



THE SELECTED ABSTRACTS

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349 Occupational asbestos exposure and risk of pleural mesothelioma, lung and laryngeal cancer in the prospective Netherlands Cohort Study

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Abstract

Objectives Although asbestos research has been ongoing for decades, there are remaining questions regarding cancer risk associated with low exposure and cancer subtypes, the influence of potential confounders, and the interaction between asbestos and smoking. We addressed these questions by studying the association between occupational asbestos exposure and pleural mesothelioma, lung and laryngeal cancer in the prospective population-based Netherlands Cohort Study (NLCS).

Methods The NLCS includes 58279 men aged 55-69 years at enrollment in 1986. Based on job history information obtained from a self-administered questionnaire, asbestos exposure was estimated by linkage to job-exposure matrices. After 17.3 years of follow-up, 132 cases of pleural mesothelioma, 2324 cases of lung cancer, and 166 cases of laryngeal cancer were available for analysis.

Results Overall, occupational asbestos exposure was associated with an increased risk of mesothelioma, lung and laryngeal cancer, also for relatively low exposure. Correcting for potential confounders as age, smoking, alcohol, and several occupational carcinogens hardly influenced these results. Associations with lung cancer subtypes were generally comparable to overall lung cancer, except for adenocarcinoma (HR ever versus never exposed = 1.43, 1.52, 1.49 and 0.94 for small cell, large cell, squamous cell and adenocarcinoma respectively). Adenocarcinoma showed only a weak positive association at higher exposure levels for long duration. For laryngeal cancer, associations were usually stronger for supraglottis cancer (HR = 2.48, 95% CI:1.33-4.65) than glottis cancer (HR = 1.12, 95% CI:0.74-1.69). There was no statistically significant additive or multiplicative interaction between asbestos and smoking for any of the cancers.

Conclusions The well-established associations between asbestos and mesothelioma, lung and laryngeal cancer were corroborated at relatively low levels of cumulative exposure in the NLCS. Lung adenocarcinoma may only show an increased relative risk at higher asbestos exposure for long duration. Asbestos exposure may be stronger associated with supraglottis cancer than glottis cancer.