



Pulmonary talcosis related to cocaine inhalation

Tatiana Almeida Gonçalves¹, Miriam Menna Barreto¹, Edson Marchiori¹

A 49-year-old man sought medical attention with a history of shortness of breath, dry cough, and progressive weight loss. He had a 20-year history of cocaine inhalation and denied intravenous drug abuse or tobacco smoking. A chest CT performed 2 years previously showed multiple centrilobular nodules, distributed predominantly in the upper lobes (Figure 1A). A chest CT performed on admission showed an increased number of these nodules, with areas of confluence and formation of conglomerated masses in the upper lobes, as well as a right-sided spontaneous pneumothorax (Figures 1B and 1C). The conglomerated masses had diffuse high density (Figure 1D). Transbronchial biopsy showed multinucleated giant-cell granulomas with birefringent foreign material consistent with talc (Figure 1E). The final diagnosis was pulmonary talcosis.

Two major types of pulmonary talcosis, one associated with drug inhalation and one associated with intravenous administration of drugs, have been described. Talc results in the development of granulomas in both inhalational and intravenous forms of the disease. Earlier CT manifestations consist of a diffuse micronodular pattern. As the disease progresses, the nodules can become confluent, resulting in fibrosis and heterogeneous conglomerate masses. Such masses may contain areas of high attenuation. On CT, the main difference between the inhalational form and the intravenous form is the development of emphysema in the latter. Barotrauma, as a complication of crack cocaine inhalation, can manifest as pneumothorax, pneumomediastinum, pneumopericardium, or subcutaneous emphysema.^(1,2)

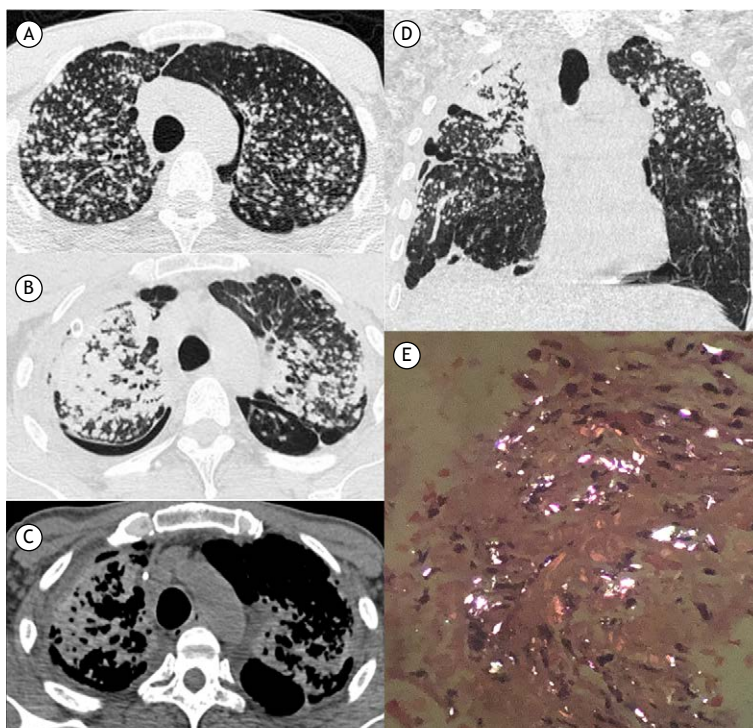


Figure 1. In A, an axial CT image acquired two years previously shows numerous small bilateral centrilobular nodules. Axial CT images acquired on admission with lung (in B) and mediastinal (in C) window settings, as well as a coronal reformatted image (in D), show an increase in the number of centrilobular nodules, with areas of confluence and diffuse high-density conglomerated masses in the upper lobes. Note also the presence of a right-sided spontaneous pneumothorax. In E, a transbronchial lung biopsy demonstrated multinucleated giant-cell granulomas with birefringent foreign material consistent with talc (H&E; magnification, $\times 100$).

REFERENCES

1. Marchiori E, Lourenço S, Gasparetto TD, Zanetti G, Mano CM, Nobre LF. Pulmonary talcosis: imaging findings. *Lung*. 2010;188(2):165-171. <https://doi.org/10.1007/s00408-010-9230-y>
2. Almeida RR, Souza LS, Mançano AD, Souza Jr AS, Irion KL, Nobre LF, et al. High-resolution computed tomographic findings of cocaine-induced pulmonary disease: a state of the art review. *Lung*. 2014;192(2):225-233. <https://doi.org/10.1007/s00408-013-9553-6>

1. Universidade Federal do Rio de Janeiro. Rio de Janeiro (RJ) Brasil.