

Table 10-12: Major CNS Manifestations of HIV Infection

Diagnosis	CD4 Cells/μl	Symptoms	Signs	Diagnostic Studies
BRAIN				
Neurosyphilis	Any	Headache Memory loss Visual disturbances	Dementia Stroke Meningeal or myelopathic signs Cranial nerve palsies	CSF: increased leukocyte count, increased protein; CSF and serum: VDRL, FTA
<i>Cryptococcus neoformans</i> meningitis	<200	Headache Neck stiffness Memory loss Lethargy Confusion	Fever Meningeal signs Cranial nerve palsies	CSF: India ink; CSF and serum: <i>cryptococcus neoformans</i> antigen and culture
HIV-associated dementia	<200 (occasionally higher)	Memory loss Gait disorder Behavioral change	Dementia Spasticity Psychosis	CT/MRI: brain atrophy, white matter abnormalities; Neuropsychologic studies
Toxoplasma encephalitis	<200	Headache Confusion Lethargy Seizures Focal weakness	Dementia Ataxia Hemiparesis Aphasia Visual field loss	Serum: Toxoplasma antibodies; CT/MRI: multiple enhancing lesions, edema

Table 10-12: Major CNS Manifestations of HIV Infection (continued)

Diagnosis	CD4 Cells/μl	Symptoms	Signs	Diagnostic Studies
BRAIN (continued)				
CNS lymphoma	<100	Headache Confusion Lethargy	Dementia Hemiparesis Aphasia Memory loss Seizures Weakness	CT/MRI: enhancing lesions (especially if single), edema; SPECT/PET: tracer uptake; stereotactic brain biopsy; CSF: EBV PCR
PML	<200 (occasionally higher)	Weakness Aphasia Visual loss Focal weakness Gait disorder	Hemiparesis Ataxia Aphasia Visual field loss	CT/MRI: multiple hypodense, nonenhancing white matter lesions; stereotactic brain biopsy; CSF: JC virus PCR
CMV encephalitis	<50	Progressive confusion Apathy Weakness	Dementia Cranial neuropathies Spasticity Retinitis	CT/MRI: periventricular and meningeal abnormalities; CSF: CMV culture/PCR, electrolyte abnormalities
SPINAL CORD				
Vacuolar myelopathy	<200	Gait dysfunction Lower extremity weakness and stiffness Urinary dysfunction Impotence	Spastic paraparesis Hyperreflexia Babinski sign Sensory abnormalities	MRI/CSF: normal or nonspecific abnormalities; SEP: central conduction abnormalities

CMV: cytomegalovirus; CSF: cerebrospinal fluid; CT: computed tomography; EBV: Epstein Barr virus; FTA: fluorescent treponemal antibody; MRI: magnetic resonance imaging; PCR: polymerase chain reaction; PET: positron emission tomography; SEP: somatosensory evoked potentials; SPECT: single photon emission computed tomography; VDRL: venereal disease research laboratory test.

Source: Simpson, DM. Update on neurological complications of HIV (Monograph). Bristol-Meyers Squibb, p 3. Monograph based on Simpson DM, Tagliati M. Neurological manifestations of HIV infection. *Ann Intern Med* 121:769-85, 1994. [Published erratum appears in *Ann Intern Med* 122:317, 1995.]