

Herpes Simplex Virus Encephalitis Mimicking a High-Grade Glioma

Francisco A. De Jesus, MD. Lisa Dever, MD. Christopher Vinnard, MD. Diana Finkel, DO. Esther Nimchinsky MD.

A 62-year-old woman presented with one week of headache, decreased oral intake, and lethargy. Her daughter reported fluctuating mental status without loss of consciousness. Her past medical history included hypertension, hyperlipidemia, hypothyroidism. She was born in Portugal and emigrated to the United States 41 years ago.

On exam, she was febrile (38.3 °C). She was only alert to person, and recognized her daughter. She did not have oral lesions or rash, and there were no focal deficits on neurologic examination. On laboratory studies, the white blood cell count, hemoglobin, platelet count, thyroid stimulating hormone and serum creatinine were all within normal range. Urinalysis was unremarkable, and cultures of blood and urine were negative.

Brain MRI demonstrated a heterogeneously enhancing mass with hemorrhage in the left temporal lobe, extending to the insula, concerning for a high-grade glioma. EEG showed subclinical seizures, and levetiracetam was started. Brain biopsy was held due to persistent fever and an infectious disease consult was performed, which recommended intravenous acyclovir and lumbar puncture. Cerebrospinal fluid studies were notable for WBC 296 cells/mL, RBC count (6,391 cells/mL), glucose 88 mg/dL, protein 169 mg/dL, and an opening pressure of 21 mmHg. Bacterial cultures of CSF were negative. Testing of CSF for herpes simplex virus type 1 by polymerase chain reaction was positive.

The patient received IV acyclovir for 21 days with neurologic improvement. A follow-up brain MRI with spectroscopy was performed, showing a decrease in left temporal pole and insular cortex enhancement, with no spectroscopic signature suggestive of glioma. At 3 months follow-up, she has cognitive sequelae of temporal lobe damage with resultant mild anomia and short-term memory difficulties.

HSV encephalitis has a high mortality if untreated and should be considered among differentials in a person with rapid onset of fever, headache, seizures, focal neurologic signs, and impaired consciousness.

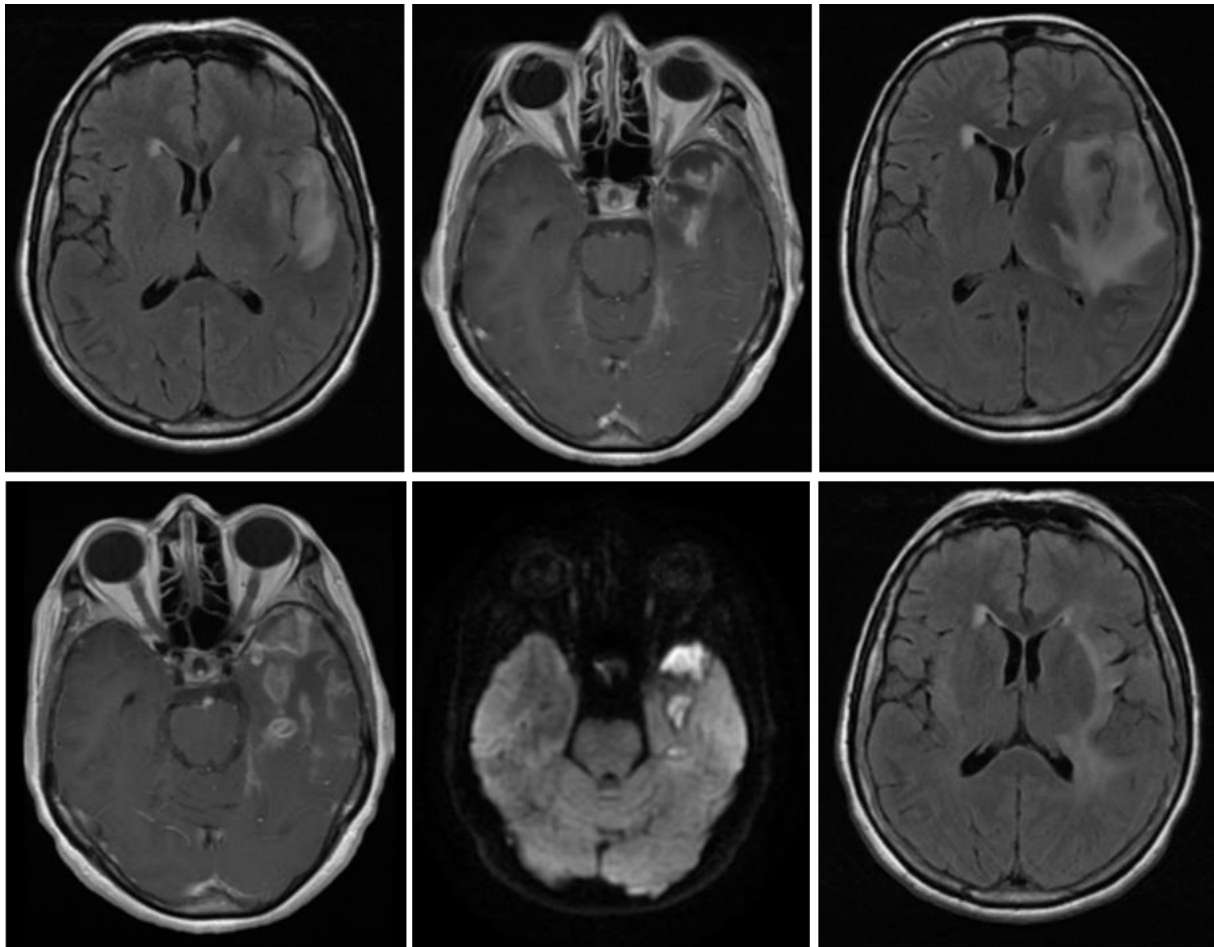


Figure. Initial MRI (A) demonstrates FLAIR abnormality in the left temporal lobe, with heterogeneous enhancement (B), suspicious for high grade glioma. Follow-up MRI 3 days later (C) shows marked worsening, incompatible with glioma. MRI 2 weeks later (D) shows worsening enhancement and new diffusion restriction (E). MRI 2 months after admission demonstrates improvement on the left, but new signal abnormality on the right (F).