

CASE REPORT

BENIGN FORM OF HERPES SIMPLEX ENCEPHALITIS

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Abstract. A 34-year-old woman who presented with only severe headache for 12 days was reported. She was initially diagnosed with cerebral infarction of the right temporal lobe and treated with aspirin, without improvement. On admission, she had bilateral papilledema. Other findings were unremarkable. CT scan and MRI of the brain revealed an area of cerebritis at the right temporal lobe. Lumbar puncture showed high opening pressure with normal CSF profiles. The patient was treated with intravenous acyclovir which gave a favorable outcome.

Herpes simplex encephalitis (HSE) is an acute, rapidly progressive disorder. Most patients have the classic findings of encephalitis including altered consciousness, fever and headache. We reported a case of HSE who presented without impairment of consciousness.

A 34-year-old previously healthy woman was admitted to Srinagarind Hospital in November 2001 with the chief complaint of severe headache for 12 days. Twelve days earlier, she experienced acute onset of headache which was not relieved by analgesic drugs and then about 5 days prior to admission, she was admitted to a provincial hospital. Physical examination was unremarkable. A CT scan was performed, which revealed an area of low-density lesion in the right temporal region. Cerebral infarction was diagnosed and she was treated with aspirin without improvement. On admission, she was alert. Physical examination revealed normal body temperature with bilateral papilledema. General and other neurological examinations were unremarkable.

Complete blood count showed a peripheral white blood cell count (WBC) of 10,900 cells/mm³ with 52% polymorphonuclear cells. Serum glucose, BUN and creatinine, electrolytes, liver function test, VDRL and TPHA, anti-HIV antibody, urinary analysis and chest X-ray were within normal limits. CT scan of the brain demonstrated a finger-like low attenuation involving the white matter with gyral enhancement of the right temporal lobe. The lesion also caused a pres-

sure effect on the right sylvian fissure (Fig 1). MRI of the brain revealed an iso- to hypointense lesions along the cortical gyri of the right anterior temporal lobe and the right basal ganglia on T1W images with hyperintensity on T2W images with gyral enhancement at the affected part of the right temporal lobe (Fig 2). A lumbar puncture showed a clear, colorless cerebrospinal fluid (CSF) with an opening pressure of 360 mmH₂O. The WBC count was 2 cells/mm³. The protein level was 41 mg/dl and the glucose level was 68 mg/dl (simultaneous serum glucose level of 92 mg/dl). Gram's stain, India ink preparation and culture for bacteria were negative.

HSE was diagnosed. The patient was treated with intravenous acyclovir 500 mg every 8 hours for 14 days. The headache gradually improved. On follow-up 2 weeks later, she was healthy and fundoscopic examination revealed no papilledema.

HSE is an important disease characterized by focal hemorrhagic necrosis of the temporal and frontal lobes of the brain. HSE occurs in all ages and in both sexes. Early diagnosis is crucial because there is effective antiviral treatment. Delay in diagnosis may result in permanent neurological damage or death. Specific antiviral therapy with intravenous acyclovir can significantly improve the prognosis. Characteristically, patients have acute onset of fever, behavioral changes, altered mental function and seizure. However, these clinical findings are nonspecific and do not allow for empirical treatment. Brain biopsy with virus isolation has been the gold standard for diagnosis. The most sensitive noninvasive method for early diagnosis is the demonstration of HSV

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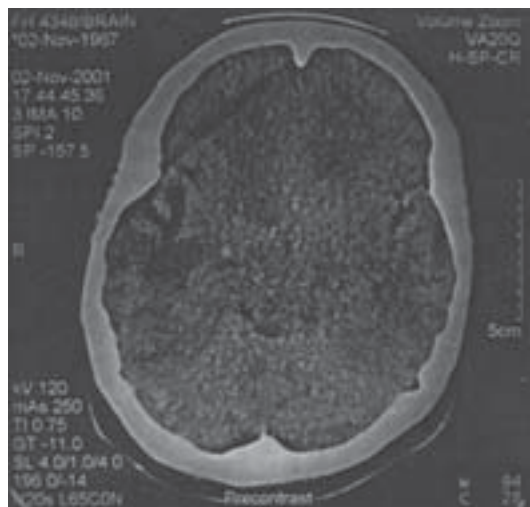


Fig 1—Plain CT scan of the brain revealed a finger-like low attenuation involving the white matter of the right temporal lobe.

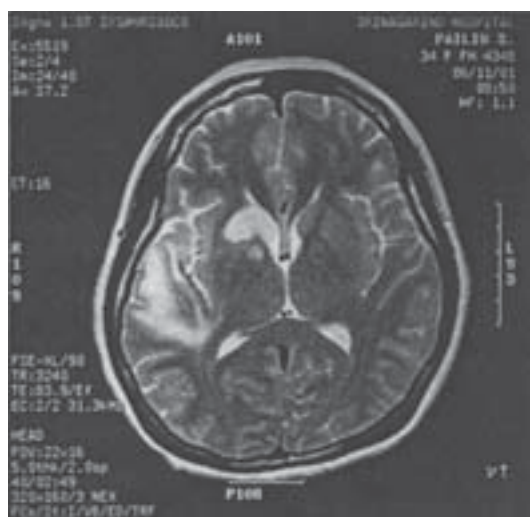


Fig 2—MRI of the brain revealed hyperintensity lesions at the right temporal lobe and the right basal ganglia on T2W images.

DNA in CSF by CPR. Although, fourfold or greater rise in CSF antibody occurs in most cases, it rarely does so earlier than 10 days into the illness. Thus, this test is useful for diagnosis, but only retrospectively. A fourfold rise in serum antibody is neither sensitive nor specific. CSF usually reveals a characteristic of aseptic meningitis

and the presence of CSF red blood cells, which is not diagnostic for HSE. Presumptive diagnosis for treatment can be made on CT scan, EEG and MRI findings. The EEG and MRI are the most likely diagnostic studies to be abnormal at onset and during the first week of infection. CT scan initially shows a low-density area with mass effect and linear contrast enhancement, localized to the temporal lobe, which can progress to hemorrhagic lesion. Infarction and neoplastic lesions such as gliomas, may mimic this pattern. Bitemporal disease is common, particularly late in the disease course. However, the CT scan is often normal during the first week of disease. A MRI scan often reveals focality during the first week of disease, when the CT scan is normal (Whitley and Schlitt, 1991; Jubelt and Miller, 1995; Whitley and Lakeman, 1995; Johnson, 1996; Corey, 2000).

In our hospital, because neither the PCR method nor serology are available, the diagnosis of HSE depends on clinical and imaging findings. Regarding the patient in this report, although she only had the signs and symptoms of raised intracranial pressure without fever and altered mental state, the result of the CT scan and MRI findings suggested HSE. Intravenous acyclovir was given for empiric diagnosis, giving a favorable outcome. From the experience with this patient, the possible diagnosis of HSE should be kept in mind in this clinical setting.

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