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AN ATYPICAL ORAL-MANIFESTATION IN A HIV POSITIVE PATIENT

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Abstract
Human immunodeficiency virus (HIV) is a retrovirus belonging to the family lentinoviridae and it affects the immune system resulting in various systemic and oral manifestations. Systemic manifestations are quite common in HIV patients compared to the oral manifestations. Oral manifestation plays an important role in diagnosing and management of HIV. Lesions in the oral cavity are categorized as commonly associated lesions and less commonly associated lesions with HIV.

Oral melanotic hyperpigmentation (OMH) is one of the less commonly associated lesion that is caused mainly due to the antiretroviral drugs used in the management of HIV. HIV-associated OMH without the use of antiretroviral therapy has a lower prevalence. In this case, we report an OMH along with other less commonly associated findings like angular cheilitis, xerostomia, purpuric spots and erythematous areas, these non specific oral manifestations are helpful in the diagnosis of HIV

Keywords: HIV, oral manifestation, non specific, CD4, HIV-OMH

INTRODUCTION:

Human immunodeficiency virus impacts the immunity, leading to various opportunistic infections by activating the immune cells of the body. HIV targets the cluster of differentiation (CD4) cells and which produces various clinical manifestations. CD4 cell counts are the primary marker in HIV that helps in correlating with the clinical condition and there by providing an early diagnosis.

The normal CD4 count ranges from 500-1500 cells, low CD4 counts are associated with a higher prevalence of oral manifestation. Oral melanotic hyperpigmentation is associated with low CD4 count. oral manifestations aid us to diagnose the disease and assess the disease progression. Here we report a case of non-specific oral lesions as a first symptom which helped us in the early diagnosis of HIV disease.

CASE REPORT:

A 62-year old male patient reported to our outpatient department with a chief complaint of burning sensation in the tongue and difficulty in eating for the past 2 months. The patient gave a history of loss of appetite for the past 6 months and weight loss of 7 Kg. No other systemic diseases or complications were reported. Dental history revealed extraction 5 years back. The patient revealed no history of any deleterious habits. All the vital signs were within the normal limit. On extraoral examination no gross facial symmetry or swelling was evident.

On intraoral examination missing 21,17,18,23,27,28,41,31,32, Discolored 11, grossly decayed 36,46 and generalized attrition was present. Generalized loss of periodontium was evident. On soft tissue examination, evidence of erythematous areas surrounded by peripheral black hyperpigmentation in the left buccal mucosa extending from 36 region up to the retromolar region. Over the right buccal mucosa evidence of erythematous areas surrounded by peripheral black hyperpigmentation extending from the commissure of lip up to the retromolar region (figs 1 and 2). Depapillation of the tongue with black hyperpigmentation was evident over the dorsum surface of the tongue. Angular cheilitis was evident over the right and left commissure of lip (fig.3)

On the palatal mucosa multiple pinpoint erythematous spots were evident (fig 4.) Xerostomia was evident. On palpation, buccal mucosa was non-tender, With the above clinical findings a differential diagnosis of anemic stomatitis was given. Considering the Purpuric spots in palatal mucosa and history of weight loss, further hematological investigation along with HIV Tridot test was done. The blood investigation revealed a low

platelet count of 1,25,000 µLand Hb of 9.8gm/dl. HIV Tridot test was positive. As Tridot was positive, the CD4 count was evaluated and was 254 cells/mm^3, with the above clinical features and investigations a case of HIV seropositive was diagnosed with these oral manifestations with an atypical presentation.

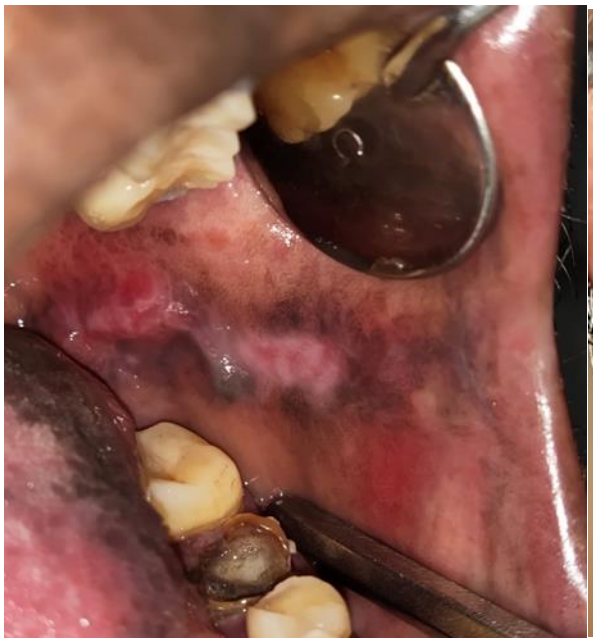

Fig 1: Hyperpigmentation of left buccal mucosa

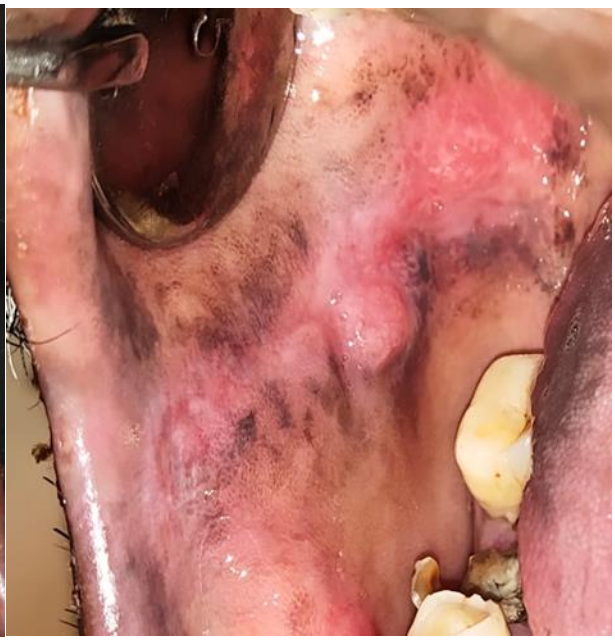

Fig 2: Hyperpigmentation of right buccal mucosa

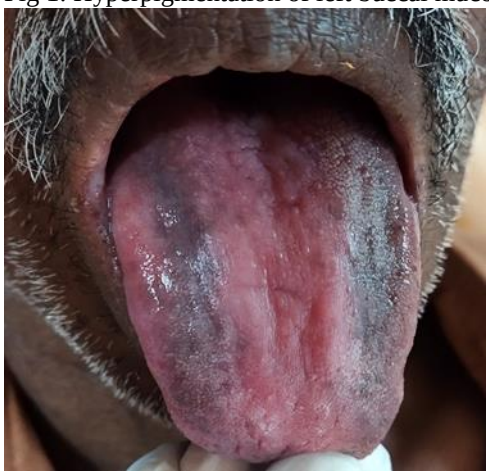

Fig 3: Depapillation of tongue with hyperpigmentation

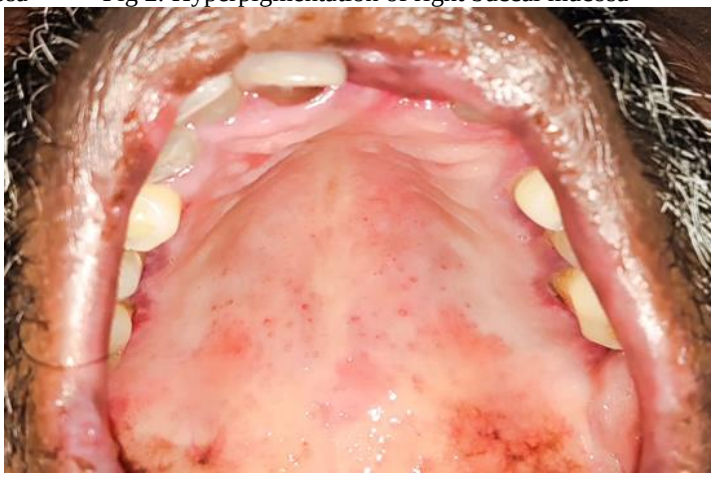

Fig 4: Petechiae involving palatal mucosa

DISCUSSION:

Human immunodeficiency virus (HIV) is a retrovirus attacking the immune system. HIV targets the CD4+ cells by attaching to the cell surfaces with glycoprotein (gp120) molecules present over the viral envelope[1] Along with the chemokine co-receptors CCR5 and CXCR4, it gains entry to monocytes and dendritic cells[2]. These macrophages and monocytes cause HIV dissemination in tissue and their secretory products are involved in the pathogenesis of AIDS[2]. Acquired Immunodeficiency syndrome is the symptomatic stage of HIV with a reduced CD4+ cell count < 200.

CLINICAL STAGES:
According to WHO, there are four clinical stages[3]

Stage 1	Asymptomatic patients Generalized lymphadenopathy (including 2 sites other than inguinal lymph nodes)
Stage 2	Mild symptomatic patients

	Weight loss lesser than 10% of total body weight Recurrent respiratory infections Dermatological conditions include herpes zoster, angular cheilitis, papular pruritic eruptions, seborrheic dermatitis, fungal nail infections
Stage 3	Moderately symptomatic patients Weight loss greater than 10 % of total body weight Prolonged diarrhea, pulmonary tuberculosis, bacteremia, pneumonia, meningitis, empyema, mucocutaneous conditions including recurrent oral candidiasis, oral hairy leukoplakia, NUG, NUP,
Stage 4	Severely symptomatic patients (AIDS-defining illness) HIV wasting syndrome, pneumocystis pneumonia, Extrapulmonary tuberculosis, HIV encephalopathy, Toxoplasmosis, extrapulmonary cryptococcosis, Kaposi sarcoma, esophageal candidiasis, visceral herpes simplex infections, CMV infections, non-Hodgkin lymphoma, acquired HIV-associated rectal fistula

ORAL MANIFESTATIONS:
Since oral symptoms of the HIV virus are among the disease's initial signs, they are crucial. Additionally, because they are correlated with the affected patients' CD4 lymphocyte levels, they function as prognostic markers [3].

Oral lesions as diagnostic criteria for HIV infection were classified in 1993 by European Commission - Clearinghouse Classification
Oral manifestations in HIV infections include affecting the oral mucosa, periodontium, tongue, and salivary glands.

Group 1	Lesions strongly associated with HIV Candidiasis- erythematous Pseudomembranous Hairy leukoplakia Kaposi sarcoma Non-Hodgkins lymphoma Periodontal disease Linear erythematous gingivitis Necrotising ulcerative gingivitis and periodontitis
Group 2	Lesions less commonly associated with HIV infection Melanotic hyperpigmentation Necrotizing stomatitis Salivary gland disease Xerostomia Swelling of major salivary glands Thrombocytopenic purpura Ulcerations–(nonspecific) Viral infections HSV HPV infections Condyloma acuminatum Verruca Vulgaris Focal epithelial dysplasia Varicella zoster Herpes zoster Varicella Trigeminal neuralgia Viral infections

	Cytomegalovirus Molluscum contagiosum Fungal infections Cryptococcus neoformans Geotrichum candida Histoplasma capsulatum Mucoraceae Aspergillus flavus

Pakfetrat et al study correlated oral lesions with CD4 count [4]

Oral Lesions	CD4 (mean ± SD)		P value	t
	Positive	Negative		
Tooth Decays	174.4 ± 4.05	294.5±4.6	0.12	1.56
Severe Periodontitis	194.5 ± 3.99	231.3±4.58	0.184	1.3
Pseudomembranous Candidiasis	358.8 ± 177.6	468.4 ±229.5	0.02	2.2
Hairy Tongue	243.9 ± 4.4	217.1±42.4	0.994	0.008
Xerostomia	163.3 ± 4.2	235.6±4.4	0.588	0.546
HSV Infection	168.2 ± 3.8	233.05±4.5	0.315	1.1
Erythematous Candidiasis	422.9 ± 3.8	447.1±4	0.626	0.491
Hyperpigmentation	208.6 ± 4.2	226.5±4.46	0.706	0.381
Aphthous Ulcer	253.4 ± 5.05	218.74±4.34	0.37	0.92
Angular Cheilitis	207.06±4.2	325.8±35.7	0.043	2.04
Non-specific Ulcers	210.08 ± 4.03	224.3±4.4	0.58	0.573
Verruca Vulgaris	157.7 ± 4.7	226.7±4.4	0.641	0.485
Fissured Tongue	216.5±4.3	236.6 ± 6.56	0.55	0.247
Keratosis	174.02±4.04	225.16±4.44	0.645	0.491
Salivary Gland Disease	215.9±4.55	223.9±4.41	0.899	0.134
Lichenoid reactions	217.13±4.4	348.8±4.8	0.774	0.307
Trigeminal Neuralgia	119.9±3.8	226.2±4.4	0.315	1.1
Necrotizing Ulcerative Gingivitis	111.7±3.09	223.6±4.45	0.32	1.66
Necrotizing Ulcerative Periodontitis	174.45±4.35	224.4±4.42	0.951	0.068
Trombocytopenic Purpura	220.6±1.5	221.8±4.45	0.191	1.3

Oral melanotic hyperpigmentation is a rare manifestation and is less commonly associated oral lesion with HIV infection. The colour of oral mucosa is determined by the epithelium thickness, vascularity, and melanin cells in the oral epithelium. Synthesis Of melanin occurs through melanosomes. Melanotic pigmentation could unintentionally be a sign of localized defense of the immune system against subclinical oral infections and associated inflammatory conditions[5]. HIV-associated conditions causing adrenocortical insufficiency are shown to be a contributory factor in HIV oral melanotic pigmentation and it is most frequently associated with a CD4 cell count of < 200 cells/ mm^2 with a prolonged history of illness[6]. It appears that HIV-OMH does not have any effect on oral health or on quality of life, and it is unresearched and unknown whether any pathological significance that involve the upregulation of melanosomes in the biological pathway[7], though it should not be neglected as it is found to be a disease progressive marker in HIV. Hyperpigmentation induced by medications are induced by dose and duration, drugs that are commonly used such as antimalarial, oral contraceptives, dermatological agents have a higher prevalence of inducing pigmentation and the withdrawal leads to disappearance of oral pigmentation[8]. Anti-retroviral drugs used in the treatment of HIV infection also induce oral melanin pigmentation which is the most common cause for the hyperpigmentation among the HIV patients. HIV oral melanotic pigmentation should be differentiated from other systemic conditions and other atypical melanosis-producing melanotic hyperpigmentation[9][10].

CONCLUSION:

In this case, the oral manifestation was the first clinical finding that led to the diagnosis of HIV. Less commonly associated oral manifestation along with Oral melanotic pigmentation was evident. Oral melanotic pigmentation associated with HIV without the use of anti-retroviral drugs has a low prevalence. Less commonly associated oral lesions with HIV should be considered rather than only considering the commonly associated oral lesions with HIV for arriving at a clinical diagnosis.

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