

# Stomatognathic manifestations of human immunodeficiency virus-infected patients: A case report and review

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## Abstract

Oral lesions in the stomatognathic system in human immunodeficiency virus (HIV)-infected patients are associated with a series of opportunistic disease that are caused due to immune suppressive state. Oral manifestations are the earliest sign of HIV infection. Here, we are reporting a case of a patient suffering from HIV infection with typical oral manifestations and the effect of treatment for the manifestations after a week. The patient was under highly active anti-retroviral treatment since 2011.

**Key words:** EC-clearinghouse classification, highly active anti-retroviral treatment, human immunodeficiency virus, opportunistic disease, stomatognathic manifestation

## INTRODUCTION

Human immunodeficiency virus (HIV) is the fourth leading cause of death worldwide. Oral manifestations of HIV-infected patients was first described in the year 1981.<sup>[1]</sup> The ideal laboratory markers for HIV disease is CD4+ lymphocyte count and HIV viral load for the progression of the disease.<sup>[2]</sup> However, availability of these markers is limited in developing countries. Clinical findings are the only way of screening, and oral manifestations being the earliest indicator is important for the diagnosis and prognosis. Evaluation of oral health at every stage contributes effectively to the control of the disease. HIV-related stomatognathic manifestations occur in 30%–80% of the affected patient population.<sup>[3]</sup>

## Classification

In 1993, EC-Clearinghouse gave a classification<sup>[3]</sup> on oral problems related to HIV infection and WHO

Collaborating Centre on Oral Manifestations of the Immunodeficiency Virus.

## *Lesions strongly associated with human immunodeficiency virus infection*

- Candidiasis
  - Erythematous
  - Pseudomembranous.
- Hairy leukoplakia
- Kaposi's sarcoma
- Non-Hodgkin's lymphoma
- Periodontal disease
  - Linear gingival erythema
  - Necrotizing gingivitis
  - Necrotizing periodontitis.

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### Lesions less commonly associated with human immunodeficiency virus infection

- Bacterial infections
  - *Mycobacterium avium-intracellulare*
  - *Mycobacterium tuberculosis*.
- Melanotic hyperpigmentation
- Necrotizing stomatitis
- Salivary gland disease
  - Dry mouth
  - Unilateral/bilateral swelling of the major salivary glands.
- Thrombocytopenic purpura
- Ulceration necrotising osteostomatitis [NOS]
- Viral infections
  - Herpes simplex virus
  - Human papillomavirus (wart-like lesions).
    - *Condyloma acuminatum*
    - Focal epithelial hyperplasia.
  - *Verruca vulgaris*
  - Varicella-zoster virus
  - Herpes zoster
  - Varicella.

### Lesions seen in human immunodeficiency virus infection

- Bacterial infections
  - *Actinomyces israelii*
  - *Escherichia coli*
  - *Klebsiella pneumoniae*.
- Cat-scratch disease
- Drug reactions (ulcerative, erythema multiforme, lichenoid, and toxic epidermolysis)
- Epithelioid angiomatosis
- Neurologic disturbances
  - Facial palsy
  - Trigeminal neuralgia.
- Fungal infection other than candidiasis
  - *Cryptococcus neoformans*
  - *Geotrichum candidum*
  - *Histoplasma capsulatum*
  - Mucoraceae (mucormycosis/zygomycosis)
  - *Aspergillus flavus*.
- Recurrent aphthous stomatitis
- Viral infections
  - Cytomegalovirus
  - *Molluscum contagiosum*.

There are certain oral manifestations such as oral candidiasis, oral hairy leukoplakia, angular cheilitis defined as AIDS-defining disease which are included in the clinical classification of HIV.<sup>[4]</sup> Oral findings play an important role in the detection of infection progression of the disease and future

prognosis, here we report a case of a male patient suffering from HIV under highly active anti-retroviral treatment (HAART) with typical oral manifestations and the treatment outcome after 1 week.

### CASE REPORT

A 44-year-old male patient reported to the dental outpatient department with the chief complaint of ulceration and burning sensation in the oral mucosa for 5 days. Patient reported that he noticed multiple erythematous sites intraorally which are associated with pain which aggravates on mastication and gets relieved after sweet food. The patient reported that intra-oral erythematous sites exacerbate and gets healed by its own for the past 6 months. There was no other history of sensory loss, intraoral burns, pus discharge, or bleeding from the affected areas. There was no history of any prior medical illness before 2011. The patient is under HAART therapy since 2011. He was married and had one son who was unaffected, but his wife was also suffering from HIV infection since 2014. The patient gave a history of tobacco chewing 4–5 times/day for 20 years. On general examination, temperature afebrile, pulse 80/min, blood pressure 105/80 mmHg, and respiratory rate 15/min. The patient was well oriented to time, place, and person. Built was lean and gait was normal. On extra-oral examination, the face was bilaterally symmetrical, lips were competent. Deep fissures, cracks with inflammation, redness were present at the angle of the mouth and corners of the lips suggestive of angular cheilitis [Figure 1]. On temporomandibular joint palpation, there was no clicking or crepitus present. The right submandibular lymph node was palpable of size 1 cm × 1.5 cm approximately, shape was roughly oval, firm, mobile, and nontender on palpation. There were no other cervical lymph nodes palpable.



Figure 1: Angular cheilitis

On intra-oral examination, there was complete depapilation of tongue suggestive of the bald tongue [Figure 2]. Multiple white papular areas were present on the posterior one-third and the left buccal mucosa. White radiating lines were seen on the upper right and left buccal mucosa with intense erythematous surrounding areas suggestive of erosive lichen planus [Figures 3 and 4]. Generalized gingival erythema was present.

Treatment was to stop the habit followed by oral prophylaxis. Medications advised were candid mouth paint four times daily for 7 days, liveril syrup two tablespoon twice daily for 7 days and patient was recalled after 1 week.

The patient came after 7 days and said that he had 80% relief from the previous signs and he could eat food after the treatment. He got complete relief from angular cheilitis [Figure 5]. There was also reduced erythema on the right and left buccal mucosa.

## DISCUSSION

In developing countries like India, stomatognathic manifestations are used for screening of this world wide emerging disease caused by HIV in interior regions. Hence, knowledge about the oral lesions occurring at various stages of HIV infection is important. Patients unaware of the disease should be educated after the diagnosis of the disease for its better prognosis and to prevent transmission of the disease. The estimated number of HIV-infected patients worldwide in 2007 was approximately 33.2 million.<sup>[5]</sup> Where HIV is an infection and AIDS is a disease by HIV, the major cause of death due to AIDS is because of reduced immunity.<sup>[6]</sup>

With the introduction of HAART therapy, there has been a decline in the mortality and morbidity of HIV positive patients which leads to increased CD4+ lymphocyte count and reduced HIV viral load. Certain oral lesions such as oral candidiasis, sarcoma, gingivitis, and periodontitis have decreased by 30%.<sup>[6]</sup> Early treatment interventions reduce the expensive management of the oral lesions at later



Figure 2: Complete depapilation of tongue suggestive of bald tongue



Figure 3: White radiating line was seen on the upper right buccal mucosa with intense erythematous surrounding areas suggestive of erosive lichen planus



Figure 4: White radiating line was seen on the upper left buccal mucosa with intense erythematous surrounding areas suggestive of erosive lichen planus



Figure 5: Complete relief from angular cheilitis

stages.<sup>[5]</sup> At the initial level preventive measures and regular recall visits should be maintained for a better quality of life. Regular brushing, flossing, and mouth gargle are the ideal requisites. The later phase of the disease includes the proper diagnosis of the disease followed by professional dental treatment.<sup>[7]</sup> Oral health of the disease affects the patient's mental and physical health, so healthcare workers should be educated about the relevance of the stomatognathic manifestations to the general health of the patient.<sup>[8]</sup> Although there are various treatment modalities, there are requirements for the development of better treatment of resistant fungal infections and other viral infections for better quality of life.<sup>[9]</sup>

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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### Conflicts of interest

There are no conflicts of interest.

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