Headache Medicine

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Headache as an initial manifestation of pneumococcal meningoencephalitis associated with status epilepticus in a postpartum woman: a case report

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Introduction
Headache is a common neurological complaint in emergency departments and usually has a primary cause. However, warning signs suggest serious secondary causes, which require rapid diagnosis and treatment to reduce morbidity and mortality.

Case presentation
A 20-year-old postpartum female patient with a history of chronic migraine began experiencing severe headache in early March 2026, subsequently progressing to a generalized tonic-clonic seizure associated with decreased level of consciousness and fever following the seizure. During prehospital care, she experienced approximately ten reentrant seizure episodes, consistent with status epilepticus. Due to the persistence of the seizures, orotracheal intubation was necessary, and two boluses of diazepam and phenytoin were administered as acute therapy. Upon hospital admission, she remained febrile. Lumbar puncture revealed an elevated opening pressure of 36 cm H_2O. Cerebrospinal fluid analysis showed glucose of 139 mg/dL, chloride of 125 mEq/L, protein of 25 mg/dL and elevated lactate of 42 mg/dL. Microscopic examination revealed no microorganisms, and cerebrospinal fluid bacterial culture was negative. A cranial CT scan showed no acute structural abnormalities. During hospitalization, autoimmune encephalitis was considered as a possible diagnosis but was subsequently discarded following further investigation. The patient received empirical treatment with acyclovir, ceftriaxone, and ampicillin for 10 days. After 20 days, the results of the molecular PCR test on the cerebrospinal fluid were released, showing a positive result for Streptococcus pneumoniae. Currently, her neurological examination shows no focal abnormalities, with preserved speech, muscle strength, sensation, coordination and reflexes. She is taking levetiracetam 250 mg every 12 hours and valproic acid 250 mg every 8 hours, both being gradually tapered off.

Discussion
The case is noteworthy for the initial presentation of headache in a patient with a history of migraine, which could delay suspicion of a serious secondary cause. The rapid progression to fever, decreased level of consciousness and reentrant seizures reinforced the need to investigate central nervous system infection. Although the cerebrospinal fluid showed no pleocytosis and initial cultures did not suggest a bacterial infection, the identification of Streptococcus pneumoniae by PCR underscored the importance of molecular methods in atypical presentations of bacterial meningoencephalitis. Empirical treatment and early recognition of status epilepticus were crucial to the patient's recovery; she was discharged without evident neurological deficits.

Conclusion
Headache associated with fever, altered consciousness or seizures requires immediate investigation for secondary causes. This case highlights the importance of early clinical suspicion, the use of PCR in cerebrospinal fluid in atypical presentations, and rapid treatment for a favorable outcome.

Keywords:
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Status epilepticus

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