

Diffuse Pleural Thickening Related to Asbestos Exposure

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Abstract

Introduction:

Asbestos exposure causes fibrosis of pulmonary parenchyma and/or pleura. The former is pneumoconiosis, named asbestosis, followed by various grades of respiratory dysfunction. Diffuse pleural thickening (DPT) is a disease involving diffuse fibrosis of pleura also often followed by severe pulmonary dysfunction. It is always the case that the visceral pleura is affected by this disease, though the parietal pleura is also frequently damaged and accompanied by adhesion of both pleura, in contrast to pleural plaques. Asbestos exposure is known to be one of the causes of DPT.

Rationale:

To clarify the incidence of DPT and estimate the grade of pulmonary dysfunction due to DPT, the CXRs, CTs including HRCTs, spirometries and medical records of checkups for retired asbestos workers were examined. All of them had CXR findings of 1/0 or less grade compared to the ILO standard films and almost all of them had clear pleural plaques.

Examinees:

From 2001 to 2003 there were 93 examinees who had CXR and CT at the same time, pulmonary function tests within 3 years, and no history of disease affecting the pleura except that associated with asbestos exposure.

Results:

Among the 93 examinees there were 8 (9%) with bilateral DPT on CXR which had signs of affected visceral pleura on CT. Their spirometries showed that the average of VC% was 65.0% (ranged from 47.1% to 96.7%) and the average of FEV1% was 80.7% (ranged from 61.1% to 95.2%). There were 2 persons having the VC% under 60%.

Conclusion:

About 9% of the persons having no obvious asbestosis but clear asbestos exposure were revealed to be suffering from diffuse pleural thickening and had a tendency to restrictive pulmonary function. One fourth of them displayed severe pulmonary dysfunction. The follow-up of the patients with diffuse pleural thickening related to asbestos exposure must be well organized and thorough.