A case of brainstem encephalitis presenting with fever, dysuria, and hiccups and diagnosed on day 5 of hospitalization

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Introduction
In meningitis or encephalitis, it is typical to present headache or cerebral dysfunction as a symptom other than fever.

We are reporting one case of encephalitis which took longer than usual to diagnose because it lacked symptoms such as headache or cerebral dysfunction at the onset.

Case presentation
The patient was a 48-year-old man who had recently developed difficulty in passing urine and had a persistent fever since November 12. He had difficulty in walking on November 17, and he thus was brought to the hospital by an ambulance. His bladder was distended, and a bladder catheter was then put in place. We suspected that the patient had acute pyelonephritis with dysuria; therefore, treatment with antibiotics was started. His fever persisted, and he developed persistent hiccups on November 18 and disturbance of consciousness on November 21. A lumbar puncture was subsequently performed and CSF analysis showed an elevated cell count and increased protein levels. We started to treat him with acyclovir and steroid therapy. The fever and disturbance of consciousness temporarily improved during steroid pulse therapy but worsened again. As a result, he was then treated with steroid pulse therapy again, and was treated CTRX and ABPC on November 28. On November 29, he developed apnea. Therefore, he was intubated and put on an artificial respirator. Thereafter, his symptoms gradually improved, and he was extubated on December 13. He was discharged on January 30.

Discussion
In this case, the patient did not have any headache or apparent disturbance of consciousness until day 4 of admission, we could not promptly make a diagnosis. Dysuria, and hiccups are kinds of brainstem symptoms. Since this patient presented with dysuria and hiccups at admission, we should have suspected that he had a central nervous system disorder and proceeded to diagnose him with brainstem encephalitis earlier.