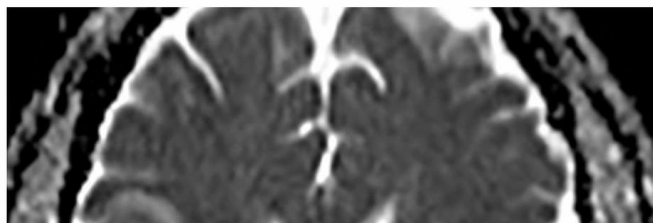
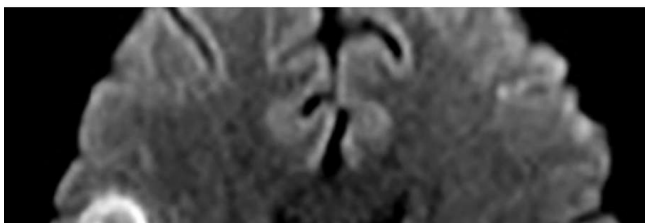
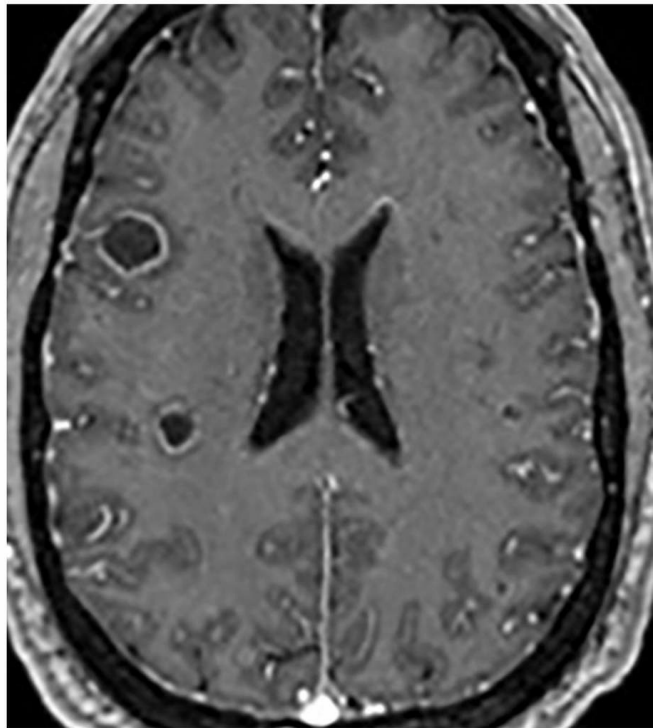
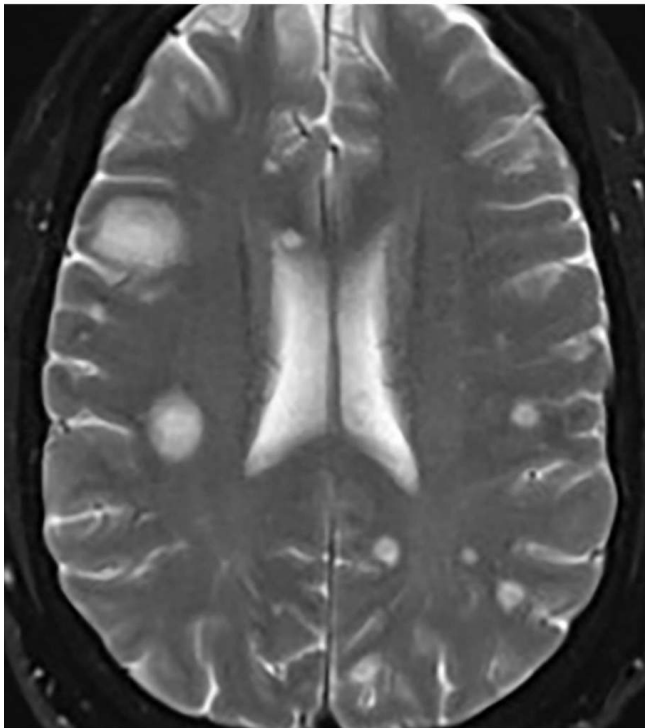
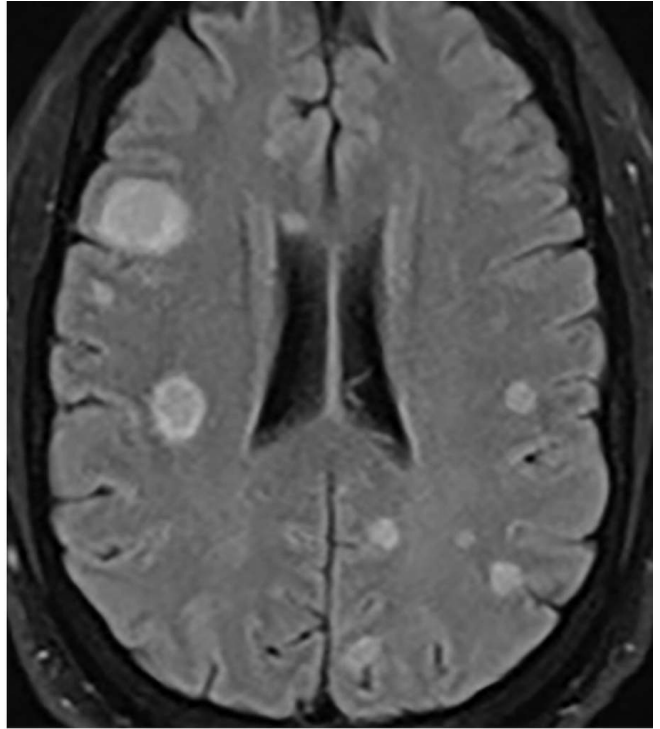
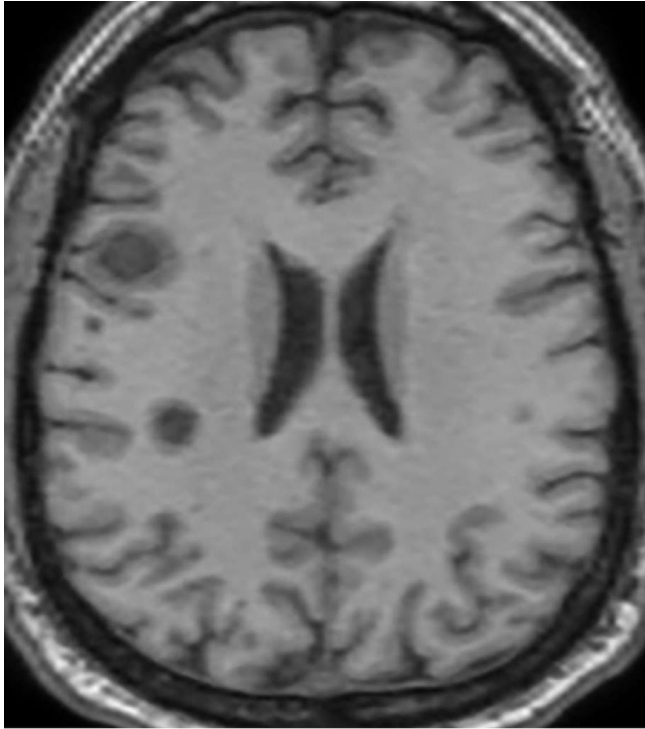




# Histoplasmosis

*Last Updated: July 6, 2021*



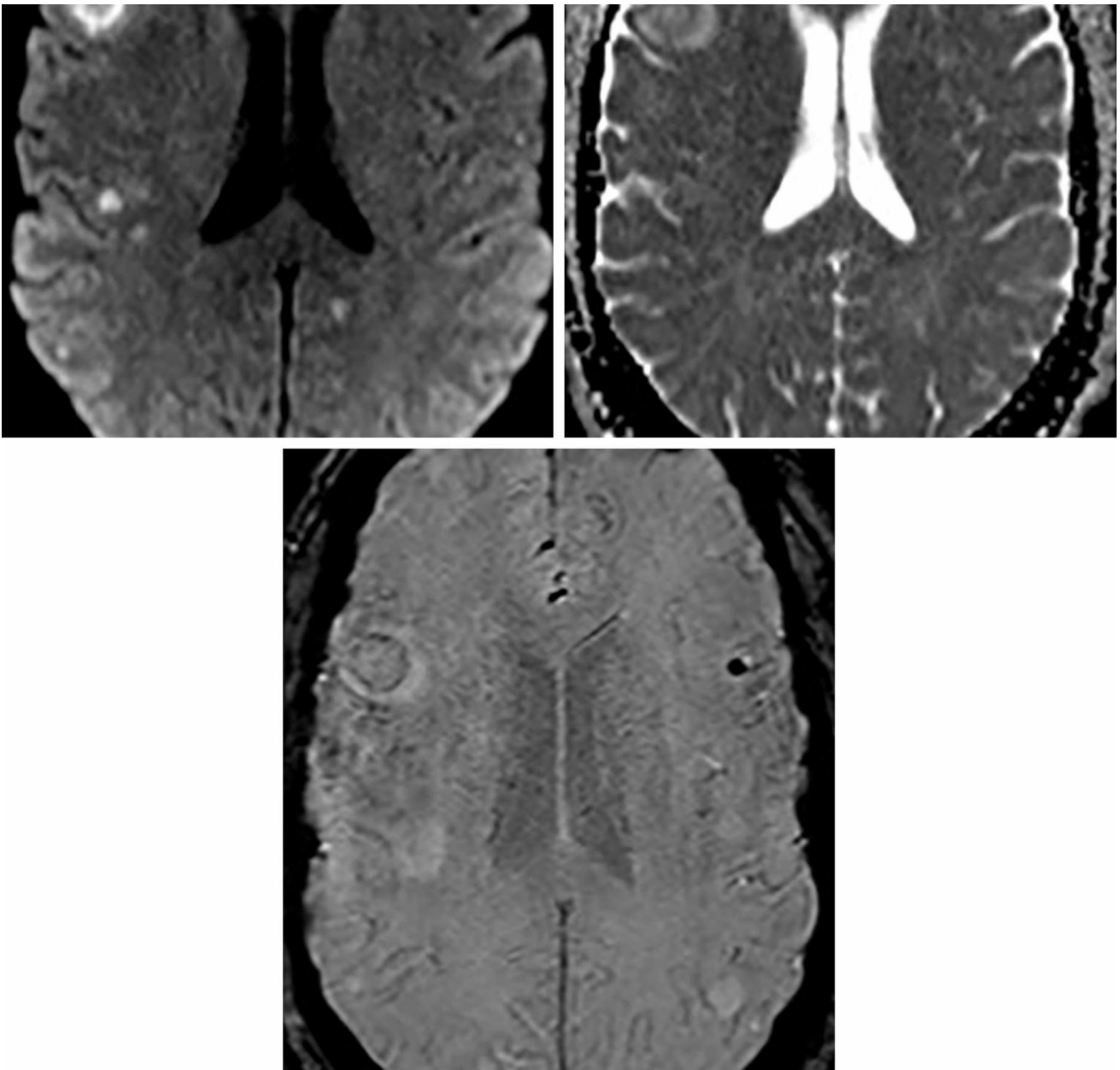


Figure 1: Multiple lesions scattered throughout the parenchyma demonstrating T1 hypointensity (top left) and T2/FLAIR hyperintensity (top right and second row left) with a rim of edema and a thin rim of enhancement (second row right). (Third Row) As is typical with fungal infection, the periphery demonstrates restricted diffusion but not the center of the necrosis. (Bottom) SWI also demonstrates mild dark susceptibility artifact in the periphery of these lesions, likely representing a combination of heavy metal deposition and microhemorrhage.

## Description

- Caused by the dimorphic fungus *Histoplasma capsulatum*
- Exists as a mold in the environment and a yeast at body temperatures

- Endemic to the US Midwest
- Disseminated disease is uncommon and occurs primarily when immune suppression is present
  - Represents the first manifestation of AIDS in 50% to 75% of patients
  - 5% to 10% of patients with dissemination develop CNS involvement

## Pathology

- Grows as a mold in the soil and causes infection when microconidia or hyphal elements are inhaled and convert into yeast in the lungs or when organisms in old foci reactivate during immunosuppression

## Clinical Features

- Symptoms
  - Usually very nonspecific
- Age and gender
  - No predilection
- Median survival
  - Variable
- Associations
  - If available, look at previous chest imaging for calcified pulmonary nodules or mediastinal lymph nodes

## Imaging

- General
  - Meningitis, scattered parenchymal lesions, abscesses, and rarely histoplasmoses
  - Histoplasmoses: expansile lesion in the thalamus, hypothalamus, or chiasmatic region that is small and round and demonstrates peripheral enhancement
- Modality specific
  - CT

- Enhancing mass lesions, atrophy, and hydrocephalus
  - MRI
    - T1WI
      - Hypointense lesions with surrounding hypointense edema
    - T2WI
      - Hyperintense lesions with surrounding hyperintense edema
      - If an abscess, the rim might be hypointense
    - DWI
      - Variable but typically no restriction
    - Contrast
      - Diffuse leptomeningeal enhancement
      - Ring enhancement typical of an abscess
- Imaging recommendations
  - Standard protocol MRI (including DWI) with intravenous contrast
- Mimic
  - Much like other fungal infections, can mimic any of the ring-enhancing lesions and can present as 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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