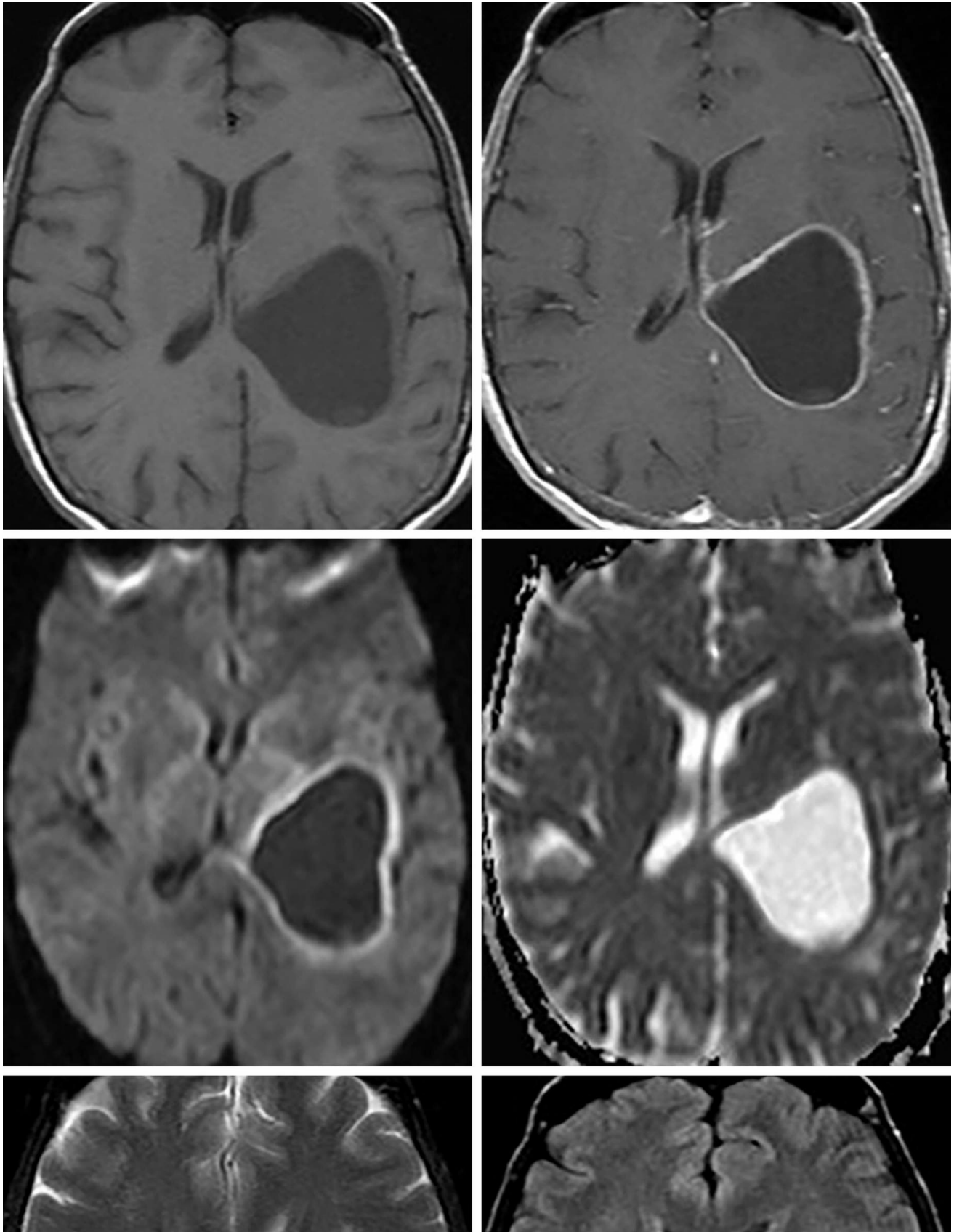




Blastomycosis

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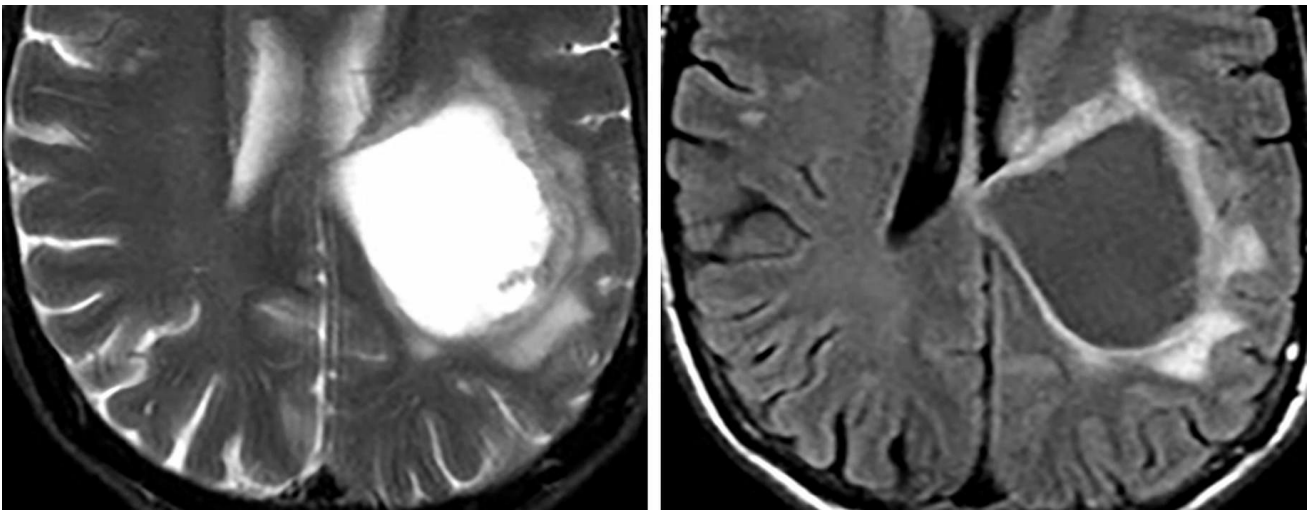


Figure 1: These images demonstrate a fairly classic appearance of parenchymal blastomycosis. There is a large, cystic lesion with smooth rim enhancement demonstrated before and after contrast (Top Row), normal diffusivity in the cavity on DWI/ADC (Middle Row), and a mild amount of surrounding vasogenic edema on T2/FLAIR imaging (Bottom Row). More commonly, these patients will present with meningitis (not presented here).

Description

- Caused by the dimorphic fungus *Blastomyces dermatitidis*
- Endemic to Ohio and the Mississippi River valley
- Lung infection with hematogenous spread to the CNS in 5% to 10% of cases of disseminated infection

Pathology

- Exists as a mold in the environment and a yeast at body temperatures

Clinical Features

- Symptoms
 - Nonspecific
 - Headache, altered mental status, fever, vision changes, and seizures
- Age

- Highly variable
- Gender
 - No gender predilection
- Median survival
 - Depends on how early in the disease process management is started and whether the patient is immunocompromised

Imaging

- General
 - Pachymeningeal (dura mater) enhancement and often lobulated enhancing mass lesions in the brain parenchyma
 - Most common manifestation is epidural or parenchymal abscess, with meningitis being the most common presentation
- Modality specific
 - CT
 - Ill-defined areas or hypoattenuation
 - MRI
 - T1WI
 - Hypointense or isointense
 - T2WI
 - Hyperintense
 - DWI
 - Typically normal diffusivity but can demonstrate central restriction
 - Contrast
 - Peripheral ring-like enhancement
 - Pachymeningeal enhancement
- Imaging recommendations
 - Standard protocol MRI (including DWI) with intravenous contrast
- Mimic
 - Can mimic any of the ring-enhancing lesions and can present as a nonspecific meningitis; clinical history with travel to an area of endemicity can help narrow the differential diagnosis

Contributor: Sean Dodson, MD

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