

## August 2011 Imaging Case of the Month

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### ***Clinical History***

A 60-year-old woman with no significant previous medical history complains of shortness of breath. Chest radiography was performed (Figure 1).

Point to the lesion on the chest X-ray on the chest x-ray to proceed.

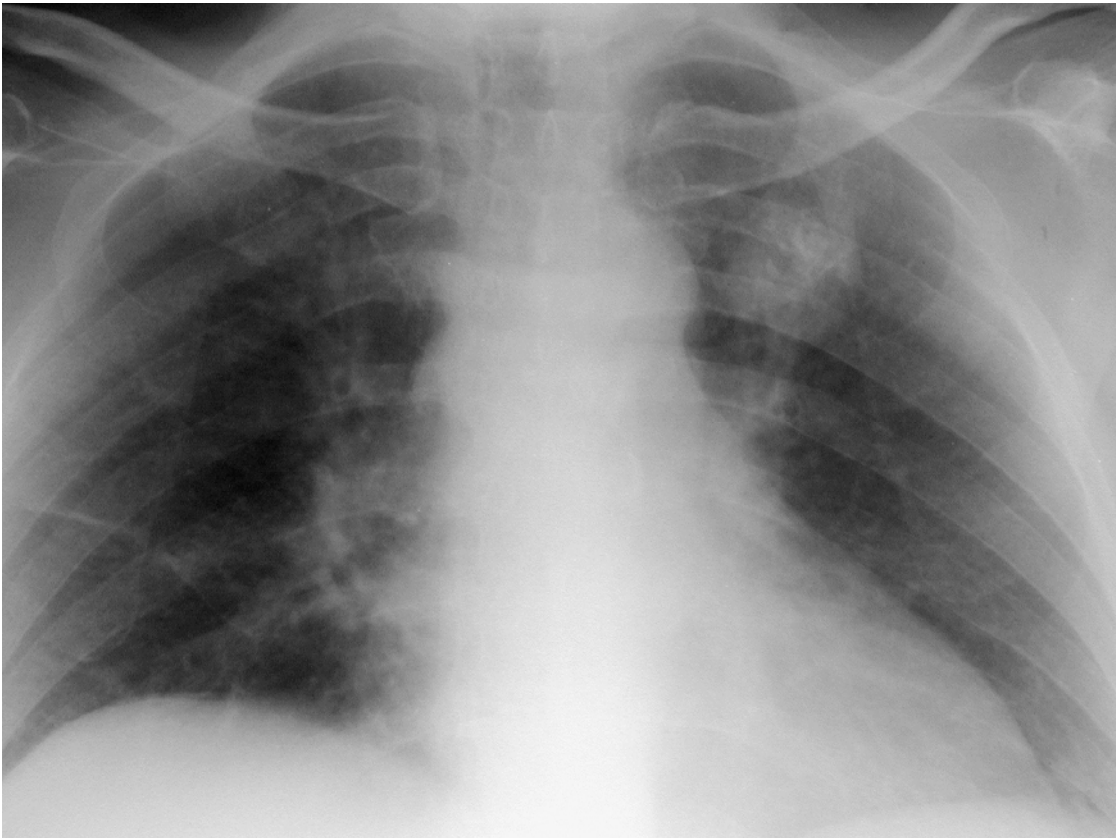
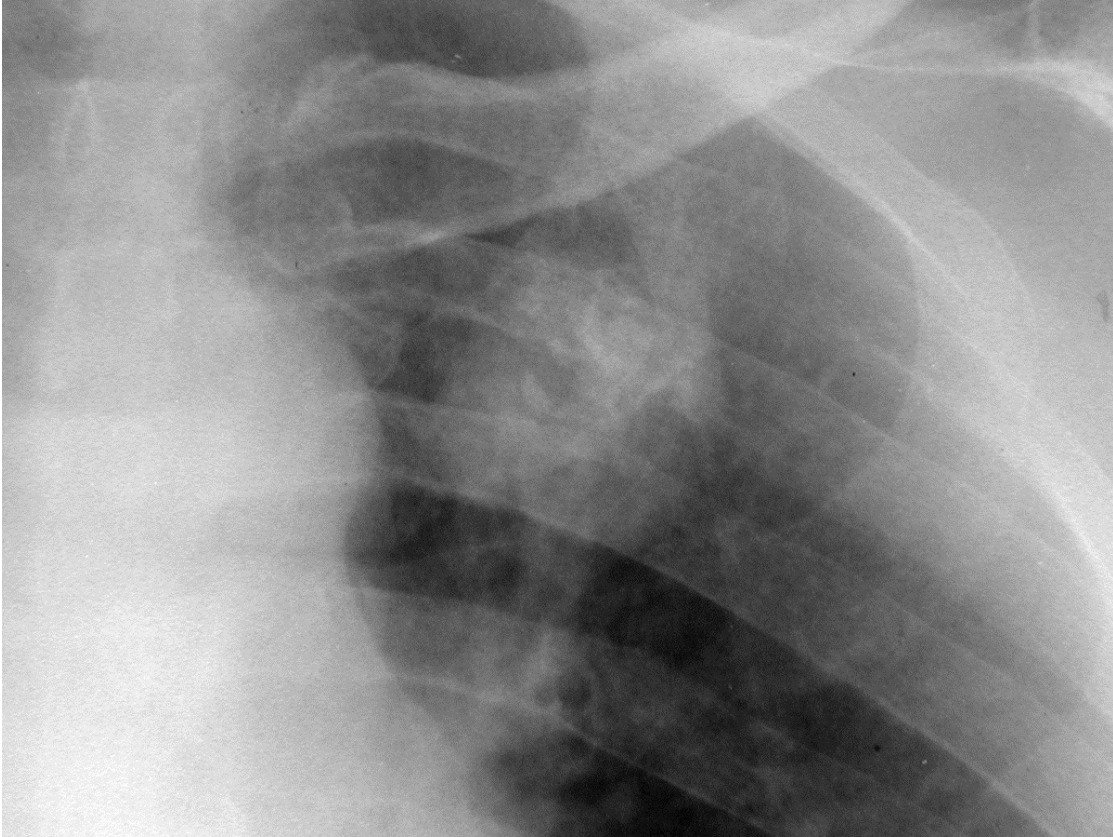


Figure 2 shows an enlarged view of the lesion. What is the main finding on the chest radiograph? How would you describe the finding?



(**Answer:** The chest radiograph shows a solitary pulmonary nodule in the left lung apex. Close inspection of this nodule shows small foci of increased attenuation within the nodule, consistent with calcium).

The CT scan (Figure 3) is show below.



Which of the following is the most likely diagnosis? (Click on an answer to proceed)

1. Lung cancer
2. Bronchial Adenoma
3. Pulmonary hamartoma
4. Pulmonary granuloma
5. Pseudotumor

## **Answer C. Pulmonary hamartoma**

### Differential Diagnosis

The differential diagnostic "gamut" for this case is the calcified solitary pulmonary nodule. Solitary calcified pulmonary nodules may result from prior granulomatous infection (fungal and mycobacterial infections), pulmonary hamartoma, pulmonary inflammatory myofibroblastic tumor, and, rarely, amyloidosis and primary pulmonary malignancies such as carcinoid tumors, tumors of salivary gland origin, and bronchogenic carcinoma. Metastatic disease, particularly from osteosarcoma and chondrosarcoma, may also produce calcified pulmonary nodules, although such nodules are usually multiple rather than solitary. Similarly, previous viral infections, particularly Varicella, may produce multiple calcified pulmonary nodules, as may sarcoidosis. Multiple ossified pulmonary nodules may occur in the setting of stenosis of the mitral valve in patients with rheumatic heart disease. Rare causes of calcification or ossification within the pulmonary parenchyma include dendriform ossification (often seen in the setting of fibrotic lung disease), metastatic pulmonary calcification (typically seen in renal failure patients with secondary hyperparathyroidism), and pulmonary alveolar microlithiasis.

### ***References***

1. Chan ED, Morales ED, Welsh CH, McDermott MT, Schwarz MI. Calcium deposition with or without bone formation in the lung. *Am J Respir Crit Care Med* 2002; 165:1654-69.