Asymptomatic HIV positive patient presenting with myelopathy

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ABSTRACT

A wide variety of disorders of diverse pathogenic mechanisms can trigger spinal cord dysfunction in HIV-1-infected patients. The most common such condition is HIV-1-associated myelopathy (HAM) which characteristically occurs during advanced HIV infection in patients with low CD4 cell counts and previous AIDS-defining diagnoses. Histologically, HAM is seen in approximately 30% of AIDS patients, but only 10% have clinical symptoms related to the disease. We describe an unusual case of HAM in previously asymptomatic patient with relatively low CD4 cell count (78 cells/mm³). The patient unaware of her seropositive status presented with a clinically slowly progressive myelopathy with difficulty in walking without assistance. We discharged a patient on antiretroviral therapy. We also review the disorders reported to derange spinal cord function in previously asymptomatic HIV-1 infected patients with preserved counts.

Key words: Anti-retroviral therapy, CD count, HIV, myelopathy, spinal cord

INTRODUCTION

Spinal cord disorders seen during advanced HIV infection. The most common is HIV-1 associated myelopathy (HAM), also referred to as vacuolar myelopathy. HAM characteristically occurs in association with advanced HIV-1 disease in patients with low CD4 cell counts and previous AIDS-defining illnesses. It is characterized by the slow development of spastic paraparesis, painless gait difficulty, sensory ataxia, knee hyper-reflexia, extensor plantar response, impaired proprioception and vibration sense and sphincter dysfunction. Pathologically, it is characterized by the development of vacuoles in myelin sheaths, due to the accumulation of lipid-laden macrophages and microglia, with relative axon sparing. These changes can be found throughout the dorsal and lateral columns, but they tend to occur mostly at the thoracic level of the spinal cord.

Since the introduction of highly active antiretroviral therapy (HAART), fewer than 10% of AIDS patient develop HAM. Isolated case reports showing clinical and radiologic improvement with HAART have been described. We describe an unusual presentation of a clinically severe HAM in a previously asymptomatic patient with low CD4 cell counts. She was then started on HAART.

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CASE REPORT

A 28-year-old previously asymptomatic female presented with 3 months history of insidious onset, gradually progressive difficulty in walking. There was no history of drug abuse and previous history of same illness. She was a housewife and apparently asymptomatic before she suffered from this neurological disorder. She had been seen at another hospital when the neurological dysfunction started, but no clinical improvement seen with symptomatic treatment.

Her husband was a truck driver from last 10 years clinically healthy. She has one 5-year-old daughter. Apart from the neurological complaint, the patient was otherwise healthy. Neurological examination revealed power normal in upper limbs and grade 2/5 in lower limbs. Bladder and bowel were also involved. Reflexes were exaggerated in all joint with ankle clonus in both lower limbs. Plantar responses were bilateral extensor. Sensory examination revealed loss of position and vibration sense in both feet without any sensory level. Upper limbs examination was normal apart from brisk reflex. Higher motor function and cranial nerve examination were also normal. The rest of the examination was unremarkable. She was unaware of her serology status and tested positive for HIV-1 antibodies. She was then registered to antiretroviral therapy center. Her CD4 cell count was 78/mm³. Her husband was also tested and found to be positive for HIV-1 antibodies. Her routine hematological, biochemistry and chest X-ray were normal. A magnetic resonance imaging (MRI) scan of the spinal cord (with gadolinium contrast) was normal. MRI scan of the brain was also normal. Cerebrospinal fluid studies were nonspecific (mononuclear cells 04 cells/mm³, protein 40 mg/dl and sugar 68 mg/dl) tested negative for human T-cell lymphotropic viruses type 1 and 2 (HTLV-1 and 2) enzyme-linked immunosorbent assay (ELISA), neurosyphilis, and mycobacteria. ELISA-based serological tests for cytomegalovirus (CMV), herpes simplex virus (HSV), HTLV 1 and 2 and syphilis were all negative. Serum Vitamin B12 level was 538 pg/ml. The folic acid level was normal. Patient discharged on anti-retroviral therapy.

DISCUSSION

AIDS-associated vacuolar myelopathy is known since 1980’s. The pathogenesis of HAM remains elusive, with no evidence for a direct effect of HIV on the spinal cord. [6] Pathologic abnormalities of HAM were found at autopsy in 22–55% of patients with advanced HIV infection but only 20–60% of them developed clinical sign symptoms during their life. [7] HAM is a diagnosis of exclusion using CSF studies, serology, and imaging studies. Slowing or absence of waves in the SSEP also supports the diagnosis. [8] Our patient presented with paraparesis and sign of noncompressive myelopathy is quite characteristic of HAM. Other differential diagnoses were ruled out before diagnosis was confirmed. These include infections caused by CMV, HSV-2, HTLV 1 and 2, toxoplasma, tuberculosis and syphilis, as well as Vitamin B-12 deficiency, lymphoma, multiple myeloma, ischemia and spinal cord compression. [8] In the present case, all these conditions were excluded. Neurophysiologic tests could not be carried out. MRI was done to rule out other extrinsic or intrinsic processes, such as lymphoma, primary or metastatic neoplasm, tuberculosis, toxoplasmosis, and other opportunistic infections. [9] MR findings in the spinal cord can be abnormal in the majority of patients with AIDS-associated myelopathy, typically showing spinal cord atrophy, with or without intrinsic cord signal abnormality. However, in many HAM cases, MRI is found normal. In our case, MRI spine with contrast was normal. Patient positive serology for HIV 1 infection confirmed our diagnosis. Only one case report showing HAM as the first symptom of HIV infection in a patient with preserved CD4 count. [10] Our patient is the first case with low CD4 count (78 cell/mm³) who presented with the first feature of HIV as myelopathy. There has been no proof that HAART therapy improves outcomes once myelopathy has been established. Although a few case reports have shown improvement with therapy with early diagnosis of HIV and its management many AIDS-related complication has been reduced, so as HAM. This may be the reason of decrease awareness about this complication in today’s world. Thus our case highlights this infrequently but yet seen complication of HIV/AIDS.

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Conflicts of interest
There are no conflicts of interest.

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