

## Images in Clinical Tropical Medicine

### A Young Man Evaluated for Suspicion of Lymphoma

Anthony P. Cannella\* and Joseph M. Vinetz

Division of Infectious Diseases, Department of Medicine, University of California, San Diego, California

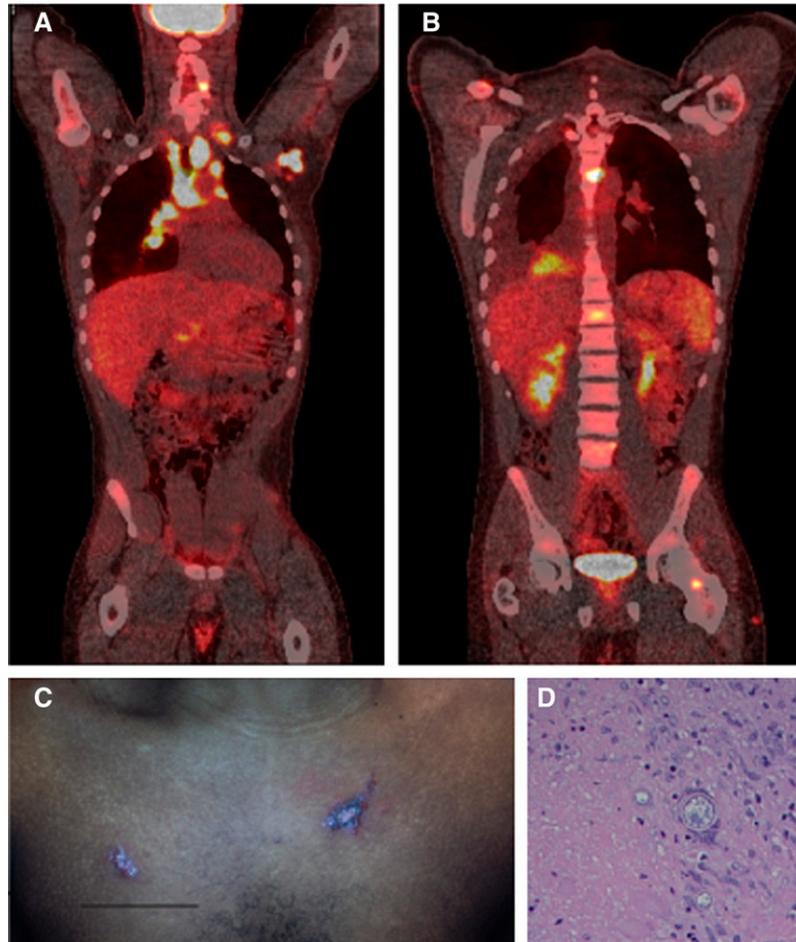


FIGURE 1. (A and B) Positron emission tomography. (A) Coronal section-anterior view; (B) coronal section-posterior view) of patient with coccidioidomycosis; noted tracer uptake in axillary and mediastinal lymph nodes, cervical and lumbar vertebrae, left ilium, and perineum. (C) Integumental lesions on patient's anterior chest. (D) Hematoxylin and eosin (H&E) stain of left axillary lymph node biopsy showing *Coccidioides* spp. spherules within a granuloma.

A 21-year-old man had moved to Riverside County, California from Botswana at 7 years of age. He presented with B symptoms: intermittent fever, fatigue, and 20 kg weight loss progressive over 6 weeks. He had no relevant past medical history; his last trip to Africa was in 2002. On examination, he had axillary and inguinal lymphadenopathy; nodular skin ulcerations were present on the forehead, fingers, scalp, and chest (Figure 1C). Laboratory studies showed low hemoglobin

(10.7 g/dL), a negative *Mycobacterium tuberculosis* interferon- $\gamma$  release assay, and a negative serology for human immunodeficiency virus. A concern for lymphoma prompted a positron emission computer tomography scan (PET CT-coronal images shown), which showed extensive tracer uptake in mediastinal and axillary lymph nodes (Figure 1A-anterior coronal image shown), vertebral bodies and pedicles, and the right testis (Figure 1B-posterior coronal image shown).<sup>1</sup> An excisional biopsy (hematoxylin and eosin [H&E] stain) of a left axillary lymph node showed spherules consistent with *Coccidioides* species (Figure 1D). The serum *Coccidioides* complement fixation titer was 1:512; cerebrospinal fluid analysis was unremarkable. Fluconazole 800 mg/d by mouth led to clinical

\*Address correspondence to Anthony P. Cannella, 9500 Gilman Drive, Mail Code 0741, Palade Laboratories, Rm 125, San Diego, CA 92093-0741. E-mail: acannella@ucsd.edu

resolution. Infections with *Coccidioides immitis/posadasii* are common in the southwestern United States, Mexico, and parts of South America,<sup>2</sup> and has recently been found to be expanding in range to previously unsuspected areas such as Washington State.<sup>3</sup>

Received February 7, 2014. Accepted for publication February 16, 2014.

This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

## REFERENCES

1. Nguyen BD, 2006. F-18 FDG PET/CT imaging of disseminated coccidioidomycosis. *Clin Nucl Med* 31: 568–571.
2. Duarte-Escalante E, Zuniga G, Frias-De-Leon MG, Canteros C, Castanon-Olivares LR, Reyes-Montes Mdel R, 2013. AFLP analysis reveals high genetic diversity but low population structure in *Coccidioides posadasii* isolates from Mexico and Argentina. *BMC Infect Dis* 13: 411.
3. Marsden-Haug N, Goldoft M, Ralston C, Limaye AP, Chua J, Hill H, Jecha L, Thompson GR 3rd, Chiller T, 2013. Coccidioidomycosis acquired in Washington State. *Clin Infect Dis* 56: 847–850.