

Original article

Oral manifestations associated with human immunodeficiency virus infection in 200 Indian patients.

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Abstract

Objective: To determine the pattern and prevalence of oral lesions in HIV infected 200 costal Andhra Pradesh patients. **Patients and methods:** the study population comprised 200 consecutive HIV seropositive patients presented to regional ART center at Andhra Pradesh, India. The oral lesions were diagnosed based on clinical appearance and were entered in to the database for analysis. **Results:** 30-39 yrs age group was most commonly affected and 87% of the patients had acquired infection via heterosexual contact. Oral lesions were seen in 66% of the patients. Gingivitis (36.7% males & 33.9% females) was the most common lesion followed by candidiasis (21% males & 26.4% females), periodontitis (6.8% males & 7.5% females), pigmentation (36.7% males & 33.9% females), ulcers (2.7% males & 0% females) and leukoplakia (1.3% males & 0% females). **Conclusion:** The pattern of oral lesions associated with HIV infection was not markedly different from those reported in the literature, the prevalence of each type of lesion differ slightly.

Key words: CD4 lymphocyte count, Female, HIV infections, Male, Humans.

Introduction

Human immunodeficiency virus (HIV) infection is a major global health problem. It is estimated that number of people living with HIV infection in India, by the end of 2007 is 2.31million. The prevalence rate of HIV infection in the country has stabilized over the last few years with estimated adult prevalence of 0.34%. Andhra Pradesh showed the higher prevalence rate (>1%) when compared with all other states (<1%) in India.¹

Systemic and oral lesions in HIV infection reflect the immune status of the patients. These lesions are not only important for the morbidity they cause but also for their diagnostic value in monitoring the immune

status of the patient. Some oral lesions have been observed to be more rampant in HIV infected patients than healthy individuals and sometimes may be the first indication of the disease². Furthermore, the appearance of some of these lesions in an HIV infected patient may signal the deterioration of the disease³. The aim of this study, therefore, is to determine the pattern and frequency of oral lesions associated with HIV infection in our environment in order to contribute to the existing data on oral HIV lesions in India.

Patients and methods

Two hundred consecutive Patients attending the ART centre (Government

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regional centre for counseling and treatment of HIV/AIDS infection, Andhra Pradesh, India.) over a period of four months (from October 2009 to January 2010) were the subjects of this study. A trained counselor confirmed sources of infection. Confirmation of HIV seropositive status for all the patients was by ELISA and western immunoblot. Examination of the orofacial tissues for each patient was performed by a trained medical doctor in oral manifestations of HIV/AIDS. Data was captured on an adopted WHO record form for oral HIV/AIDS and subjected to statistical analysis.

Results

Table 1: Demographics of 200 HIV seropositive Patients

Age Group (y)	Male (n=147) No. (%)	Female (n=53) No. (%)
<9	4(2.7)	3(5.6)
10-19	13(8.8)	5(9.4)
20-29	27(18.3)	9(16.9)
30-39	56(38.0)	23(43.3)
40-49	31(21.0)	8(15.0)
>50	16(10.8)	5(9.4)
Occupation		
Farmer	17(11.5)	0(0.0)
Business	7(4.7)	0(0.0)
Driver	14(9.5)	0(0.0)
Employed	17(11.5)	2(3.7)
Housewife	0(0.0)	22(41.5)
Labourer	49(33.3)	21(39.6)
Others	43(29.2)	8(15.0)

Table 1 shows the demographics of 200 HIV seropositive patients. 147 (73.5%) were males and 53(26.5%) were females, giving male to female ratio of 2.8:1. The

age of the youngest patient was 2 years and the age of the oldest patient was 58yrs. The maximum number of cases was in the 30-39yrs age group for either genders (38.0% males and 43.3% females, respectively). Labourer (33.3%) in male and housewife (39.6%) in female were more infected than other occupations.

Table 2 shows the source of infection. The main source of infection for both male and female (88% and 83%, respectively) was through the heterosexual route. Table 3 shows the distribution of patients by CD4+ counts. The maximum number of male patients showed CD4+ count <200 (37.9%) and the maximum number of female patients showed CD4+ count 200-500 (35.8%).

Table 2: Distribution of HIV-positive patients by source of infection

Source of infection	Male (n=147) No. (%)	Female (n=53) No. (%)
Heterosexual	130(88.0)	44(83.0)
Mother to child	16(10.8)	9(16.9)
Blood transfusion	1(0.6)	0(0.0)

Table 3: Distribution of HIV-positive patients by CD4+ counts

CD4 Count	Male(n=145) No. (%)	Female(n=53) No. (%)
<200	55(37.9)	16(30.1)
200-500	52(35.8)	19(35.8)
>500	38(26.2)	18(33.9)

Table 4 shows prevalence of HIV- related oral lesions by gender. Of the 200 patients, 112 patients (84 males and 28 females) showed 157 (117 in males and 40 in females) oral lesions. The most common lesion seen in both male and female patients is gingivitis (54 males and 18 females) followed by candidiasis (Pseudomembranous, Erythematous and Angular cheilitis) (31males and 14

females). Oral pigmentation was seen in 12 male patients and 2 female patients and all the pigmentations were seen on buccal mucosa. Male patients showed four oral ulcers and two leukoplakias and was not seen in female patients. Number of lesions seen in each patient was varying from 0 to 3. 63 male patients and 25 female patients showed no lesions, 52 males and 17 females showed one lesion, 31 males and 10 females showed two lesions and 1 patient of either genders showed three lesions.

Table 4: Prevalence of HIV-related oral lesions by gender

Oral lesions	Male (n=147) No. (%)	Female (n=53) No. (%)
Candidiasis	31(21.0)	14(26.4)
Gingivitis	54(36.7)	18(33.9)
Periodontitis	10(6.8)	4(7.5)
Ulcers	4(2.7)	0(0.0)
Pigmentation	12(8.1)	2(3.7)
Leukoplakia	2(1.3)	0(0.0)
Others	4(2.7)	2(3.7)
Number of lesions		
0	63(42.8)	25(47.1)
1	52(35.3)	17(32.0)
2	31(21.0)	10(18.8)
3	1(0.6)	1(1.8)

Discussion

Oral lesions of the HIV infected patients have been widely studied and were found to have diagnostic and prognostic value⁴. This study determined the prevalence of oral lesions in HIV infection in the costal part of Andhra pradesh. It has been

consistently shown that HIV infection affects young and active age groups (3rd and 4th decades). The age of patients in this study agrees with the previous Indian study⁵. Regarding the occupation, Labourers and housewives were most commonly affected in the present study agrees with the study done by Singh H et al.⁶. The source of infection in the present study showed heterosexual transmission and is in agreement with previous studies^{5,6}. The maximum number of male patients showed CD4+ count <200 (37.9%) and the maximum number of female patients showed CD4+ count 200-500 (35.8%) and is in agreement with the previous studies^{6,7}.

HIV infection is associated with gingival disease which accounted for 36.7% in males and 33.9% in females in the present study. This is comparable to the previous study⁸. Candidiasis has been consistently found to be the first recognized oral manifestation and sometimes the only initial clinical sign of the HIV infection⁹. The prevalence rate of candidiasis in the present study in males is 21% and in females is 26.4% and is in agreement with the previous study¹⁰. Intraoral pigmentation was seen in 8.1% male and 3.7% female patients. The presence of intra oral pigmentation in the HIV patients has been reported in the previous study⁵. We had two patients with leukoplakia and both patients had tobacco chewing habit.

Conclusion

The pattern of oral lesions associated with HIV infection was not markedly different from those reported in the literature, the prevalence of each type of lesion differ slightly. The present study again emphasizes the usefulness of orofacial examination of the patients by dental surgeon and increases their index of suspicion of the infection with the appearance of these HIV associated oral lesions.

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