Medical Image of the Week: Valley Fever Cavity with Fungus Ball

Figure 1. Chest x-ray taken in 2004 showing pulmonary nodule (arrows).

Figure 2. A: Thoracic CT scan in lung windows from 2004 showing the pulmonary nodule with cavitation. B: CT scan from 2007 showing thin-walled cavity. C: CT scan from 2008 showing fungus ball inside the cavity. D: CT scan from 2010 showing the continued presence of the fungus ball inside the cavity.
A 72-year-old man was seen in 2010 because of hemoptysis. In 2004 a routine chest x-ray discovered a new pulmonary nodule (Figure 1, Figure 2A). Coccidiomycosis by complement fixation and IgM were negative but IgG was elevated at 0.203 (upper limit of normal 0.150). A transthoracic needle biopsy revealed a granuloma without malignancy and no growth of any organisms. He was followed because he was asymptomatic. He remained asymptomatic but developed a thin-walled cavity (Figure 2B). However, beginning in 2008 he developed a cough with occasional hemoptysis. His thoracic CT scan was repeated and was interpreted as showing findings consistent with a fungus ball (Figure 2C). He was treated with fluconazole for about 6 months but his hemoptysis persisted and therapy was switched to itraconazole. His hemoptysis persisted although it was somewhat improved. A repeat CT scan performed in 2010 (Figure 2D) continued to show the fungus ball. He was referred to pulmonary and bronchoscopy revealed no other source of the hemoptysis; stains and cultures were negative; and he was referred to thoracic surgery for resection.

Hemoptysis from coccidiomycosis is unusual and should prompt a search for other causes (1). These could include bronchitis, malignancy, or rarely, a fungus ball as in our case. When hemoptysis is present with a fungus ball, treatment with fluconazole, itraconazole or amphotericin B is often advised although descriptions are limited to case reports. When hemoptysis persists despite drug therapy, resection of the cavity has been performed (2).

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Reference