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## Clinical profile of symptomatic HIV infections at a tertiary care hospital

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### Abstract

The opportunistic infection causes an increased burden on health system and family. Tuberculosis is most common infection among HIV infected individual and is leading cause of death in the people living HIV/AIDS. Bacterial respiratory infection, Herpes simplex virus disease, Varicella zoster, Candidiasis, Cytomegalovirus, Cryptococcus, Pneumocystitis, Jeroveci pneumonia, Toxoplasmosis. Chest X-ray was routinely taken to rule out opportunistic infection computed tomography brain was not performed in all patients, it was done only in those patients who had focal neurological deficits and signs of raised intra cranial tension. Opportunistic infection were encountered in 42 the cases, among them pulmonary tuberculosis, TB meningitis, TB spine comprised 62% and candidiasis 19%, Herpes simplex 5% and Cryptococcus neoformans in 14%.

**Keywords:** HIV Infections, candidiasis, cytomegalovirus

### Introduction

The aetiologic agent of AIDS is HIV, which belongs to the family of human retro viruses and the subfamily of lente viruses. Non oncogenic lente viruses cause diseases in other animal species, including sheep, horses, goats, cattle, cats and monkeys. The four recognized human retro viruses belong to two distinct group: The HTLV-I and HTLV-II, which are transforming viruses; and the HIV-1 and HIV-2 which are cytopathic viruses. The most common cause of HIV disease throughout the world, and certainly in the USA is HIV-1. HIV-2 was first identified in 1986 in West African patients and was originally confined to West Africa <sup>[1, 2]</sup>. However, a number of cases have been identified in Europe, South America, Canada and USA. HIV-2 is more closely related phylogenetically to the simian immunodeficiency virus (SIV) found in Sooty Mangabeys than it is to HIV-1. HIV-1 is more closely related to an SIV isolated from chimpanzees in 1990).

The primary drivers of HIV epidemic in India are unprotected paid sex, commercial female sex workers, unprotected sex between men and injecting drug use. It is estimated that there are 12.6 lakhs female sex workers. 4.27 lakhs men who have sex with men with high risk and transgender. 1.77 lakhs injecting drug users in India and 110 lakhs bridge population (80 lakhs migrants and 30 lakhs truckers). Though sex workers account for 0.5% of adult female population. They account of 7% of infected female. Sex workers continues to act as most important source of HIV infection in India due to the large size of clients that get infected from them. These men then transmit the infection to their wives affecting several low risk women in the society <sup>[3, 4]</sup>.

Recent results from an Avahan study of sex workers in Karnataka showed that from the time the programme was first implicated; the HIV prevalence in this population group declined from 20% to 16% and condoms use at 'last client' sex increased from 66 to 84%.

The opportunistic infection cause an increased burden on health system and family. Tuberculosis is most common infection among HIV infected individual and is leading cause of death in the people living HIV/AIDS. Bacterial respiratory infection, Herpes simplex virus disease, Varicella zoster, Candidiasis, Cytomegalovirus, Cryptococcus, Pneumocystitis, Jeroveci pneumonia, Toxoplasmosis. HIV positive individuals in general have been poorly received in the society <sup>[5, 6]</sup>.

### Methodology

#### Inclusion criteria

The patients above 18 years age with sero positive HIV with CNS manifestations.

**Exclusion criteria**

- Asymptomatic HIV sero positive adult patients
- HIV seronegative adult patients.
- Head injury
- CNS manifestations in HIV sero negative adult patients.

Each case was studied in detail and the results of various findings were worked out according to the proforma analysed. The diagnostic criteria adopted were:

1. Detailed History
2. Signs of Meningeal irritation
3. Cerebrospinal fluid analysis including CSF HIV 1&2

Lumbar puncture was done on admission and was subsequently repeated whenever indicated to assess the course of the disease. CSF analysis was done including routine fungal work up, grams stain, cell type, cell count, Antitoxoplasma antibody, VDRL, Zeihl Neelson staining and biochemical analysis. Chest X-ray was routinely taken to rule out opportunistic infection computed tomography brain was not performed in all patients, it was done only in those patients who had focal neurological deficits and signs of raised intra cranial tension.

**Results**

The minimum age was 23 years and the maximum was 80 years. Peak incidence i.e., 58% were between 31-40 years. 18% cases were in the age group of 21-30 years, 16% were in the age group of 41-50 years, 2% were in the age group of 51-60 years, 6% were above 60 years. Among the total number of cases 48% comprised males and 52% females.

**Table 1:** Age and sex incidence

Age group in years	Male	Female	Total	Percentage
21-30	1	8	9	18
31-40	16	13	29	58
41-50	4	4	8	16
51-60	0	1	1	2
> 60	3	0	3	6
Total	24	26	50	100

Majority of the cases belonged to the lower class and middle class (82% and 18%) respectively.

**Table 2:** Socio economic status

Particulars	No. of cases	Percentage
Lower class	41	82
Middle class	9	18
Total	50	100

**Table 3:** Presenting symptoms (n=15)

Symptoms	No. of cases	Percentage
Fever	42	84
Headache	46	92
Vomiting	40	80
Seizures	14	28
Focal neurological defects	12	24

Most common presenting symptoms were headache fever and vomiting in that order of frequency. Headache was present in 92% of the cases associated with vomiting in 80% of cases. Fever was present in 84% of cases, in most cases fever was irregular, mild to moderate is degree. Seizures

were present in 28% of the cases. Focal neurological deficits were present in 24% of the cases. Photophobia and double vision were the visual disturbances encountered.

**Table 4:** Associated opportunistic infections (n=42)

Opportunistic infections	No. of cases	Percentage
TB meningitis / Pulmonary tuberculosis / Tuberculosis spine	26	62
Candidiasis	8	19
Herpes zoster lesion	2	5
Cryptococcus neoformins	6	14

Opportunistic infection were encountered in 42 the cases, among them pulmonary tuberculosis, TB meningitis, TB spine comprised 62% and candidiasis 19%, Herpes simplex 5% and Cryptococcus neoformins in 14%.

**Discussion**

In our study headache was the most common symptom with fever and vomiting in the next order of frequency. This is consistent with the studies of Janardha<sup>7</sup> and Aquinas *et al.* [8]. Chuck and Sande 1989 [9], reported that 90% of patients presented with headache as predominant symptom. All of our patients were in the mean age group of 39 years, other studies also revealed a similar mean age incidence.

In our study 15 (30%) patients had focal neurological deficit, 9 (65%) in the form of hemiplegia/hemiparesis, 4 (27%) had paraplegia/ paraparesis. In study conducted by Aquinas *et al.* [8] none of the patient had focal neurological deficit.

In our study mean CD4 counts is very low i.e. 52 for both tubercular meningitis and Cryptococcus pneoformins compared to Jyothirmoy Pol *et al.* study that is 121 for TB meningitis and 191 for Cryptococcus pneoformins.

The laboratory diagnosis of HIV infection all over the world is largely based on the detection of antibodies to HIV in the patient’s serum sample. The other techniques available for confirming HIV infection though equally sensitive are not practical for routine diagnostic use. They are based on the detection of viral antigen (Eg. P24 detection assay), viral nucleic acid (Eg. polymerase chain reaction or PCR) and virus isolation from human lymphocytes. On the other hand HIV antibody detection in serum is achieved through relatively simpler methods, is less cumbersome and most economical. In addition, it does not require special technical skills and can be performed in most serology laboratories and the time taken for performing them is only a few minutes (for rapid dot blot assays) to a few hours (for ELISA test). The test for antibody detection use a variety of HIV antigen derived from infected cell lysates, recombinant HIV proteins and synthetic peptides. Each of these have their relative merits and demerits suffice to state that it is desirable to employ all these three antigens in a laboratory to obtain best results. The different HIV antibody detection tests available include enzyme linked immunosorbent assay (ELISA), dot blot immuno assays, agglutination tests and the western blot assay [10].

**Conclusion**

- Peak incidence in 31-40 years occurrence in extremities in not surprising.
- Its incidence more common in lower socioeconomic class.
- It affects both sex without discrimination.

- Chronic meningitis syndrome is the commonest presentation.
- Headache, Fever, Vomiting were the common symptoms. There was no difference in symptomology between various forms of chronic meningitis.

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