

Intro and Background

- **HIV and CNS infections:** HIV/AIDS is associated with several opportunistic infections, particularly in advanced stages, affecting the central nervous system.
- **Neurosyphilis and Cryptococcal Meningitis:** Both infections complicate diagnosis due to overlapping symptoms and atypical imaging findings.
- **Rarity of the Case:** Non-enhancing cysts in the brain are rare in co-infections of cryptococcal meningitis and neurosyphilis, underscoring the diagnostic complexity.

Aims and Hypothesis

Characterize the rare presentation of dual cryptococcal and neurosyphilis infection in an HIV-positive patient and highlight diagnostic and therapeutic challenges.

Neurosyphilis vs Cryptococcus

Neurosyphilis

- Caused by Spirochete Treponema Pallidum
- Early presentation of neurosyphilis can present as asymptomatic neurosyphilis. Acute syphilitic meningitis which presents with headaches, neck stiffness and seizures. Ocular syphilis presentation varies but causes vision loss.
- Radiologically presents as leptomenigeal enhancement (basilar), syphilitic gummas, or other features.

Cryptococcus

- Caused by yeast like fungus called cryptococcus neoformans
- Radiologically presents with hydrocephalus, dilated perivascular space with gelatinous pseudocysts, leptomenigeal and pachymeningeal enhancements.

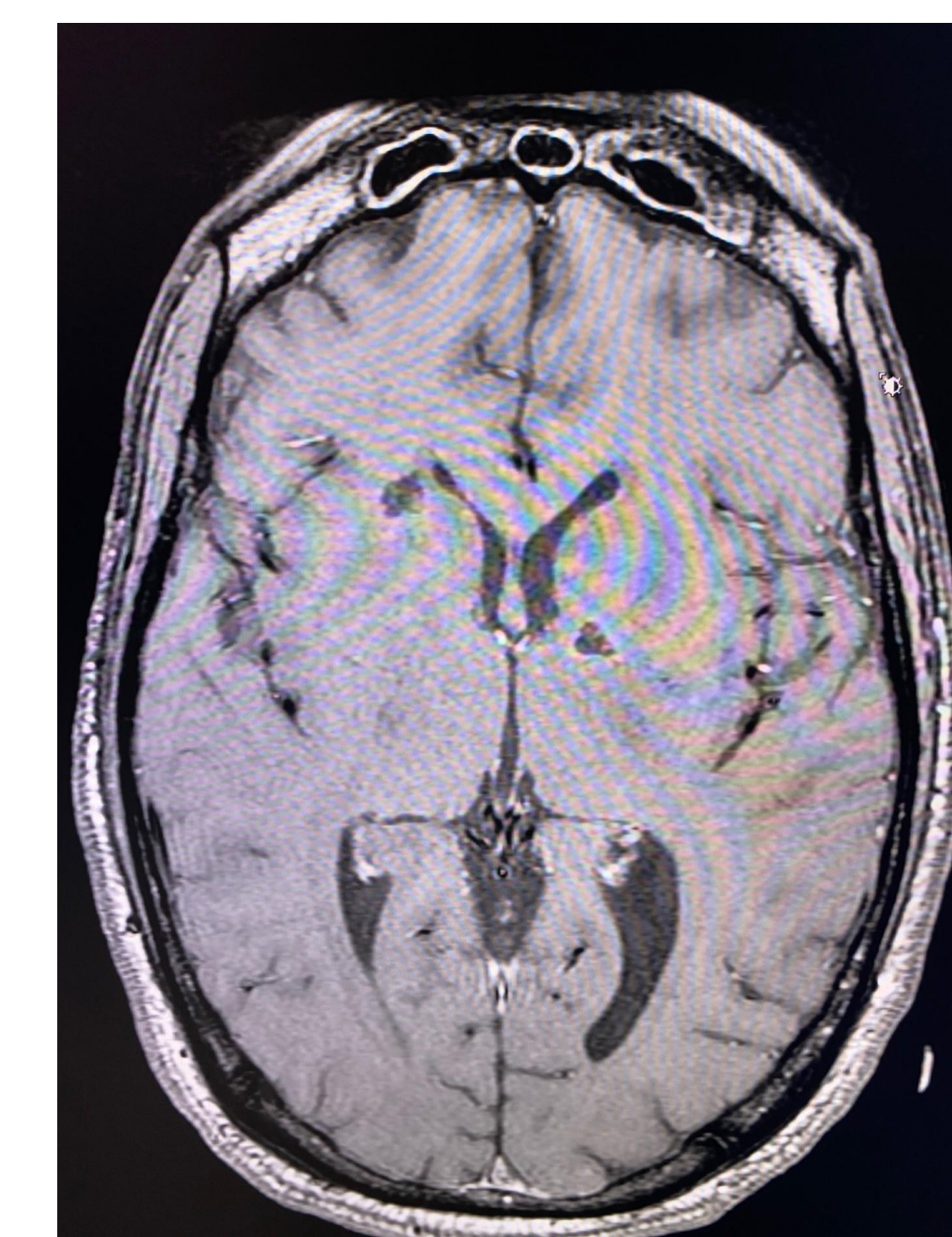
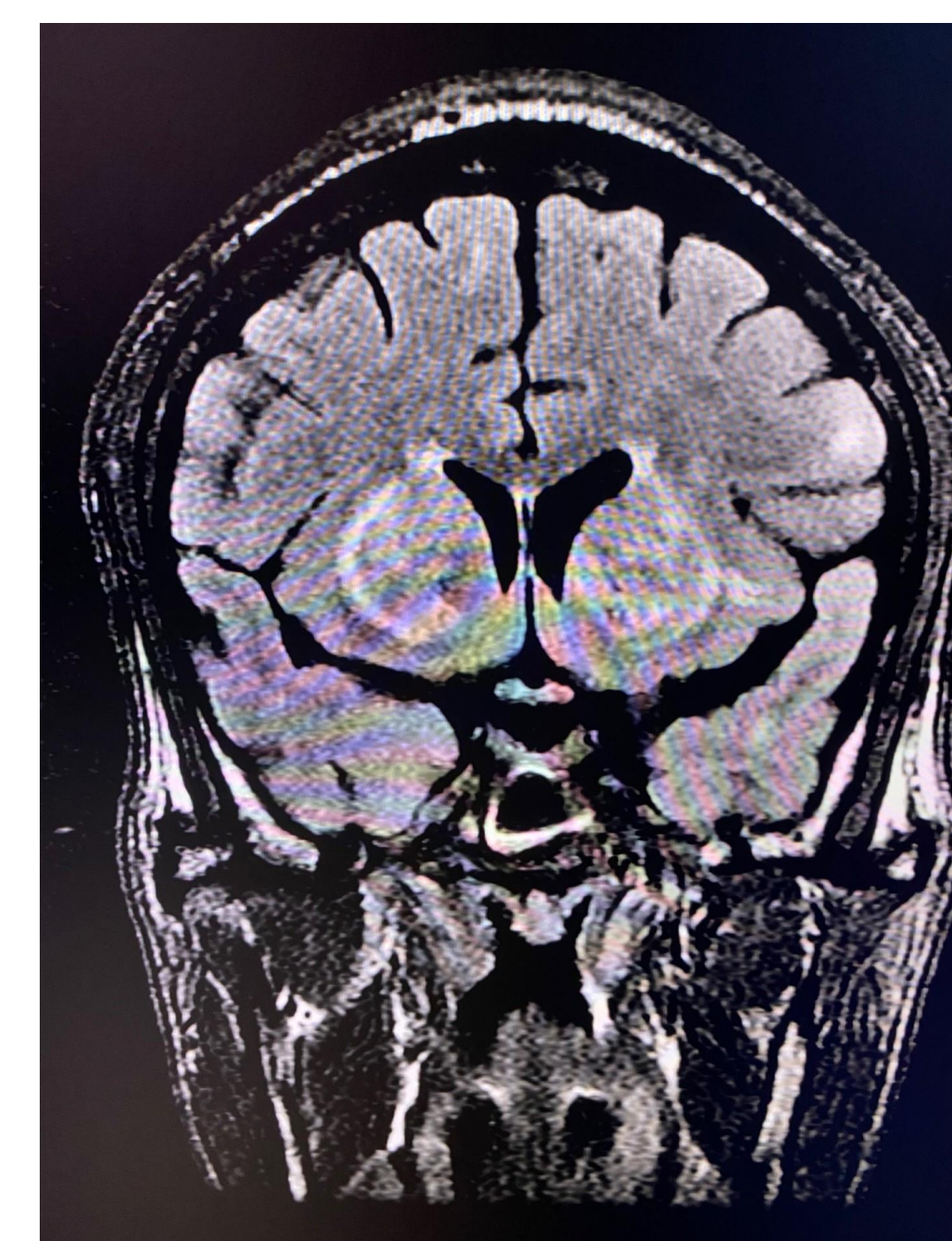
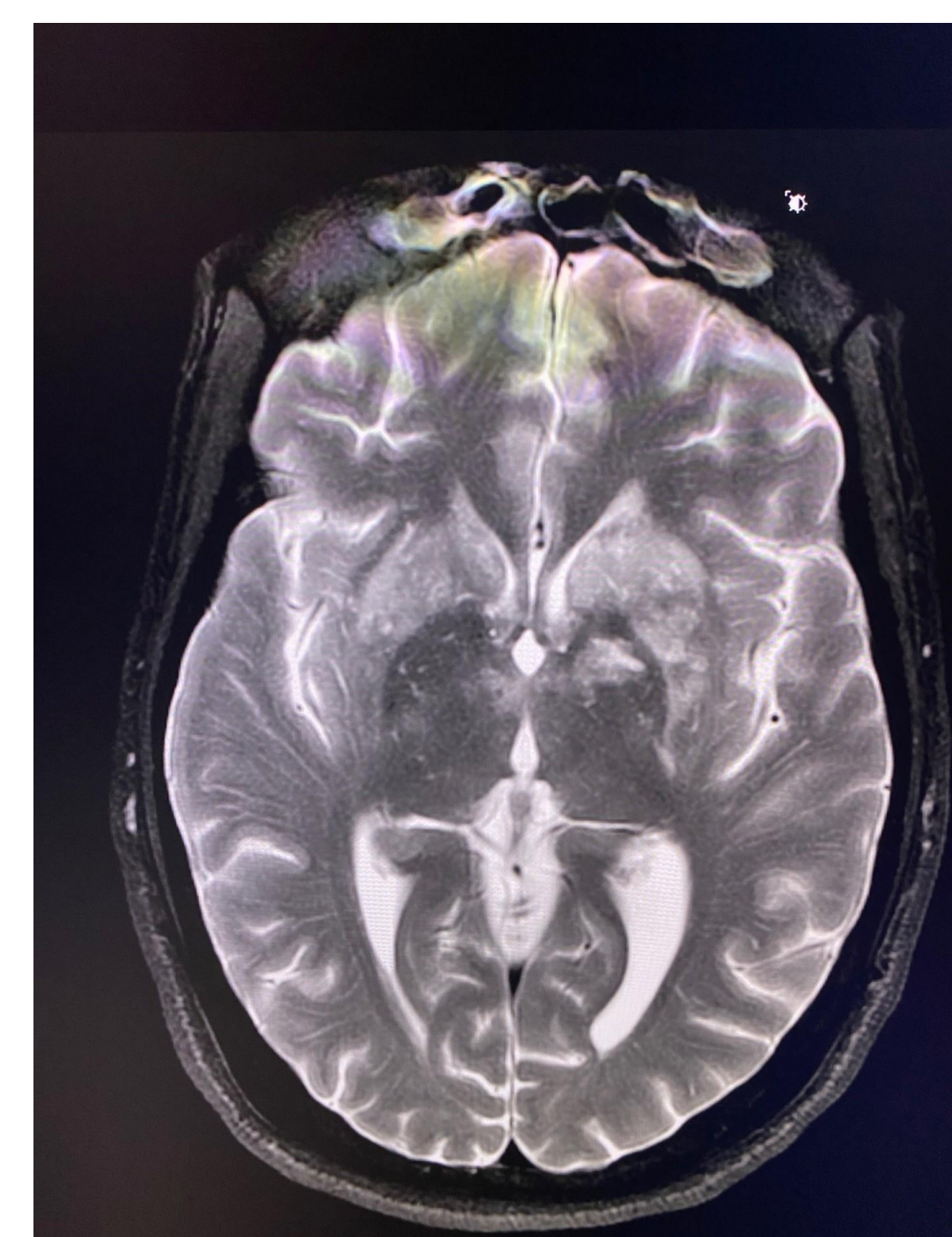
Methods

- **Case Study:** Single case study of a 28-year-old African American male with HIV, presenting with symptoms such as headache, weight loss, seizure, and rapid neurological deterioration.

Results

- **Initial presentation:** Headache, weight loss, and seizure with a CD-4 count of 56 cells/mm³ and HIV viral load of 64,260 copies/mL.
- **CT/MRI Findings:** Small cysts in the basal ganglia with edema. Lumbar puncture revealed elevated intracranial pressure (340 mm H₂O).
- **Seizure and Other Symptoms:** Seizure without tonic-clonic activity, vision loss, and worsening weakness.
- **Laboratory Results:** Positive CSF VDRL (indicating neurosyphilis), and cryptococcus confirmed in blood cultures.
- **Treatment:** Keppra for seizures and amphotericin B/cytosine for cryptococcal infection.
- **Post-Contrast MRI:** Revealed non-enhancing cysts in the right caudate nucleus and left globus pallidus. Basal ganglia edema was observed.

Images



Discussion

- **Diagnostic Challenges:** The overlapping imaging findings in HIV-positive patients make it difficult to distinguish between CNS infections like neurosyphilis and cryptococcal meningitis.
- **Progression:** This case highlights the rapid neurological decline caused by co-infection, underscoring the need for early intervention.

Limitations

- Limited by the single case study format.
- Lack of extensive follow-up imaging data due to the patient's rapid deterioration and transfer to hospice care.

Conclusions

- **Neurosyphilis and Cryptococcal Co-infection:** The co-occurrence of non-enhancing cysts in the basal ganglia with these infections is poorly characterized.
- **Vision Loss:** Likely due to elevated intracranial pressure from cryptococcal meningitis or potential optic nerve involvement from neurosyphilis.

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References:



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