

Malignant pleural mesothelioma caused by non-occupational childhood exposure to asbestos

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The association between malignant pleural mesothelioma and exposure to asbestos is well documented.^{1,2} Roughly 85% of patients with the neoplasm have a history of occupational or environmental exposure to asbestos (with a higher percentage in men than in women).³

According to the Zielhuis classification,⁴ the environmental exposure can be classified into the following groups: domestic exposure to asbestos brought home on workers' clothing (group II), residence in the vicinity of asbestos processing factories (group III), or the asbestos in the ambient air (group IV).

Only a few cases of malignant pleural mesotheliomas related to non-occupational exposure to asbestos have been recorded.^{5,6}

We report a further case of a young woman exposed to asbestos during childhood.

Case report

A 37 year old woman was admitted to hospital because of right sided chest pain and difficulty with breathing for some months.

Physical and x ray film examinations were consistent with pleural effusion on the right side. Cytological and bacteriological analysis of pleural fluid collected by thoracentesis were not diagnostic. No lesions were seen within the bronchial tree at fiberoptic bronchoscopy and the cytological examination of bronchial lavage fluid was negative for malignancy.

Computed tomography of the chest showed a wide inspissation of the parietal pleural lamina on the right, that also coated the mediastinum in the proximity of the aortic arcus.

Histological and immunocytochemical examination of biopsy samples obtained by thoracoscopy suggested diffuse malignant mesothelioma of mixed pattern (epithelioid and sarcomatoid (biphasic type)).

The patient's history excluded an occupational exposure to asbestos, but showed that she had lived from birth until 10 years old in a house next to an asbestos processing factory.

The exposure to asbestos was confirmed by identi-

fication of seven asbestos bodies in bronchoalveolar lavage (0.3 asbestos bodies/ml) by light microscopy.

Discussion

This case is in accord with the hypothesis that non-professional exposure to asbestos can be related to malignant pleural mesothelioma.

It seems therefore useful that all these cases have to be correctly and scrupulously investigated from the anamnestic viewpoint to verify not only occupational but also non-occupational exposure even if this could have been brief or remote.

The study of bronchoalveolar lavage has been shown to be sensitive as an indicator of past exposure to asbestos and its use is indicated in those patients, affected by asbestos related diseases, with doubtful or negative history of asbestos exposure.⁷⁻¹⁰

The finding of asbestos bodies in recovered bronchoalveolar lavage fluid (0.3 asbestos bodies/ml) confirms that our case was non-occupationally exposed, as reported by other authors¹⁰ who indicated one asbestos body/ml as the limit value to discriminate occupationally from non-occupationally exposed persons.

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