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Immunology

CLINICO-EPIDEMIOLOGICAL PATTERN OF ORAL LESION IN SEROPOSITIVE PATIENTS : A HOSPITAL BASE STUDY

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ABSTRACT **Background:** Oral manifestations of HIV disease is important, as they affect the quality of life and useful marker of disease progression .

Aims: The study was designed to search for the oral lesions in seropositive patients and their possible prognostic value.

Methods: This prospective observational study included 211 new cases with consecutive two ELISA test positive attended in OPD . Relevant investigations and biopsies were taken to confirm clinical diagnosis . The causal relationship between prevalence of oral lesions and demographical variants,therapeutic regimen and CD4 count were evaluated.The technique and protocol were approved by the ethics committee of the institution.

Results : Out of 211 patients ,75 (35.44%) patients had detectable oral lesion with male predominance . Majority belonged to the age group of 21- 30 years . All the variants of candidiasis were seen. Pseudo membranous type was most frequently observed . Herpes simplex is the commonest viral infection. One case of hairy leukoplakia was seen. Necrotizing ulcerative periodontitis (NUP) was observed in four cases. Aphthous ulcer were seen in eight cases.

Conclusions : In our series cases with orofacial involvement had CD4 count <600 cells/ml. Majority of the patients had CD4 < 200 cells/ml .

KEYWORDS : Oral Lesions, Seropositive, Cd4 Count,

INTRODUCTION

Oral manifestations of HIV disease are common. Its association with HIV infection are important, since they affect the quality of life of the patient and are useful markers of disease progression and immunosuppression . The presence of these lesions may be an early diagnostic indicator of immunodeficiency and HIV infection, may change the classification of the stage of HIV infection.

Careful history taking and detail examination of the patient's oral cavity are important. The oral manifestations of HIV diseases have changed since the introduction of highly active retro viral therapy in developed country.

METHODS:

This prospective observational study included 211 new cases with consecutive two ELISA test positive attended in the Dermatology, G&O and ART clinics for the period from Sept 2016 to Aug 2017 at Burdwan Medical College and Hospital, Burdwan. Details clinical examination was performed and data were recorded .Relevant investigations and biopsies are taken to confirm clinical diagnosis. The relationship among prevalence of oral lesions and demographical variants, ,therapeutic regimen , and CD4 count with the lesions were evaluated .

RESULTS:

Out of 211 patience,75 (35.44%) patients had detectable oral lesions(Table-1) and 74.44% of them were male and 25.66% were female (Table-2) . Majority (46.29%) of the patents belonged to the age group of 21- 30 years (Table-3).The youngest one was 3 years and the oldest one was 60 years old . Oral lesions detected most frequently included fungal specially candidiasis, 65.33% of patients(Table-4). All the variants of candidiasis were seen . Pseudo membranous type was most frequently observed(34.44%). Herpes simplex was the commonest type of viral infection seen in our series (6.66%). One case of hairy leucoplakia had been seen (table-4). Bacterial infections included gingivitis and periodontitis associated with HIV infection mainly seen in the form of necrotizing ulcerative periodontitis (NUP 3 cases) had been seen.

Amongst different types of other lesions Aphthous ulcer (8/211)and non specific ulcer (4/ 211) had been seen more frequently. The CD4 count against the different lesions had been analyzed . In our series patients with orofacial involvement had CD4 count , <600 cells /m. Majority (46/211) of the patients had CD4 count . < 200 cells/ml

TABLE -1. Prevalaence of oral lesions

Type of lesions	No of cases	percentage
Oral lesions only	75	35.44
With other lesions	136	64.66

Table-2. Distribution of lesions according to Gender

Gender	No of cases	percentage
Male	157	74.44
Female	54	25.66

TABLE-3 Distribution of cases according to age.

Age	Male		Female	
	No of cases	%	No of cases	%
<10	5	3.18	3	5.55
10-20	4	2.04	1	1.85
21-30	73	46.26	37	68.52
31-40	56	35.60	10	18.53
41-50	18	11.36	3	5.55
51-60	1	0.53	0	0.00
>60	0	0.00	0	0.00

Table-4 Type of lesions with correlation to CD4 count

Lesions	cases	%	CD4 count		
			600-400	400- 200	< 200
Fungal					
Peudo Membranous	26	34.66	3	8	15
Erythemetous	10	13.33	1	1	8

Angular Chilitis	8	1066	--	2	6
Hyper plastic	5	6.66	--	1	4

Viral

Herpes simplex	5	6.66	_	_	5
Herpes zoster	2	2.66	_	_	2
warts	1	1.33	--	--	1
Hairy leucoplakia	1	1.33	-	-	1

Bacterial

NUP	3	4.00	-	-	3
LGE	2	2.66	-	-	2
Mycobac tuberculosis	1-	1.33	--	--	1

Others

aphthus	8	10.66	2	3	3
Nonspecific ulcer	4	5.33	--	4	1
Angular stomatitis	5	6.66	-	1	4
Atrophic glositis	4	5.33	--	--	4
Xerostomia	3	4.00	--	1	2
Hyper pigmentation	1	1.33	-	-	1
ITP	1	1.33	--	--	1

DISCUSSION:

Recently there has been a spurt in the interests regarding oral manifestations of HIV infected patients. The occurrence of the oral lesions in the present study 35.44%. which is slightly lower than the observations reported by Arendof et at [1](60.4%),Kamiru et at 73%[2]or Ranganathan et al 72%[3].

Males constituted the major percentage (> 50%) in most ofthe studies, In our study affected male and female were 49(74.44%) and 26 (25.66%) respectively which is consistent with study reported by Eyeson b et al [4] (76%male 24%female) and Rangnathan et al [3](male 69% female 31%) . So male and female ratio remains 3:1 in most of the observations except in the reports published from Zaire [5], Kenya [6] Zambia [7] where female predominance had been observed. One reason we have encountered is that men havebetter access to the hospital than do women.

In different studies the commonest affected age group was 21-30years[5,3] which corresponds with our study where age group ranges form 3 yrs to 60 yrs and the median age 27.7years.

Oral candidiasis was the most commonly reported oral lesion. The occurrence rangesfrom 12% to94% [1- 5, 17]. Reports from India showed its occurrence range from 21 81%[8] which is consistent with our study (54.77%). Moreover majority (28 cases) of fungal infected cases had shown CD4 count < 200 cells/ml.

The most common type of candidiasis in adults was the pseudomembranous type, with the percentages ranging from 1% [6] to 70% [9] followed by erythematous candidiasis. The frequency of which ranges from 3% [3] to 35% [9] In addition, angular cheilitis had been reported from all the regions, while hyperplastic candidiasis had been reported only from Africa and India [2, 3, 8], Prevalance of candidiasis among HIV patients reduces , which could be due to high awareness among patients seeking treatment in early stage [17].

Herpes simplex causes both primary and secondary or recurrent disease in the oral cavity.

Primary herpetic gingivostomatitis commonly occurs in children and young adults and may be followed by frequent recurrences. Following the primary episode, the virus becomes latent in the trigeminal ganglion. Recurrent oral herpes occurs at any age extraorally or intraorally.In our series 5 cases(6.66 %) were suffering from herpes simplex with CD4 count < 200 cells/ ml which consisted with other study (4%) [5].

Oral hairy leukoplakia , which presents as a nonmovable, corrugated or "hairy" white lesion on the lateral margins of the tongue, occurs in all risk groups for HIV infections, although less commonly in children than in adults. HL occurs in about 20% of persons with asymptomatic HIV infection and becomes more common as the CD4 T-cell count falls. No report describes HL in mucosal sites other than the mouth. HL has occurred in non-HIV-infected people including recipients of bone marrow, cardiac, and renal transplants. Ranganathan[3, 16] from India reported 3% oral hairy leukoplakia in his study. In our series one case had been seen (1.33%) .

Gingivitis and periodontitis associated with HIV infection, necrotizing ulcerative periodontitis had been reported from the different regions, with frequencies ranging from 2 6% [1-6] and 1 28%, [1-6] respectively. In our study LGE and NUP consist of 4% and 2% which corroborated with above studies.

In addition among some unclassified lesions or symptoms recurrent aphthous and non specific ulcer constituted the majority (14%) of cases which corroborated with other study (12%)[5].

Oral ulcers resembling recurrent aphthous ulcers (RAUs) in HIV-infected persons werereported with increasing frequency [10]. The cause of these ulcers is unknown. Proposed causes include stress and unidentified infectious agents.

Salivary gland disease associated with HIV infection can present as xerostomia with or without salivary gland enlargement.[11] . Reports describe salivary gland enlargement in children and adults with HIV infection usually involving the parotid gland. The enlarged salivary glands are soft but not fluctuant. In some cases, enlarged salivary glands may be due to lymphoepithelial Salivary glands involvement leads to xerostomia had been seen in 4 % of cases . Similar report published by Tukutuku K (2%)[5].

Orofacial manifestation definitely depend on the degree of immunosupression reflected by CD4 count. In our study the subjects with orofacial involvement had CD4 count <600 cells/ ml. Adurogbangba MI et al[12] reported that 66.7% subjects with CD4 count < 500cells/ml had orofacial lesions. Oral candidiasis, oral hairy leukoplakia, have been reported to be significantly associated with CD4 cell counts of less than 200 cells/ml [13] which is corroborated with our study.In agreement with the other observations [13,14] Necrotizing ulcerative periodontitis has been associated with CD4 cell counts of less than 200 cell/ml in our study. The mortality rate was reported to be 60 percent within 18 months of a necrotizing ulcerative periodontitis diagnosis in one study.[14] In a recent publication, the relationship of immunosuppression and patients with CD4 cell counts of less than 200 cells/ml were 2.8 times more likely to have recession than those with higher CD4 cell counts.[15,16]

CONCLUSIONS:

We can concluded that sometimes oral lesion may be the early symptoms of HIV infected subject . In present study we analyzed the oral lesions in HIV infected patients. Moreover patients with above mentioned oral lesions need screening for HIV. Oral candidiasis is the most common opportunistic infection. Early recognition, diagnosis, and treatment reduce morbidity. Its presence may be an early diagnostic indicator of immunodeficiency state. It may change the classification of the stage of HIV infection, It is a predictor of the progression of HIV diseases. Early recognition of HIV infection associated with oral manifestations helps in diagnosis and better management. The oral manifestations have changed drastically since the introduction of the HAART.

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