

A Rare Case of Tuberculous Meningitis with Concurrent HHV-7 Encephalitis in an Immunocompetent Host: Radiological Clues to a Diagnostic Challenge

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INTRODUCTION

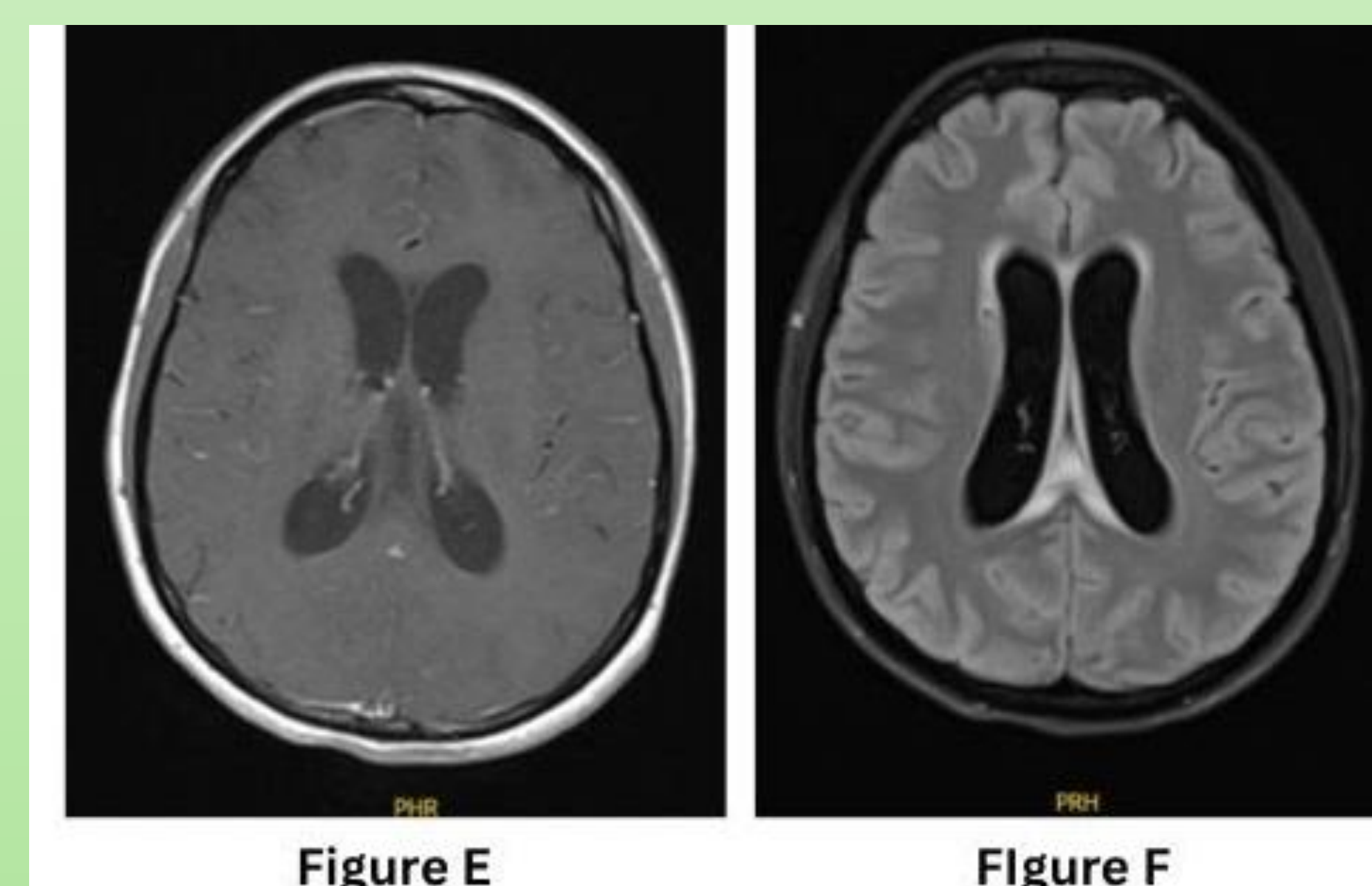
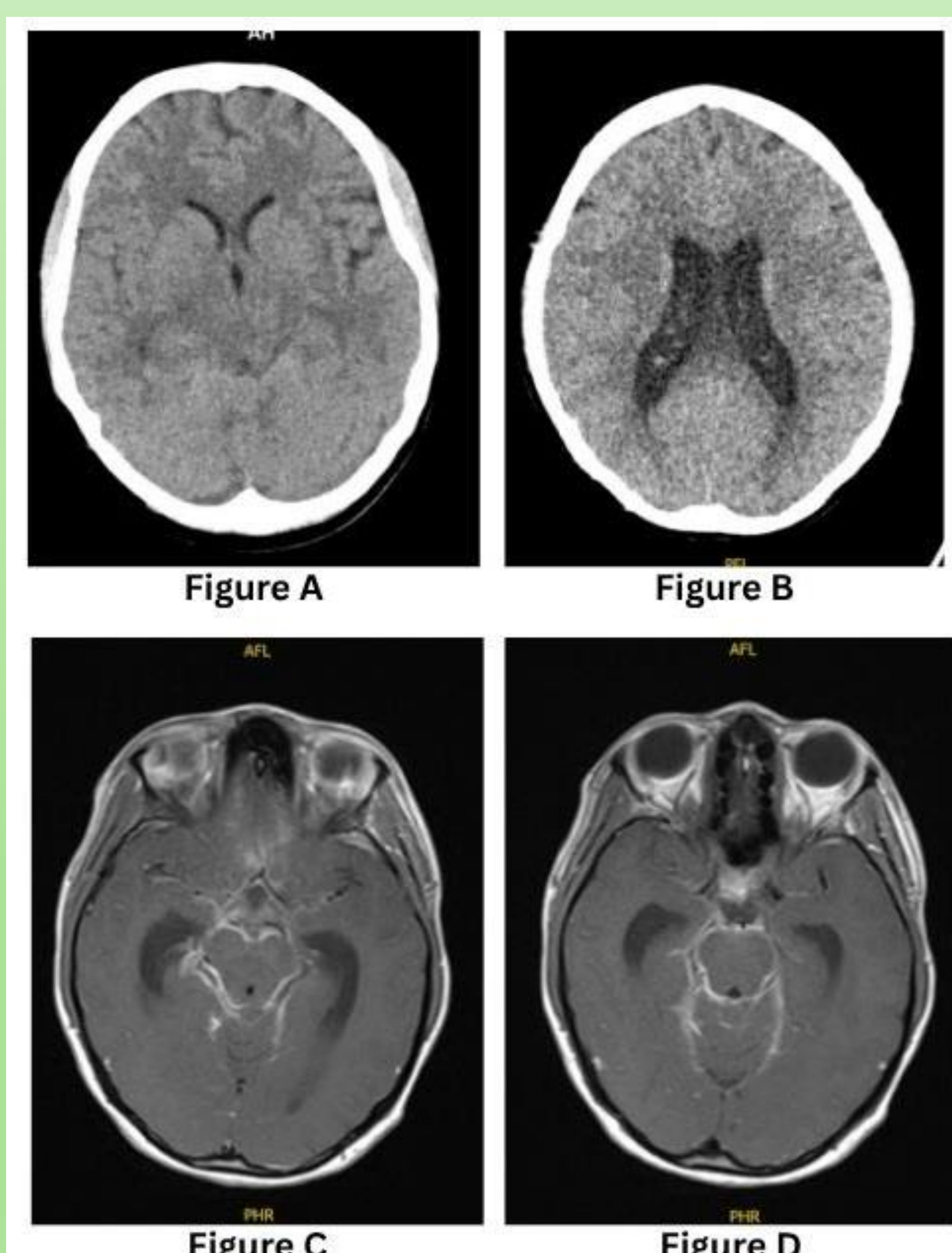
Human herpesvirus 7 (HHV-7) encephalitis is rare in immunocompetent individuals and may clinically mimic tuberculous meningitis (TBM). Magnetic resonance imaging (MRI) plays a vital role in differentiating central nervous system (CNS) infections, particularly when patients fail to respond to standard empirical therapy.

CASE PRESENTATION

A 21-year-old immunocompetent female presented with a two-week history of fever, headache, vomiting, and altered mental status. Examination revealed meningeal irritation signs with a Glasgow Coma Scale score of 13/15. Initial investigations showed leukocytosis, elevated ESR, and cerebrospinal fluid (CSF) features consistent with meningitis. She was empirically started on intravenous ceftriaxone and acyclovir, later escalated to meropenem.

Repeat CSF analysis revealed elevated opening pressure, high protein, and a low CSF:serum glucose ratio. Due to persistent fever and lymphocytic pleocytosis, empirical antituberculous therapy was initiated on day 7. Serial contrast-enhanced CT scans demonstrated progression from cerebritis to obstructive hydrocephalus, necessitating Omayya shunt insertion and intravenous dexamethasone. Despite therapy, her neurological symptoms persisted.

CSF viral PCR was subsequently positive for HHV-7, and MRI brain showed leptomeningeal enhancement involving the basal cisterns, midbrain, and bilateral frontal and temporal lobes, with periventricular T2/FLAIR hyperintensities. IV ganciclovir was initiated on day 11, leading to significant clinical improvement at day 5 of therapy. She completed 14 days of antimicrobial therapy and continued anti-TB treatment for six months.



CONCLUSION

This case highlights the diagnostic complexity of overlapping CNS infections. MRI played a pivotal role in identifying atypical radiological features suggestive of viral encephalitis, supporting the diagnosis of HHV-7 infection and enabling timely, targeted antiviral therapy.