

# Atypical Co-Infection Of Human Herpes Virus 7 Encephalitis In a Young Immunocompetent Female with Tuberculous Meningitis : A Diagnostic Challenge

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Human herpesvirus 7 (HHV-7) encephalitis is rare, particularly in immunocompetent individuals. While HHV-7 virus typically infects children and remains latent, reactivation in immunocompromised adults is more commonly reported. Its pathogenesis in central nervous system infections among immunocompetent hosts remains poorly understood.

## Case Description:

We report a case of a 21-year-old previously healthy female who presented with a two-week history of fever and symptoms suggestive of raised intracranial pressure, followed by acute behavioural changes. She exhibited signs of meningism with a positive Kernig's sign. Lumbar puncture revealed elevated opening pressure, lymphocytic pleocytosis, elevated protein, and a low serum:CSF glucose ratio. Empirical intravenous (IV) ceftriaxone and acyclovir were initiated, followed by escalation to IV meropenem due to persistent symptoms. Contrast-enhanced CT brain showed features of cerebritis. A positive Mantoux test and sustained fever led to empirical anti-tuberculosis therapy on day 7. Neuroimaging revealed non-communicating hydrocephalus, necessitating ventriculoperitoneal shunting and IV dexamethasone the next day. Despite treatment, the patient remained confused by day 9. MRI brain revealed bilateral temporal and frontal lobe hyperintensities with cerebral oedema and basal meningeal enhancement. CSF PCR was positive for HHV-7 and negative for Mycobacterium tuberculosis. A final diagnosis of HHV-7 encephalitis co-existing with tuberculous meningitis was made. The patient showed marked clinical improvement after five days of IV ganciclovir and completed a two-week antiviral course alongside planned six-month anti-TB therapy.

## Conclusion

This case underscores the need to consider HHV-7 as a potential cause of refractory encephalitis, even in immunocompetent individuals, particularly when standard therapies fail.

CSF Summary	3/02/2025	6/02/2025	9/02/2025 (Omayya shunt)
Opening pressure	60cmH2O	13cmH2O	
Glucose	1.3	1.4	2.2
Protein	1.34	1.27	0.77
Albumin	659.7	700.3	397.4
Cell count	0	10	75
Neutrophil	0	10	10
Lymphocyte	0	0	65
C&S	No growth	No growth	-
Fungal C&S	No growth	-	-
MTB C&S	Negative	-	-
MTB PCR	-	Negative	-
AFB	Negative	-	-
Indian Ink	Negative	Negative	Negative
Cytology	No malignant cells		
PCR Panel			Human Herpes Virus 7 - Detected