

Silicosis: Relevant Differences Between Marble Workers and Miners[☆]

Silicosis: diferencias relevantes entre marmolistas y mineros

To the Editor:

Following the alarming outbreak of a series of cases of silicosis among machine workers handling quartz conglomerates in Chicllana de la Frontera, Cadiz,¹ our experience leads us to conclude that the classification of the *International Labor Organization* (ILO)² used for diagnosing this type of pneumoconiosis is inappropriate. In our study,³ we included 46 male synthetic stone workers diagnosed with silicosis who had been employed in the installation of quartz conglomerates for kitchen countertops, in particular. Nine of these patients had a normal chest X-ray but the typical bilateral diffuse micronodular interstitial pattern was found on high-resolution computed axial tomography.

We are dealing with a new form of this disease that is distinct from the original silicosis in miners. We know that it affects younger men after a greater exposure over a shorter period of time (median age, 33 years; median working history, 11 years).³

Lack of understanding of the clinical course of this type of silicosis means that we must bear in mind not only the lack of cure for this disease but also the potential risk of cancer from the various components of these materials. The high crystalline free silica content in quartz conglomerates (70%–90%, depending on the finish and color of the countertop), the greater potential for harm from the particles compared to other silicates due to their smaller size (<5 microns), and the fact that crystalline forms of silica (quartz, cristobalite and tridimite)⁴ are classified as group 1 (human carcinogens), give an indication of the possible complications of this disease over time.

We would like to report on the 4 cases in our series with the poorest outcomes to date. First, a 33-year-old patient died in October 2012, after the study was completed, following repeated right pneumothorax (Fig. 1) and development of a ventilatory defect combined with a severe restrictive pattern, advancing to progressive massive fibrosis (FVC 22.5%; FEV1 19.9%; FEV1/FVC 70.2%). He did not survive double lung transplantation. Two more patients died on the lung transplantation waiting list (one, 34 years of age with home oxygen therapy, and the other, 38 years of age). Lastly, a workshop owner and worker, father of 3 children, committed suicide at the age of 49, in February 2014. To date, 70 cases have been diagnosed in the Department of Pulmonology of the Hospital Universitario de Puerto Real, Cádiz.

Blatant non-compliance with safety and prevention measures at all levels (health monitoring, protection of workers, workplace safety and hygiene) has led to the significant number of cases and the many that are yet to be diagnosed. It should be emphasized that, as these are small family businesses, several members of some families have ended up developing the disease, the most obvious example being one of the 3 index cases¹: the patient died, and 14 family members have now been diagnosed with silicosis. We should point out that, at present, 6 workers, whose disease was officially recognized as occupational, have lost their right to permanent full disability allowances after complaints were lodged by their health insurance companies, and another 2 are still fighting to have their disease recognized as work-related.

For this reason, we would like to underline the need to update the diagnostic classification used until now, since some cases of early silicosis in workers in the production and installation of kitchen countertops may be missed. We would also like to stress the importance of amending existing regulations, namely Order ITC/2585/2007,⁵ designed to protect workers. These were focused on silicosis in miners, the features of which cannot be compared

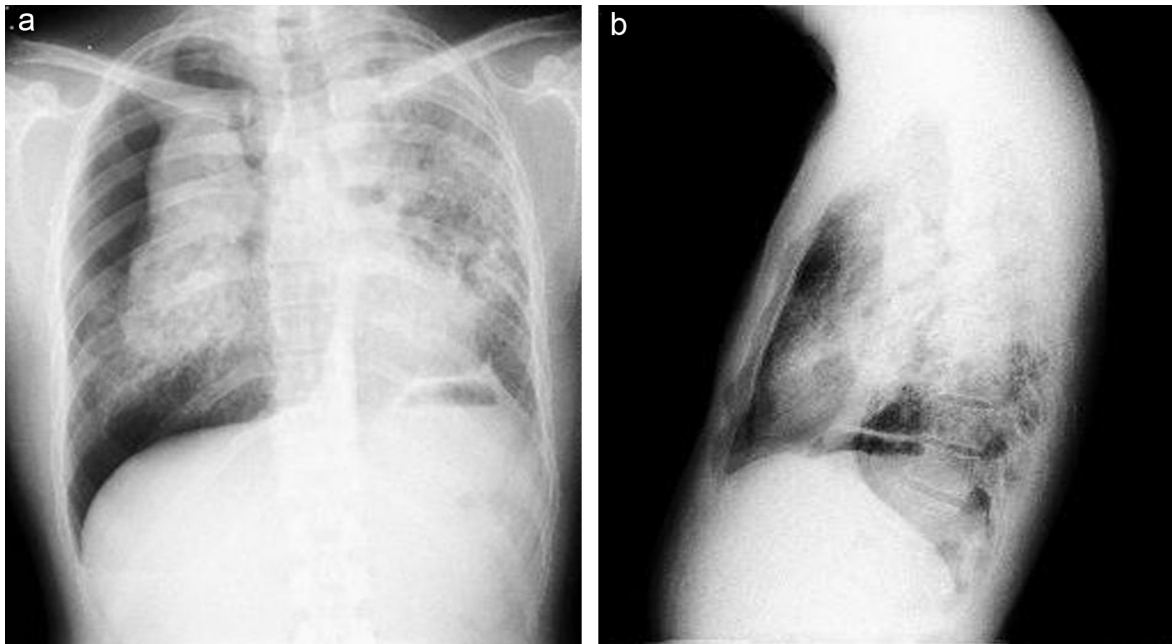


Fig. 1. Right pneumothorax. Diffuse bilateral nodular interstitial pattern, with millimetric nodules, coalescing to form pseudocondensations. Left diaphragmatic plication.

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with the new manifestation (miners' silicosis occurs in older men, after less exposure over a longer period of time). The legislation must be changed to protect the rights of the new generation of patients.

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