

CASE REPORT

YOUNG ONSET PARKINSONISM SECONDARY TO HIV INFECTION: A CASE REPORT

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ABSTRACT: INTRODUCTION: AIDS was first recognized in United States in the summer of 1981, when the U.S. Centers for disease control and prevention (CDC) reported the unexplained occurrence of pneumocystis jiroveci pneumonia in five previously healthy homosexual men in LA and Kaposi's sarcoma with or without P. jiroveci pneumonia in 26 previously healthy homosexual men in NY and LA. The disease was soon recognized in male and female injection drug users, in hemophiliacs and blood transfusion recipients; among female sexual partners of men with AIDS; among infants born to mothers with AIDS or with history of injection drug use. A clinician should view HIV disease as a spectrum ranging from primary infection, with or without the acute syndrome, to the asymptomatic stage, to advanced stages associated with opportunistic diseases. **CASE PRESENTATION:** We present an unusual case of Parkinsonism secondary to HIV infection. A 36years old female had been diagnosed with HIV, after one and a half years she subsequently developed Parkinsonism features. **CONCLUSION:** In the wake of numerous opportunistic infections and other diseases associated with HIV infection it is important to recognize Parkinsonism early and initiate treatment for improving the quality of life of the patient.

KEYWORDS: Parkinsonism; HIV; Opportunistic infections.

CASE PRESENTATION: A 36 year old female from Burdwan district of West Bengal presented to the OPD of VIMS & RC in Nov. 2013 with complaints of involuntary movement of the hands along with loss of appetite, weight loss, generalized weakness and features suggestive of frequent respiratory tract infection. She was a known to be HIV positive since 2 years and on treatment from past 2 months. Patient was a homemaker and her husband a laborer (at tiles factory) by occupation, who was also HIV positive from past 4 years and on treatment since then.

Clinical examination of the patient showed she had oral temperature of 100 degrees F, pulse rate of 108/min, blood pressure 110/70 mmHg in the left upper limb in supine position, along with severe pallor. Examinations of respiratory system and per abdomen were normal. Cardiovascular system examination revealed sinus tachycardia and ejection systolic murmur at pulmonary area. On CNS examination, mask facies, reduced arm swinging, bradykinesia, tremors, cogwheel rigidity were elicited.

We subjected the patient to various relevant biochemical and hematological investigations along with chest x ray, Serum ceruloplasmin level and MRI brain.

She had a hemoglobin level of 5 gm/dl, total count of 2390 cells/cumm, peripheral smear revealed dimorphic anemia of severe degree with leucopenia. Liver, renal and thyroid function tests were normal. MRI brain (Fig. 1- Flair, Fig. 2 - T2W image), and chest x ray were normal (Pulmonary TB was excluded) and serum ceruloplasmin level was within normal range.

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Patient was put on oral antibiotics, received iron transfusion along with vitamin B12 supplements. She was advised to continue ART which she was already on (Tab. Lamivudine and Tab. Tenofovir disoproxil fumarate 300 mg/300 mg OD and Tab. Nevirapine 200 mg BD). Patient was started on Tab. Paciten 2 mg OD in view of Parkinsonism.

BACKGROUND: HIV is the etiologic agent of AIDS which belongs to the family of human retroviruses (Retroviridae) and the subfamily of lentiviruses. HIV infected individual with a CD4+T cell count of <200 microliter has AIDS by definition regardless of the presence of symptoms or opportunistic diseases. HIV infection/AIDS is a global pandemic with cases reported from virtually every country. Although AIDS epidemic was first recognized in the United States and shortly thereafter in western Europe, it very likely began in sub Saharan Africa, which has been particularly devastated by the epidemic. The populations of many Asian nation are so large (esp. India and china) that even low infection and prevalence rates result in large number of people living with HIV.⁽¹⁾

Parkinsonism is a clinical syndrome and typically when the condition appears to be idiopathic and in particular responds to levodopa therapy; it is referred to as Parkinson's disease.

Diagnosis of Parkinsonism (Parkinson's brain bank criteria:

- 1) Essential features- bradykinesia and two of the following
 - Tremor (resting) &/or
 - Rigidity (cogwheel or lead pipe)
 - Postural imbalance, fixed stooped posture
 - Gait difficulty (shuffling, short stepping gate with or without festination).
- 2) Additional features- hypomimia (masked face), freezing episodes (sudden onset failure movement), and seborrhea of the scalp, mental or cognitive disturbances.

Here the main pathological feature is degeneration of neuromelanin-containing neurons in the pars compacta of the substantia nigra, which leads directly or indirectly to excessive inhibition of the thalamus and consequent bradykinesia. There are no specific tests for Parkinson's disease and diagnosis remains clinical.⁽²⁾

In one study where 593 Parkinson's disease patients were studied and were divided into young onset (<50 years), middle onset (50-69 years) and late onset (equal to or more than 70 years), where middle onset was the largest group (51%) followed by late onset (39%) and then the young onset groups (10%).⁽³⁾

In one comparative study, 46 patients were found to have onset of Parkinson's disease before age 45 years and 52 having onset after age 70. Young onset cases more often presented with muscular stiffness (43%) and old onset with difficulty walking (33%). Presentation with rest tremor occurred in 41% of young onset and 63% of old onset.⁽⁴⁾

In one study, 149 patients with apparent idiopathic parkinsonism starting before the age of 40 years, were studied out of which 10 had juvenile parkinsonism (onset before age 21 years) and 139 had young onset Parkinson's disease(YOPD) (21 to 40 years). In the YOPD group, the mortality risk was double that of the normal population.⁽⁵⁾

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Concerns are growing that the multimorbidity associated with HIV disease could affect healthy ageing and overwhelm some healthcare system, particularly those in resource limited regions. For the patients who are motivated to take therapy and who access to lifelong treatment, AIDS related illnesses are no longer the primary threat, but a new set of HIV associated complications have emerged resulting in a novel chronic disease.⁽⁶⁾

Patients with AIDS are at risk of developing an akinetic Parkinsonism, and this may be another primary HIV induced syndrome.⁽⁷⁾

Numerous viruses can enter the neurosystem i.e. they are neurotropic and induce a number of encephalopathies. One of the secondary consequences of these encephalopathies can be Parkinsonism that is both transient as well as permanent. Viruses known to induce Parkinsonism include Coxsackie, Japanese Encephalitis, St. Louis, West Nile, and HIV.⁽⁸⁾

A study was conducted at clementine Fraga Filho University Hospital (Department of Neurology), Brazil from 1986 to 1999, 2460 HIV inpatients were seen out of which neurological abnormalities were detected in 1053 (42.8 %) patients. In this group, 28 (2.7%) had involuntary movements, 14 (50%) with secondary Parkinsonism.⁽⁹⁾

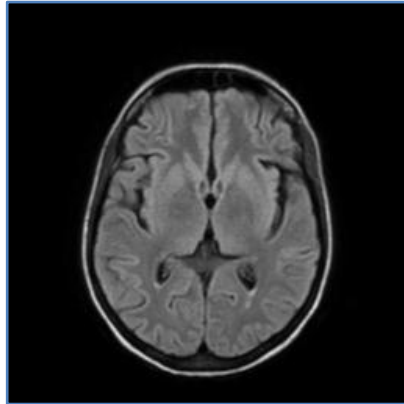
A clinical comparative study was carried out before and after HAART. In the pre HAART era (1986-1999), out of 2460 HIV-positive patients, 14 (0.6%) presented with Parkinsonism while in post-HAART era (2000-2007), out of 970 HIV-positive patients only two (0.2%) had Parkinsonism. This study concluded that after the introduction of HAART there was an evident decrease in AIDS-related Parkinsonism.⁽¹⁰⁾

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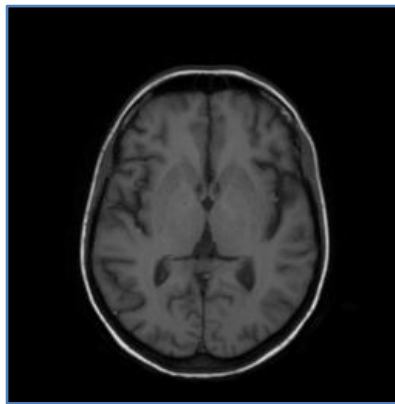
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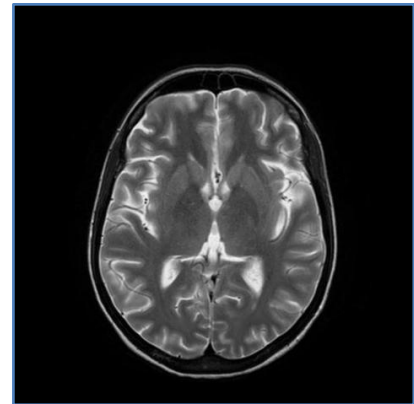
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MRI Brain - Flair



T1W Image of MRI brain



T2W image of MRI brain

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