



Neurological Manifestations in Patients of HIV/AIDS: A Study in A Tertiary Care Hospital

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Abstract

HIV/ AIDS has posed many unprecedented challenges. It causes a wide spectrum of disease manifestations. Neurological diseases is the first manifestation of symptomatic HIV infection in roughly 10- 20% of patients, while about 60% of patients with advanced HIV disease will have clinically evident neurological dysfunction during the course of their illness.

Objectives

To study the neurological manifestations in patients with HIV/AIDS attending the ART Clinic in Pt Jawahar Lal Nehru Medical College & Dr B R Ambedkar Hospital Raipur, Chhatisgarh.

Materials & Methods

A total of 102 patients already on different regimens of Anti retroviral therapy, were enrolled in the study attending the ART Clinic during a study period between February 2021 and September 2021.

Results

Of the total 102 patients, 66 were males and 36 were females with M:F ratio of 1.83:1. 80% of patients were between age group of 15-45 years. Meningitis was the most common neurological presentation affecting 36 out of 102 (35%) patients. Fever (29%), headache (40%), altered sensorium (15%) and convulsions (16%) were the commonest neurological symptoms. Tuberculosis was the commonest disease affecting CNS (41%)

Keywords

Human immunodeficiency virus; Tubercular meningitis, neurological manifestations.

Introduction

An estimated 35.0 million individuals were living with HIV infection, according to the Joint United Nations Programme on HIV/AIDS (UNAIDS). HIV/AIDS has generated so much concern because of rapid dissemination, long incubation period, specific health problem, fatal outcome and great socioeconomic impact. HIV/AIDS cause a wide spectrum of diseases and manifestations.^[1] Up to 70% of HIV patients develop neurological complications. Neurological complications of HIV infections are common and not confined to opportunistic infections and includes the brain, meninges, spinal cord, nerve and muscle.^[2] Neurological diseases are usually the first manifestation of symptomatic HIV infection in roughly 10-20% of persons, while about 60% of patients with advanced HIV disease will have clinically evident neurological dysfunction during the course of their illness.^[3] Hence, early diagnosis becomes pivotal & may change patients quality of life and survival time.

Material & Methods

A total of 102 patients, already diagnosed with HIV attending the ART Clinic of Pt Jawahar Lal Nehru Memorial Medical College & Dr B. R Ambedkar Memorial Medical College & Dr B.R Ambedkar Hospital Raipur, Chhatisgarh, and on different regimens of ART having one or the other neurological symptoms

Observations

were enrolled in the study from February 2021 to September 2021 after obtaining written informed consent and approval from institutional ethics committee were selected as study sample.

Inclusion Criteria

- All patients with neurological manifestations and diagnosed to be HIV seropositive in age 15-65.

Exclusion Criteria

- HIV patients with Co morbidities like diabetes mellitus , Collagen vascular disease ,systemic Hypertension, Vasculitis , Paraneoplastic syndromes.
- Pregnant & lactating Females
- Patients less than 15 or more than 65 years of age group.

A detailed history, physical findings with thorough neurological examination and necessary investigations were recorded. Data thus obtained was entered into case record forms and thus analyzed. Treatment and outcome were not included in this study. Investigations were done-TRIDOT (Rapid Visual Test), ELISA, CD4 count, CSF analysis, CT scan/ MRI (wherever required), Chest X-ray.

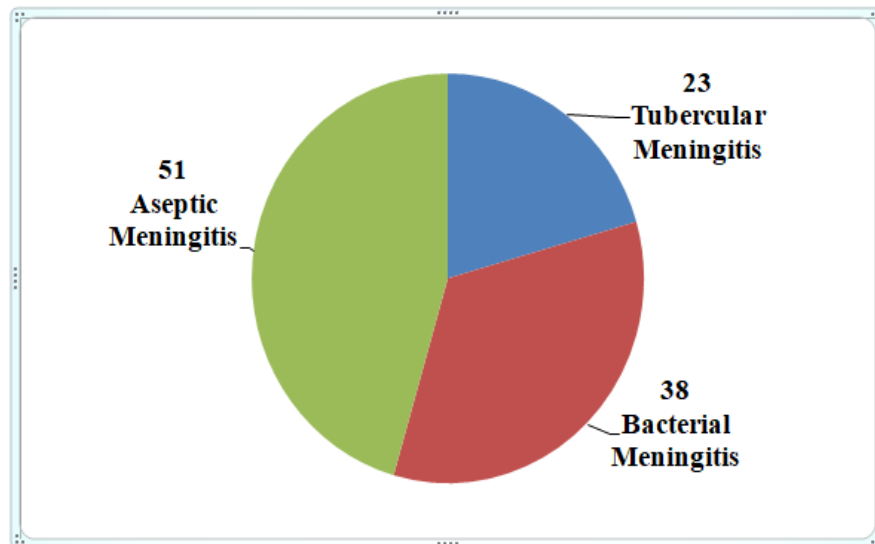
Table 1: Distribution of Patients Based on Age (Total =102)

S. No	Age of Patients	No of Patients	Percentage
1.	15-30 years	24	23.5%
2.	31-45 years	51	50%
3.	46-60 years	20	19.5%
4.	> 60 years	07	7%

Table 2: Distribution of Patients Based On Neurological Symptoms

S. No.	Neurological Symptom	No. of patients	Percentage
1.	Headache	40	39.4%
2.	Fever	30	29.4%
3.	Seizures	16	16%
4.	Altered Sensorium	16	16%
5.	Bowel & Bladder symptoms	04	4%
6.	Weakness of Limbs	10	10%
7.	Generalised Debility	02	2%

Figure 1: Distribution of Patients Based on CSF Analysis



Discussion

In the present study, the age of the patients enrolled was from 15-65 years with male: female ratio of 1.83:1 with mean age of 35 years for male patients and 36 years for female patients. Satya et al^[4] in their study observed male to female ratio of 3.7:1 while another study by Fragoso et al^[5] observed male to

female ratio of 1.94:1.

In this present study, the most common route of transmission was heterosexual in almost all patients (98%) which correlates with Sourab et al^[6] (89.26%) and Deshpande et al^[7] (92.5%) in which most common route of transmission was heterosexual.

Table 3: Comparison of Symptoms of Present Study with Previous Studies

S. No.	Neurological Symptom	Present study (Patil M etal) 2021	Satya et al ^[4] (n=57) 2018	Bolokadze et al ^[8]
1.	Headache	39.4%	70%	75%
2.	Fever	29.4%	73.5%	91%
3.	Seizures	16%	45%	15%
4.	Altered Sensorium	16%	31.5%	--
5.	Bowel & Bladder symptoms	4%	6%	--
6.	Weakness of Limbs	10%	--	61%
7.	Generalised Debility	2%	--	--

The above table describes the comparison of the present study with previously done studies, and shows that 39.4% patients had headache as presenting feature in our study while it was 70% in a study done by satya etal and 75% in bolokadze etal respectively, followed by fever, seizures and altered sensorium in 29.4%, 16%, 16% respectively in the present study, and in comparison it was 73.5%, 45% and 31.5% in the study done by satya etal and 91%, 15% in study done bolokadze etal respectively.

Conclusion

Neurological manifestations in HIV/ AIDS are frequent complications which may affect every level of

the nervous system. Headache and fever were the commonest symptoms in HIV patients with neurological pathology. Furthermore studies are required with large sample size to determine the neurological manifestations in people living with HIV AI

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