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Teaching NeuroImage: Cryptococcal Meningoencephalitis With Cryptococcoma and Gelatinous Pseudocysts

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A 66-year-old female from Venezuela with diabetes and without immunodeficiency presented with headache, dizziness, and lower extremity weakness. Hypodense brain lesions on CT raised 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 cryptoccocomas in the cerebelli, left basal ganglia, right temporal lobe, and right occipital lobes and gelatinous pseudocysts manifesting as new dilatation of the perivascular spaces in the left basal ganglia. The diagnosis was confirmed by CSF antigen testing.

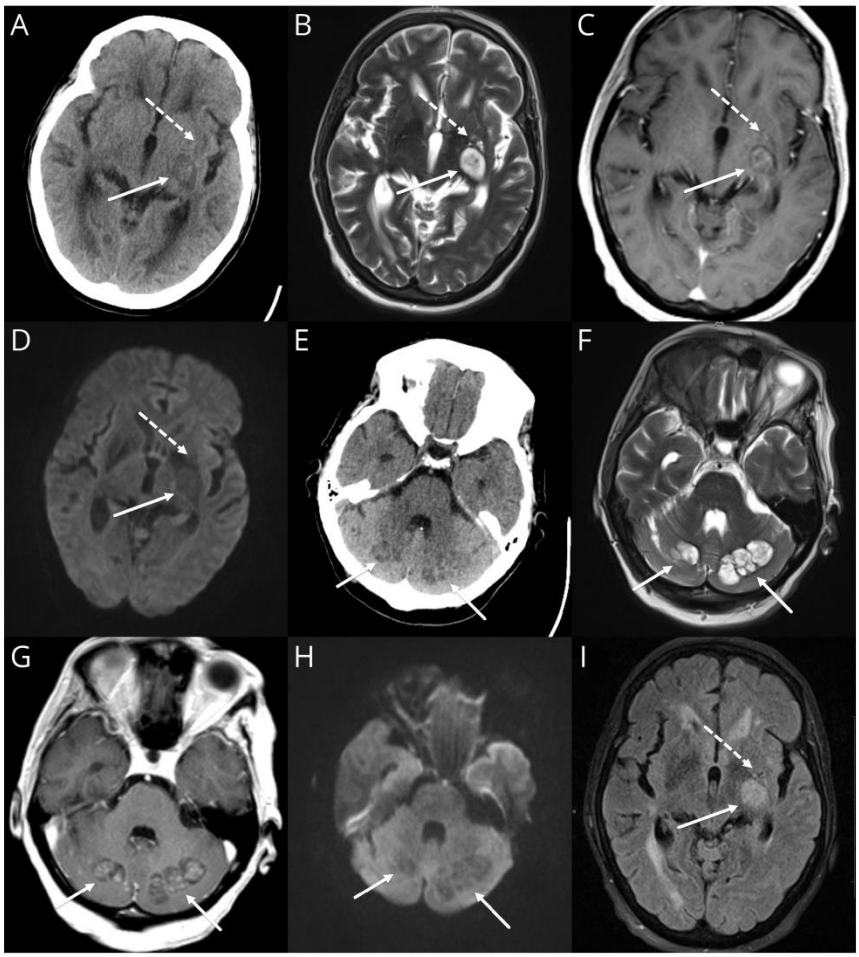
While cryptococcosis has been considered a disease of the immunocompromised, rarely immunocompetent individual can be affected (especially *Cryptococcus gattii).* On imaging, combinations of three manifestations may be seen: (a) meningeal disease evidenced by meningeal enhancement, (b)

extension of the meningeal disease into the perivascular spaces and giving rise to dilatation and cystic areas (pseudocyst formation), and (c) coalescence of the infectious material into frank parenchymal collections (cryptococcomas).[1]

Figure Legend

Axial CT and MRI images of the head

Noncontrast CT (A, E), MRI T2 (B, F), post-contrast T1 (C, G), DWI (D, and H), and T2 FLAIR (I) images of the brain. Cryptococomas (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 vague area of hypodensity. On MRI, they appear as newly enlarged perivascular spaces. Patchy enhancement on post-contrast images and surrounding edema on FLAIR distinguish them from normal perivascular spaces if prior imaging is not available.



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