Varicella-zoster virus encephalitis resembling herpes simplex virus encephalitis

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DESCRIPTION

An 83-year-old woman with a history of Parkinson's disease developed a low-grade fever for 5 days. Despite oral antibiotic therapy, she was brought to the emergency department due to somnolence and fever (40.2°C). On examination, the patient tested positive for Kernig's sign and Jolt accentuation; further examination revealed reddish rashes with pain on her left hip. Fluid-attenuated inversion-recovery MRI revealed a high-intensity area (HIA) in the bilateral temporal poles (figure 1A). The cerebrospinal fluid (CSF) test revealed elevated total protein levels of 7570 mg/L, cell count of 344/μL (N32/μL, L312/μL) and normal glucose levels. Positive varicella-zoster virus (VZV)-polymerase chain reaction (PCR) (9.4×10^6 copies) with negative herpes simplex virus (HSV)-PCR, anti-N-methyl-D-aspartate, voltage-gated potassium channel and paraneoplastic neurological syndrome antibodies confirmed the diagnosis of VZV limbic encephalitis. After acyclovir infusion for 3 weeks, VZV-PCR results were negative and HIA disappeared (figure 1B). Her consciousness turned clear, and she was transferred to a rehabilitation hospital for the management of disuse weakness in the extremities.

In general, HSV infection is accompanied by limbic encephalitis with symmetrical high-intensity lesions in bilateral temporal lobes.¹ In contrast, VZV infection is rarely accompanied by limbic encephalitis and typically shows asymmetrical, multiple infarcts due to angiitis.¹ Indeed, encephalitis with VZV infection was reported in 5/18 (27.8%) cases, and abnormal MRI findings were reported in 1/2 (50%) cases.¹ Although unilateral temporal lobe lesions have been reported in one case,² there are no reports of symmetrical limbic lesions to our knowledge. Limbic encephalitis may develop due to viruses, autoimmune diseases and

Patient's perspective

(Daughter) I was surprised that consciousness disturbance became progressively severe. However, I am glad that she is doing well at present.

Learning points

- ▶ Symmetrical high-intensity lesions in varicella-zoster virus (VZV) encephalitis are rare.
- ▶ VZV encephalitis must be considered in the differential diagnosis of limbic encephalitis.
- ▶ Diagnostic clues for VZV encephalitis include typical rashes and polymerase chain reaction of skin swab and cerebrospinal fluid samples.

paraneoplastic syndrome. Even with atypical MRI presentation, VZV infection should be considered in the differential diagnosis for limbic encephalitis. The presence of rashes may aid the diagnosis, and a CSF VZV-PCR test should be performed for the definitive diagnosis.

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Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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Figure 1 Brain MRI (fluid-attenuated inversion-recovery) (A) before treatment and (B) after treatment.

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