Medical Image of the Week: Coccidioidomycosis

Figure 1. Preoperative x-ray (Panel A) demonstrating a right upper lobe cavitory lesion. X-ray (Panel B) status post lobectomy.

Figure 2. Coronal (Panel A) and axial (Panel B) images from a chest CT further demonstrating a right upper lobe cavitory lesion.

Figure 3. The 200x magnification H&E image (Panel A) demonstrates one of the numerous granulomas seen in the lung specimen. A low magnification (40x) (Panel B) H&E image showing the granulomatous infection, prominent at the left, surrounded by a wall made up of collagen.

Figure 4. Two images, both at 400x magnification, are of GMS stained tissue. Panel A shows the numerous branching hyphae of the lesion. Panel B shows a granuloma with a central *Coccidioides* spherule, marked by the red arrow.

A 41-year-old Hispanic man with a history of uncontrolled type 2 diabetes and coccidioidomycosis, presented to the emergency department with a two year history of hemoptysis and recent onset lower chest pain. Patient was found to have a right upper lobe cavitory lesion on x-ray (Figure 1). Due to concern for pulmonary and pericardial tuberculosis the patient was placed on isolation, and QuantiFERON Gold testing, *Coccidioides* antibodies and computed tomography of the chest were ordered. At this time the patient revealed that he had taken only 30 days of treatment for his coccidioidomycosis 2 years ago due to his understanding this was the complete course. The CT (Figure 2) demonstrated an irregular, spiculated, and thin-walled right apical cavitory lesion with satellite nodules. QuantiFERON Gold testing and *Coccidioides* testing were both positive. Surgical resection was performed due to ongoing hemoptysis. The surgical specimen demonstrated hyphae (Figure 4A), a rare spherule (Figure 4B) and caseating granulomas (Figure 3) consistent with coccidioidomycosis. Acid-fast stains were negative. Indications for surgery in coccidioidomycosis are continued or progressing symptoms following 3 months of treatment, complications (such as rupture, pneumothorax or effusion), and large size of abscess (1,2).

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References

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