Teaching NeuroImages:

Fungus in the brain

Coccidioidomycosis meningoencephalitis

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Figure Evolving coccidioidomycosis infection in the brain

(A) Initial MRI after the seizure showed meningeal enhancement in the left sylvian fissure, a nonspecific pattern. (B) Two-month follow-up MRI revealed multiple rim-enhancing nodules extending into the adjacent frontal and temporal lobe parenchyma with extensive surrounding edema. These nodules, along with the clinical history, confirm the diagnosis of coccidioidomycosis.

Coccidioidal meningoencephalitis often carries a poor prognosis.¹ Brain imaging can reveal focal enhancement at the basal cisterns, infarction, and communicating hydrocephalus.² A 38-year-old HIV-negative Korean man with a history of CSF- and serum-confirmed coccidioidal meningitis, receiving chronic antifungal therapy, presented with a first generalized tonic-clonic seizure. CSF demonstrated pleomorphic leukocytosis, normal protein and glucose, negative acid-fast bacillus and fungal cultures, negative *Mycobacterium tuberculosis* PCR, and negative *Coccidioides* antibodies. The diagnosis is presumed coccidioidomycosis based on imaging (figure) and clinical history. This case is an uncommon presentation with an enhancing lesion in the sylvian fissure, progressing to parenchymal invasion and extensive edema.

AUTHOR CONTRIBUTIONS

D. Goldenholz wrote the text and did a chart review. N. Mehra edited the text. B. Dahlin edited the text, reviewed the radiology studies,

and selected appropriate images. S. Cohen and V. Wheelock edited the text.

STUDY FUNDING

No targeted funding reported.

DISCLOSURE

D. Goldenholz is on the Resident and Fellow Section of *Neurology*[®] editorial board. N. Mehra, B. Dahlin, and S. Cohen report no disclosures. V. Wheelock reports an unrestricted educational grant for medical education symposium from Lundbeck Pharmaceuticals, grant support from the California Institute of Regenerative Medicine (TR1-01257-1 and DR2-05415), grant support from HDSA for the HDSA Center of Excellence at UC Davis, grant support from the Joseph. P. Roberson Foundation for Huntington's disease program, and a gift from Charles and Margaret Pue Charitable Foundation for Huntington's disease program. Go to Neurology.org for full disclosures.

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Neurology 2013;80:e82

DOI 10.1212/WNL.0b013e3182825041

This information is current as of February 18, 2013

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