Cause specific mortality in an Italian pool of asbestos workers cohorts

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Abstract

Background
Asbestos is a known human carcinogen and is causally associated with malignant mesothelioma, lung, larynx and ovarian cancers.

Methods
Cancer risk was studied among a pool of formerly asbestos-exposed workers in Italy. Fifty-two Italian asbestos cohorts (asbestos-cement, rolling-stock, shipbuilding, and other) were pooled and their mortality follow-up was updated to 2018. Standardized mortality ratios (SMRs) were computed for major causes of death considering duration of exposure and time since first exposure (TSFE), using reference rates by region, age and calendar period.

Results
The study included 63,502 subjects (57,156 men and 6346 women): 40% who were alive, 58% who died (cause known for 92%), and 2% lost to follow-up. Mortality was increased for all causes (SMR: men = 1.04, 95% confidence interval [CI] 1.03-1.05; women = 1.15, 95% CI 1.11-1.18), all malignancies (SMR: men = 1.21, 95% CI 1.18-1.23; women = 1.29, 95% CI 1.22-1.37), pleural and peritoneal malignancies (men: SMR = 10.46, 95% CI 9.86-11.09 and 4.29, 95% CI 3.66-5.00; women: SMR = 27.13, 95% CI 23.29-31.42 and 7.51, 95% CI 5.52-9.98), lung (SMR: men = 1.28, 95% CI 1.24-1.32; women = 1.26, 95% CI 1.02-1.53), and ovarian cancer (SMR = 1.42, 95% CI 1.08-1.84). Pleural cancer mortality increased during the first 40 years of TSFE (latency), reaching a plateau thereafter.

Conclusions
Analyses by time-dependent variables showed that the risk for pleural neoplasms increased with latency and no longer increases at long TSFE, consistent with with asbestos clearance from the lungs. Peritoneal neoplasm risk increased over all observation time.

Keywords: asbestos; exposure; occupational cancer; peritoneum; pleura.

FULL TEXT
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