

PARAPARESIS IN A PATIENT WITH ADVANCED HIV DISEASE WITHOUT MANIFESTATIONS OF OPPORTUNISTIC INFECTION

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ABSTRACT

HIV infection had been associated with many symptoms and signs but the least expected is paraparesis in the absence of constitutional clinical features. This case presentation is to highlight the unusual presentation of a 43 year old who presented with difficulty in walking due to gradual weakness in his lower limbs (more on right than left) and difficulty in passing urine of 8 months duration. All the common symptoms and signs associated with advanced HIV infection were absent. Urethroscopy and prostate biopsy were done and showed normal findings. Cranial computerised tomography (CT) scan finding was normal, but lumbo-sacral Magnetic Resonance Imaging (MRI) showed degenerative disease suggestive of immunosuppression. HIV screening (Unigold and ELISA) and HIV confirmatory tests were done that showed reactivity to HIV-1 antibody and CD4 count and plasma viral load results were 226 cells/mm³ and 126,000 copies/ml respectively. The patient was commenced on antiretroviral therapy and paraparesis started resolving.

Keywords: HIV infection, Constitutional symptoms, Urinary obstruction, Immunological parameters

INTRODUCTION

Since 1981 when Human immunodeficiency virus (HIV) was isolated from patients with opportunistic infections and Kaposi sarcoma, there are over thirty million of people living with this dreadful virus (Barre-Sinoussi *et al.*, 1983; Gallo *et al.*, 1983; UNAIDS, 2017). It was estimated that no infectious organism has claimed more lives in history than HIV (UNAIDS, 2018). It was reported that about two-thirds of people living with HIV/AIDS are from sub-Saharan Africa. Although public awareness and other measures had reduced the spread of HIV infection, the burden is still high in sub-Saharan Africa (UNAIDS, 2017).

HIV targets immune cells and uses the host cell components to multiply. Completion of multiplication processes and subsequent budding of the newly produced HIV cells (virions) from host immune cell results in death (lysis). The newly produced virions readily infect new target immune cells resulting in depletion of CD4 expressing cells. Reduction in immune cells caused by HIV infection is associated with opportunistic infections that usually lead to constitutional clinical features (Abbas *et al.*, 2000; Kindt *et al.*, 2007).

The clinical features of advanced HIV infection vary but weight loss, fever, cough, diarrhoea and fungal infection manifestation are commonly observed. World Health Organisation (WHO) and Centre for Disease and Control (CDC) developed staging criteria based on common clinical features. WHO and CDC staging criteria had been helpful as a guide especially during the period that CD4 count and HIV-RNA (viral) load were not readily available to physicians (CDC, 1993; WHO, 2007). Because the burden of HIV infection is associated with reduction and subsequent deficiency of immune cells, clinical manifestation differs in many ways in patients. The clinical presentation of HIV infection at early or advanced stage is not commonly associated with isolated neurological deficits in lower limb with absence of constitutional symptoms or signs.

The unusual clinical features of urinary obstruction in a middle-aged male patient without urethral stricture, trauma or malignancy initiated extensive investigation that led to association of HIV infection and compression syndrome secondary to opportunistic infections as presented in this case report.

CASE PRESENTATION

OR is a 43 year-old man that presented in a private hospital with history of painful micturition and poor urinary stream (4 years duration), severe low back pain and right lower limb weakness of 2 years duration. There was neither history of urethral discharge nor bleeding during or without ejaculation. There was neither previous history of trauma or instrumentation in abdomen nor perineal surgical procedure. There was history of occasional abdominal swelling with hiccups that may last for 2-3 days before spontaneous resolution. The patient was well built (body mass index of 28.5) not in obvious distress, afebrile and anicteric. Chest, abdomen and rectal examinations were essentially normal. There was neither muscular atrophy nor obvious physical deformity at the back in both erect and supine position. However, there was mild loss of sensation to fine touch. There were reduced power movement at both lower limbs more on the right (3/5) than left (4/5). He was treated for sexually transmitted diseases (STD) by a chemist/pharmacist about 5 years prior to presentation. The persistence of the symptoms coupled with staggered gait while walking, he presented at tertiary health facilities where he had retrograde urethro-cystogram (RUCG) and prostate biopsy. These procedures were followed with urinary retention thus catheterisation. Subsequent catheterisation following these procedures was

associated with persistent mucoid and blood stained discharge especially immediately after removing catheter. Cranial computed tomography scan (CT) was done and lumbo-sacral magnetic resonance imaging (MRI) was requested.

RESULTS

The results of the investigation done are as presented below:

Full blood count

PCV – 33%

White Blood Cell count (WBC) – 4,700/mm³

N- 62%

L – 36%

Monocyte – 2%

Platelet count – 287,000/mm³

PSA less than 2.0ng/ml (0-4)

RBS 129mg/dl (80-180)

HIV test – Reactive

HIV confirmatory test – Positive for HIV-1 antibody

HIV (RNA) load –126,000 copies/ml

CD4 count – 226 cells/ μ L

X-ray (Chest and lumbosacral) – Normal

Sputum AAFB – Negative

Cranial CT, and lumbo-sacral MRI films and reports (Fig.1 and Fig. 2)



Figure 1: (Lumbosacral MRI): The arrow is pointing to desiccated disc with reduction in height and theca space indentation at L3/L4



Figure 2: Herniated disc material to inferior facet of L3 Schmorl's node.

Cranial CT Report (Non-Contrast and Contrast Enhanced)

The scannogram demonstrates normal skull vault. Overlying soft tissue shadows are within normal limits. Axial slices revealed mild cerebral atrophy involving the occipital lobes bilaterally evidenced with prominent sulci. The rest of the cerebral hemispheres, brainstem, basal ganglia and the thalami are within normal limits. The ventricular system and the cisterns are also within normal limits. The pituitary gland and the orbital contents are also within normal limits. The brainstem and the cerebellar hemispheres are also within normal limits. There is left concha bullosa on the middle turbinate on the left ethmoidal air cells (normal variant), the other paranasal sinuses and the mastoid air cells are within normal limits. The bone window is also within normal limits.

Impression: NORMAL STUDY

Lumbosacral MRI Report

There is straightening of the normal lumbar lordosis probably due to pain from muscle spasm. The L3/L4 disc is reduced in height and demonstrated low signal intensity on T2 weighted image due to dessication. There is also disc bulge at this level with anterior indentation of the theca space. Herniation of disc material into the inferior facet of L3 vertebral

also noted (Schmorl's node). There is mild nerve compression at the disc level on the right side at L3. The other demonstrated discs are relatively within normal limits. The cord also demonstrate normal signal. The ligamentum flava appear within normal limits. Diffuse area of increase signals on the vertebrae was due to early degenerative changes. The prevertebral soft tissues are within normal limits.

FINDINGS: L3 disc dessication, reduction in height and nerve compression. Diffuse vertebral bones degenerative changes.

IMPRESSION:

Degenerative disc disease in a middle-aged man.

Immunosuppressive changes are highly implicated. Clinical and laboratory evaluation of the immune state advised.

COMMENTS

The clinical presentation of advanced HIV infection is usually associated with constitutional symptoms. Neurological problems presented by this patient were due to immunosuppression associated with advanced stage HIV infection thus leading to associated degenerative changes in sacro-lumbal region of the spine. The uncommon presentation in this patient led

to delay in commencing treatment. There are many cases of HIV infections that would be missed if HIV screening will be requested by clinicians only because of constitutional symptoms or signs. The use of magnetic resonance imaging (MRI) and computerised tomography (CT) scan in management is not affordable and available to many patients especially in rural areas therefore missing the opportunity of correct diagnosis of established HIV infection and prompt management. WHO (2016) policy that all HIV patients should be commenced on highly active antiretroviral therapy (HAART) irrespective of CD4 count will achieve desired goals if correct diagnosis could be made as early as possible.

The differential diagnosis of prostate neoplasia with or without urethral stricture secondary to sexually transmitted infection (STI) because of associated bladder outlet obstruction in a sexually male active middle aged adult is not uncommon. Prostate cancer metastasis to bone especially vertebral column may occur but normal value of prostate specific antigen (PSA), normal rectal examination, urethroscopy and prostatic biopsy concluded the exclusion of underlying malignancy and STI. The bladder outlet obstruction and paraparesis in this patient were due to compression syndrome caused by immune-suppression HIV infection is closely related to tuberculosis in presentation. In the era of high scourge of tuberculosis infection, paraparesis or paraplegia in the absence of constitutional symptoms like cough and fever may make clinicians consider Koch's disease as a provisional diagnosis because of well documented literature about this unusual presentation. There is no doubt that similarity of tuberculosis and HIV infection in presenting symptoms and signs may relate well with paraplegia and paraparesis thus high level of clinical suspicion is required to make correct diagnosis. Thus the earlier the correct diagnosis of HIV infection is made, the better the likely outcome for the patient.

Although the CD4 count and viral load of this patient were not severely bad but the clinical presentation is of advanced HIV infection because of neurologic deficits (WHO, 2007). Therefore there is need for high index of suspicion to be able to diagnose advanced HIV infection with unusual clinical manifestation. This patient's case supported the World Health Organisation

reports on new cases and deaths related to HIV infection (UNAIDS, 2018). It is highly advisable to screen for HIV infection in patients with neurologic deficits despite non-constitutional symptoms and signs associated with HIV infection.

DECLARATION

We declared that there is no conflict of interest in this publication

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RECOMMENDATION

We highly recommend that any patient with paraparesis with or without unexpected bladder obstruction should be screened for HIV infection

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