragic legacy of uncontrolled use of asbestos in the past?

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Introduction

Asian context

A positive association between mesothelioma incidence and a historical use of asbestos is reported in Hong Kong.

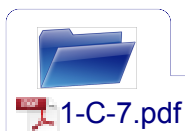
Critical appraisal

A rare report from Asia on the theme.

Unique keywords

Mesothelioma

Abstract



Background: Because of the long latent period of asbestos-related mesothelioma, investigators suggest that the high incidence of this disease will continue in the coming decades.

Objectives: We describe the time trends of mesothelioma incidence and its relationship to historical consumption of asbestos in Hong Kong and project future trends of mesothelioma incidence.

Methods: We obtained local annual consumption of total asbestos for 1960-2006 (converted to kilograms per person per year). Age-standardized incidence rates (ASIRs) of mesothelioma were computed and depicted on graphs using the centered moving average method. Indirectly standardized rates were regressed on a transformation of consumption data that assumed that the latency between asbestos exposure and mesothelioma diagnosis followed a normal distribution with a mean \pm SD of 42 ± 10.5 years.

Results: ASIRs for males started to increase substantially in 1994 and were highest in 2004; for females, ASIRs climbed in the 1980s and in the early 1990s but have fluctuated without obvious trends in recent years. The highest asbestos consumption level in Hong Kong was in 1960-1963 and then decreased sharply afterward. Using past asbestos consumption patterns, we predict that the mesothelioma incidence rate for males will peak in 2009, with the number of cases peaking in 2014, and then slowly decline in the coming decades.

Conclusions: Hong Kong experienced an epidemic of mesothelioma from 2000 to 2006 that corresponded with the peak of local asbestos consumption in the early 1960s assuming an average latent period of 42 years. The incidence is anticipated to decline in the coming decades but may not decrease back to the background risk level (the risk unrelated to asbestos exposure).

Annotation

Fact 1

- The number of male mesothelioma cases in Hong Kong rose sharply from 1972-1976 (1 case) to 2001-2006 (63 cases)

Fact 2

- The indirectly standardized rates for incident mesothelioma cases for males in Hong Kong would peak in 2009 (this paper was published in 2010), whereas the number of cases would peak at 15 cases/year in 2014.

Fact 3

- The highest asbestos consumption level in Hong Kong was in 1960-1963, with an average use of 8.84 kg/capita/year.

Fact 4

- A latency distribution was assumed with a mean of 42 years and a SD of 10.5 years for mesothelioma.

Fact 5

- Hong Kong has been experiencing an epidemic of mesothelioma since 2000, which well parallels the peak of local asbestos consumption in the early 1960s.

References