



Pleural calcifications

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An 87-year-old male diagnosed with prostate cancer, with no respiratory complaints, underwent a CT scan of the chest as part of an outpatient assessment. The scan showed pleural calcifications (calcified pleural plaques), with involvement of the diaphragmatic pleura (Figure 1).

Pleural calcifications usually result from fibrothorax, secondary to hemothorax, thoracic empyema, tuberculous pleural effusion, or even exposure to asbestos fibers. However, pleural calcifications are not always indicative of benign disease. Metastases of osteosarcoma can first appear as small foci of calcification and progress to extensive calcifications, leading to trapped lung. Talc pleurodesis can also mimic pleural calcification. Pleurodesis is currently considered the management of choice to control recurrent malignant pleural effusion. The most frequently used agent is talc, which, because of its high density, can be mistaken for calcifications in the pleural cavity.^(1,2)

Our patient presented with a specific pattern of pleural calcification: calcified pleural plaques. Pleural plaques are highly suggestive of asbestos-related pleural disease. Although the use of asbestos has recently been banned in Brazil, its complications will still be seen for decades to come, as there is usually a long interval between the initial exposure to asbestos and the development of asbestos-related diseases. Individuals who are susceptible to developing asbestos-related diseases include not only those who are directly exposed to asbestos (people

working with mining or other activities related to the many industrial uses of the substance, especially the fiber cement industry in Brazil) but also those who live in proximity to the mines.

Asbestos exposure can result in asbestosis, mesothelioma, and lung cancer. Asbestosis is a fibrosing interstitial pneumonitis caused by long-term exposure to asbestos through inhalation of asbestos fibers, which deposit in the lungs. The main HRCT findings of asbestosis are small subpleural nodular opacities, subpleural lines, ground-glass opacities, parenchymal bands, bronchiectasis and traction bronchiolectasis, architectural distortion, and honeycombing.^(1,2)

Pleural plaques are usually asymptomatic but are a marker of asbestos exposure, indicating greater risk of developing pulmonary fibrosis or asbestos-related malignancies. They are composed of dense and relatively acellular connective tissue. They often have a rectangular shape and may be calcified or not. The involvement of the diaphragmatic pleura is highly suggestive of asbestos-related disease, which is almost always bilateral, although unilateral plaques can occur. In the case presented here, anamnesis revealed that the patient had lived near an asbestos mine for many decades and had actually worked in it for a few years. That fact, together with the imaging findings, was conclusive for the final diagnosis of asbestos-related pleural plaques.

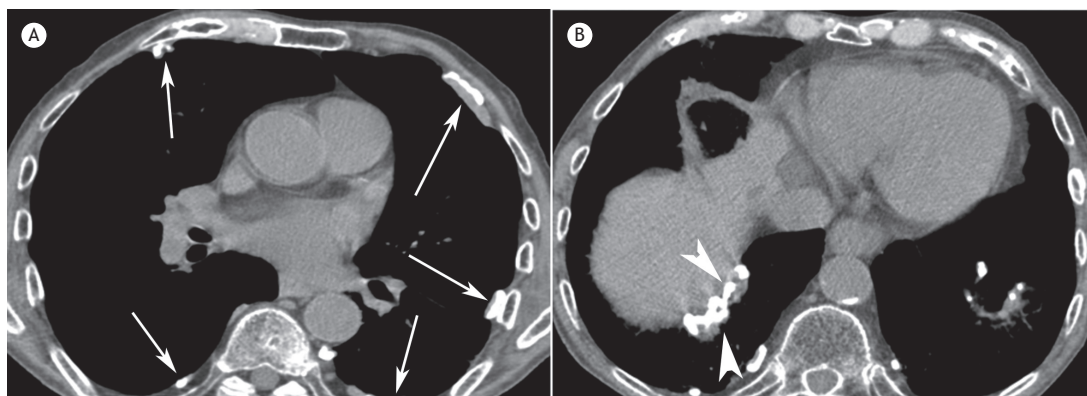


Figure 1. Axial CT scan of the chest, in mediastinal windows at the level of the middle lung regions (A) and lung bases (B), showing multiple pleural plaques, several of them partially calcified (arrows). In B, note the calcified plaques in relation to the diaphragmatic pleura, which are virtually pathognomonic of exposure to asbestos.

REFERENCES

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