CLINICAL INFORMATION

A 33-year-old accountant complained of productive cough for eight years. Seven years before admission, he developed dyspnea while working at an elevation of 14,000 feet in the office of a molybdenum mine in Colorado. He was subsequently rejected for military service because of findings on the roentgenogram of his chest, which, he was told, were suspicious of tuberculosis. The dyspnea slowly increased, and every day he coughed up as much as one-half cup of foul, yellow-green sputum. Bilateral basilar rales were heard, but there was no cyanosis or clubbing.

The cough and dyspnea subsided slowly following courses of antibiotic therapy. Follow-up roentgenograms over a 14-year span showed considerable improvement.

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Diagnosis: BRONCHIECTASIS WITH PULMONARY BONY METAPLASIA

The posteroanterior roentgenogram on admission (Fig. 1) showed enlarged hilar shadows, and there was bilateral increase of the basal bronchovascular markings. Numerous patches consisting of small punctate calcific densities were present in both midlung fields, particularly on the left side. A bronchogram showed cylindrical bronchiectasis involving especially the middle lobe and lingula. The biopsy specimen (Fig. 2) taken from a hard granular area in the left upper lobe demonstrated that calcific lesions were located in both the alveolar and interstitial tissue. The unexpected microscopic finding of islands of typical trabeculated bone containing active marrow explained the nature of these calcific densities.

Extensive laminated bony metaplasia of the pulmonary tissue is not too unusual in wolves and calves as a result of chronic infection. Pulmonary ossifications in humans may occur as a few isolated, usually rounded nodules scattered in one or both lung fields in association with rheumatic mitral disease, or in combination with chronic infection in the form of bulky trabeculations or, very rarely as idiopathic diffuse ossifications.

In this patient, the diffuse punctate ossification is most likely related to chronic infection, which assumption is supported by the parallel regression of the ossification (Fig. 3) and the pulmonary inflammatory symptoms. This condition, pulmonary osseous metaplasia, should be clearly differentiated from the pulmonary changes of alveolar microlithiasis, in which calcium is present in corpora amylacea, producing a fine dense appearance, but in which there is no ossification.

References