

## **COMMON ORAL AND DENTAL MANIFESTATIONS OF HIV INFECTION**

Oral lesions are an important component of the spectrum of disease seen in HIV infection. There are almost forty different lesions reported in association with HIV disease. Presence of any of these lesions may be an early diagnostic indicator of immunodeficiency and HIV infection. Some oral lesions are also indicators of the disease's progression.

Current classification of many oral lesions of HIV disease is based on their strength of association with HIV infection:

### **Lesions Strongly Associated with HIV Infection:**

- Fungal Infections:
  - Pseudomembranous Candidosis
  - Erythematous Candidosis
  - Candidal Angular Cheilitis
- Hairy Leukoplakia
- Linear Gingival Erythema
- Necrotising Ulcerative Gingivitis
- Necrotising Ulcerative Periodontitis
- Necrotising Ulcerative Stomatitis
- Kaposi's Sarcoma
- Non-Hodgkin's Lymphoma

### **Lesions Less Commonly Associated with HIV Infection:**

- Viral Infections:
  - Herpes Simplex
  - Herpes Zoster
  - Condyloma Acuminata
  - Verruca Vulgaris
- Salivary Gland Disease:
  - Xerostomia
  - Salivary Gland Swelling
- Thrombocytopaenic Purpura
- Recurrent Aphthous Ulcers
- Melanotic Hyperpigmentation
- Cryptococcosis
- Histoplasmosis

**Table 2: Summary of Oral Manifestations of HIV/AIDS**

CONDITION/DISEASE	SALIENT CLINICAL FEATURES	DIAGNOSIS	TREATMENT	REMARKS
Pseudomembranous Candidosis	Soft white/yellow, curd-like plaques on oral mucosa. Deposits easily removable by gentle scraping.	Clinical grounds; smear stained by Gram's or PAS stain show candidal hyphae; candidal culture.	Topical antifungals:	
			<u>Mycostatin Pastilles:</u> Dissolve 1 tablet in mouth until gone, 4-5x q.d x 14 days.	Contains nystatin 200,000 units/tablet. Pastilles are more effective than oral suspension due to prolonged contact.
			<u>Mycostatin Oral Suspension:</u> Use 1 teaspoon 4-5x q.d, rinse and hold in mouth as long as possible before swallowing or spitting out (approximately 2 minutes).	Contains nystatin 100,000 units/ml. Do not eat or drink for 30 minutes following application.
			<u>Mycostatin Ointment or Cream:</u> Apply liberally to affected areas 4-5x q.d.	Contains nystatin 100,000 units/g. Denture-wearers should apply to denture surface prior to each insertion. For edentulous patients, mycostatin powder can be sprinkled on the denture.
			<u>Mycelex<sup>®</sup> Troche:</u> 10mg: dissolve 1 tablet in the mouth 5x q.d x 2 weeks.	Contains clotrimazole. Tablets contain sucrose; risk of dental caries with prolonged use (>3 months); care must be exercised in diabetic patients.
			<u>Nizoral<sup>®</sup>:</u> 200mg: take 1 tablet q.d x 10-14 days.	Contains ketoconazole. To be taken if <i>Candida</i> infection does not respond to Mycostatin. Potential for liver toxicity exists. LFT should be monitored with long term use (>3 months).

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			<u>Nystatin:</u> (100,000 units) vaginal tablet dissolved in the mouth t.i.d x 2 weeks.	Contains nystatin.
			<u>Diflucan<sup>®</sup>:</u> 100mg: 2 tablets the first day and 1 tablet q.d x 10-14 days.	Contains fluconazole.
			<u>Mycolog Cream:</u> Apply to affected area after each meal and before bedtime.	Contains nystatin and triamcinolone. For candidal angular cheilitis. This often represents a mixed infection of <i>Candida</i> and other organisms.
			<u>Fungizone<sup>®</sup> Oral Suspension:</u> 1ml swish and swallow q.i.d between meals.	Contains amphotericin B. <b>NOTE:</b> When amphotericin B is used, pharmacologic antagonism may occur with ketoconazole and miconazole. It may increase toxicity of cyclosporin. Anti-neoplastic agents may increase the risk of toxicity of amphotericin-induced nephrotoxicity, bronchospasm, and hypotension. Patients receiving digitalis may present toxicity.
Erythematous Candidosis	Flat red patches on the dorsal surface of the tongue and hard palate.	As above.	As above.	As above.
Candidal Angular Cheilitis	Red, ulcerated, and fissured lesion at the angle of the mouth.	As above.	<u>Mycolog Cream:</u> (See above.)	Occasionally this may be caused by a mixed infection.

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Hairy Leukoplakia (Oral Hairy Leukoplakia)	Asymptomatic bilateral, vertically corrugated or hairy white lesions on the lateral borders of the tongue.	Clinical and histological; demonstration of the virus; (EBV) by in situ hybridisation techniques or PCR	<u>Zovirax® (Acyclovir):</u> 200mg: 1 capsule q.6h x 2 weeks. Surgery, cryotherapy, or application of podophyllin.	Systemic administration causes some regression of HL. HL is not a premalignant lesion.
Linear Gingival Erythema	Well-demarcated, linear band of intense redness along the gingival margins.	Clinical	No treatment is necessary.	Does not respond to oral prophylaxis.
Necrotising Ulcerative Gingivitis	Painful ulceration of the interdental papillae associated with halitosis and spontaneous gingival bleeding.	Clinical; smear for identification of fusospirochetal organisms.	<u>Metronidazole:</u> 500mg: t.i.d x 7 days. Oral prophylaxis (scaling and debridement) is needed for these patients.	Use with caution in patients with blood dyscrasias, liver impairment, CNS/renal disease. Metronidazole increases the bleeding tendency in those on warfarin. No alcohol to be consumed during the treatment with metronidazole. May recur. Referral to dentist for management.
Necrotising Ulcerative Periodontitis (NUP)	Rapidly progressive periodontal disease resulting in bone loss.	Clinical; radiological	As above. Debridement of necrotic tissue.	Common cause of tooth loss; referral to dentist for management.
Necrotising Ulcerative Stomatitis	Extension of NUP into soft tissues. Bone sequestra.	Clinical; radiological	As above. Debridement of necrotic tissue.	Referral to dentist for management.
Kaposi's Sarcoma	Painless purple/violaceous lesions on palatal/anterior gingival mucosa; later becomes raised and ulcerated.	Clinical; histological	Surgery Cryotherapy Radiotherapy and intralesional injection of vincristine	Referral to an oncologist or specialist for management.

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Non-Hodgkin's Sarcoma	Rapidly enlarging rubbery mass in the tonsillar fossa, palate, or gingival.	Clinical; histological	Surgery Radiotherapy Chemotherapy	Referral to an oncologist.
Herpes Simplex (HSV)	Clusters of painful, small vesicles/ulcers on palate or gingivae. Most cases of HSV infections are recurrent. Herpes labialis lesions are on the vermilion or mucocutaneous junction on the lips; form crusts on rupture. Herpes labialis is also known as cold sores.	Clinical; smear for viral inclusion bodies	<u>Zovirax® (Acyclovir):</u> 200mg: 1 capsule q.6h x 2 weeks. <u>Denavir® (Penciclovir) 1% Cream:</u> Apply locally q.2h x 4 days. <u>Vira-A 1% (Vidarabine) Ointment:</u> Apply to affected areas q.i.d.	Use with caution in patients with renal, neurologic, and hepatic diseases.  Contraindications: hypersensitivity to the drug.
Herpes Zoster	Prodrome of pain, multiple vesicles on facial skin, lips, and intraoral structures. Follows the nerve distribution. May be complicated by post-herpetic neuralgia.	Clinical	As above. <u>Carbamazepine (for post-herpetic neuralgia):</u> 200mg: b.i.d to start; 800-1,200mg q.d (in divided doses) x 2 weeks.	
Condyloma Acuminata (Verruca Vulgaris)	Warts are nodular or cauliflower-like in appearance, often multiple.	Clinical; histological	Surgery CO2 laser surgery	Caused by human papillomavirus; uncommon in oral tissues.

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Xerostomia	Dry mouth, often with fissured tongue. Promotes dental caries.	Clinical	Artificial saliva <u>Sodium Carboxymethylcellulose (Baker-Perkins) 0.5% Aqueous Solution:</u> To be used as a rinse as needed. Any of the following: Xerolube <sup>®</sup> /Moi-Stir <sup>®</sup> /MouthKote <sup>®</sup> / Optimoist <sup>™</sup> /Salivart <sup>®</sup>	Sucking ice cubes or lemon drops can be helpful.
Salivary Gland Swelling	Unilateral/bilateral salivary gland swellings.	Clinical	If xerostomia is present, as above.	If xerostomia is present, as above.
Thrombocytopenic Purpura	Bleeding tendencies; petechiae on oral mucosa.	Clinical; platelet count	Platelet transfusions in severe platelet deficiency.	No dental surgical intervention unless platelet numbers are restored.
Melanotic Hyperpigmentation	Melanotic linear lesions on the gingivae.	Clinical	No treatment is necessary.	Due to ARV drug reaction.
Cryptococcosis	Necrotic ulcerative lesions.	Clinical; smear culture	Antifungal treatment.	Oral involvement is rare.
Histoplasmosis	Necrotic growth/ulcers.	As above.	As above.	As above.
Erythema Multiforme	Ulcerative lip and intraoral lesions.	Clinical	Withdrawal of the drug. Sometimes antiviral drugs help.	Referral to a specialist.
Lichenoid Reactions	White lace-like lesions on the oral mucosa.	Clinical; histological	Topical steroid application. Kenalog <sup>®</sup> (triamcinolone acetonide) in Orabase cream 3-4x q.d x 1 week.	Withdrawal of cause if known.
Tuberculous Ulcers	Ulcerative lesions usually on the tongue or gingivae. Usually patient has pulmonary TB.	Clinical; histological (AFB stain); chest x-ray; tests for TB	Treat the systemic disease with anti-TB drugs.	Though TB is on the increase, oral involvement is uncommon.

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Trigeminal Neuralgia	Shock-like pain along the distribution of the trigeminal nerve.	History	Carbamazepine	Uncommon
Facial Palsy	Unilateral paresthaesia of the face.	History; clinical	Sometimes antiviral medications help.	Uncommon
Dental Caries	Dental decay.	Clinical	Early detection and appropriate treatment.	Increased dental caries experience in HIV patients due to poor oral hygiene, xerostomia, etc.