

Teaching NeuroImage: Cryptococcal Meningoencephalitis With Cryptococcoma and Gelatinous Pseudocysts

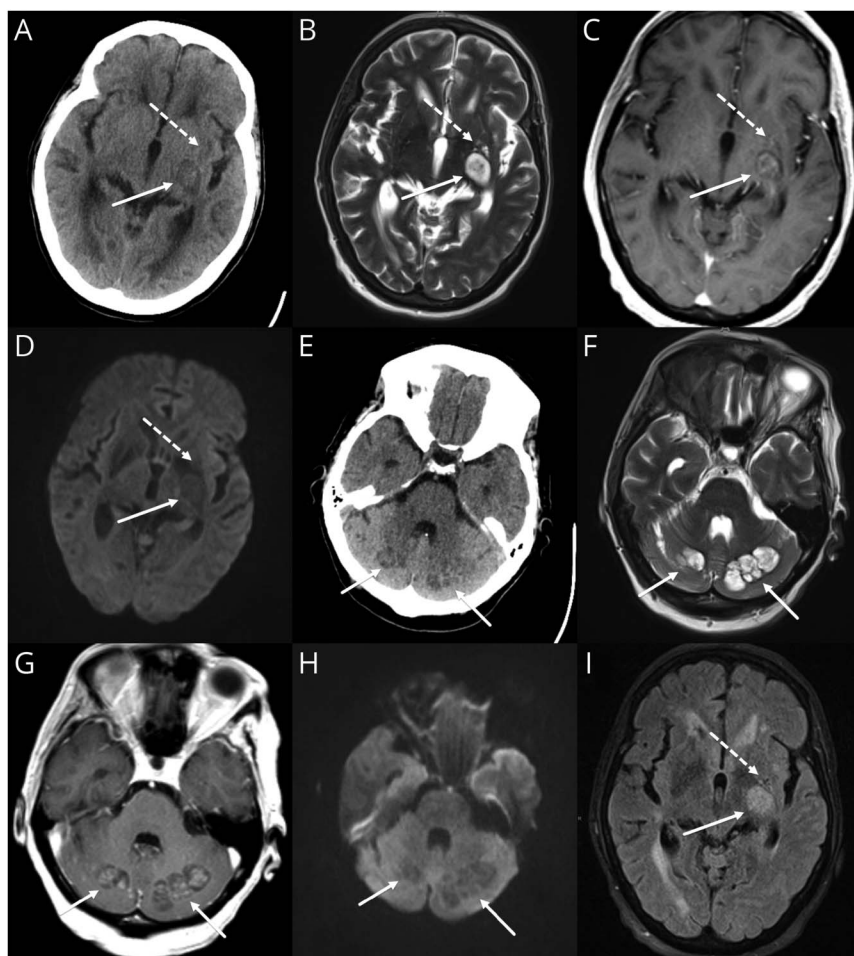
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Figure Axial CT and MRI Images of the Head



Noncontrast CT (A and E), MRI T2 (B and F), postcontrast T1 (C and G), DWI (D and H), and T2 FLAIR (I) images of the brain. Cryptococcoma (solid arrows) are consolidated areas of infection, appearing as heterogeneous hypodense lesions on CT. On MRI, a lobulated “dirty” T2 appearance with internal enhancement is classic. In contrast to a typical abscess, there is no internal restricted diffusion. Pseudocysts (dashed arrows) are poorly seen on CT, appearing as a vague area of hypodensity. On MRI, they appear as newly enlarged perivascular spaces. Patchy enhancement on postcontrast images and surrounding edema on FLAIR distinguish them from normal perivascular spaces if prior imaging is not available. DWI = diffusion-weighted imaging; FLAIR = fluid-attenuated inversion recovery.

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A 66-year-old woman from Venezuela with diabetes and without immunodeficiency presented with headache, dizziness, and lower extremity weakness. Hypodense brain lesions on CT raised

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concern for metastases (Figure, A and E), but full body CTs failed to reveal a primary site. Brain MRI (Figure, B–D, F–I) suggested intracranial cryptococcosus with mass-like cryptococcomas in the cerebelli, left basal ganglia, right temporal lobe, and right occipital lobe and gelatinous pseudocysts manifesting as new dilatation of the perivascular spaces in the left basal ganglia. The diagnosis was confirmed by CSF antigen testing.

While cryptococcosis has been considered a disease of the immunocompromised, rarely immunocompetent individuals can be affected (especially *Cryptococcus gattii*). On imaging, 3 manifestations may be seen: (1) meningeal disease evidenced by meningeal enhancement, (2) extension of the meningeal disease into the perivascular spaces, giving rise to dilatation and cystic areas (pseudocyst formation), and (3) coalescence of the infectious material into frank parenchymal collections (cryptococcomas).¹

Author Contributions

K. Trinh: drafting/revision of the manuscript for content, including medical writing for content; major role in the acquisition of data; study concept or design; analysis or interpretation of data.

D. Le: drafting/revision of the manuscript for content, including medical writing for content; major role in the acquisition of data; study concept or design; analysis or interpretation of data.
A. Kuo: drafting/revision of the manuscript for content, including medical writing for content; major role in the acquisition of data; study concept or design; analysis or interpretation of data.

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Reference

1. Xia S, Li X, Li H. Imaging characterization of cryptococcal meningoencephalitis. *Radiol Infect Dis*. 2016;3(4):187-191. doi:10.1016/J.JRID.2016.05.003

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