A Man with Fever, Headache, and Confusion

(See page 1834 for Photo Quiz)

Figure 1. Micrograph showing plasma cells in a CSF specimen from a lumbar puncture

Diagnosis: West Nile virus meningoencephalitis with acute flaccid paralysis and parkinsonism.

CSF revealed significant plasmacytosis (plasma cell percentage, 40%) and moderate pleocytosis (figure 1). CSF was positive for West Nile virus IgM antibodies by ELISA capture technique, which is pathognomonic for diagnosis [1, 2]. CSF studies for herpes simplex virus, varicella zoster virus, cytomegalovirus, cryptococci, Borrelia burgdorferi, and Ehrlichia species were performed, as well as culture for mycobacteria, and all results were negative.

CSF plasmacytosis is distinctly unusual. It has been reported in patients with multiple myeloma, leukemia, and lymphoma but not, to our knowledge, in patients with lung cancer [3]. A recent case series reported 4 cases of West Nile virus encephalitis with striking CSF plasmacytosis [4]. These data, together with the findings for our patient, suggest that, in the presence of an appropriate exposure history, the finding of CSF plasmacytosis in patients with meningitis and/or encephalitis should alert physicians to the possibility of West Nile virus infection. There have also been case reports of CSF plasmacytosis with other viral meningoencephalitides, such as infections with enterovirus, Coxsackie virus, measles virus, mumps virus, HIV, and herpes zoster virus [5, 6]. However, these infections are only associated with mild CSF plasmacytosis (plasma cell percentage, 1%–6%). CSF plasmacytosis has also been rarely reported in cases of neuroborreliosis, neurosyphilis, tuberculous meningitis, and neurocysticercosis [7, 8].

Our patient’s fever resolved, and his mental status returned to normal after 2 days. His parkinsonism symptoms gradually lessened but still persisted 9 months after the initial presentation.

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References