Oral Health and HIV Disease

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Program Objectives

- Appreciate importance of oral health as integral to total patient care
- Appreciate the significance of oral manifestations in era of HAART
- Review common oral manifestations

Goals of Oral Health Program

1. Treat pain, eliminate sources of infection, and identify/diagnose pathology
2. Facilitate maintenance of adequate nutrition by stabilizing and preserving oral tissues and restoring chewing function
3. Educate patient regarding health maintenance – oral hygiene, nutrition, xerostomia management, and medication compliance
4. Contribute to self-esteem and quality of life

Oral Health

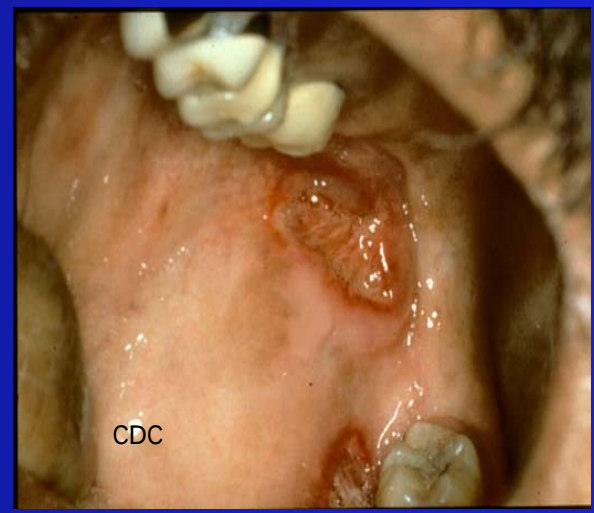
- In a healthy mouth, the gingiva (gum tissue) is generally pink/coral in color
- No bleeding is noted
- Teeth are free from dental caries (tooth decay)
- In this photo, no restorations or “fillings” are observed

Poor Oral Health

- Gingiva is diffusely erythematous (red) with areas of marked inflammation
- Teeth have deposits of plaque and calculus (tartar) near the tooth/ gingiva interface
- Defective dental restorations are noted

Significance of Oral Lesions

- Often first clinical sign of HIV disease
- Signify disease progression
- Marker for HAART failure
- Impact medication compliance
- Impact nutrition



Oral Lesions and HAART

- Appear to be Decreasing:
  - Candidiasis
  - Oral Hairy Leukoplakia
  - Kaposi's Sarcoma
  - Necrotizing Periodontitis
- Appear to be Increasing:
  - HPV assoc. Condyloma acuminata
  - Xerostomia
  - Dental decay

Traditional Outline of Oral Conditions

- **Fungal**
  - *Candidia albicans* (Candidiasis) "Thrush"
  - *Histoplasmosa capsulatum* (Histoplasmosis)
  - *Cryptococcus neoformans*
- **Viral**
  - Oral hairy leukoplakia (Epstein-Barr virus)
  - Herpes simplex virus (HSV)
  - Herpes Zoster "Shingles" (Varicella-zoster virus)
  - Human Papilloma Virus (HPV)
  - Cytomegalovirus (CMV)
- **Periodontal disease**
  - Linear gingival erythema (LGE)
  - Necrotizing ulcerative periodontitis (NUP)
- **Malignant neoplasms**
  - Kaposi's sarcoma (KS)
  - Non-Hodgkins Lymphoma
  - Squamous cell carcinoma
- **Stomatitis/ Ulcers**
  - Aphthous (major/minor)
  - Stomatitis NOS
- **Salivary Gland Disease**
  - Xerostomia

Fungal Diseases

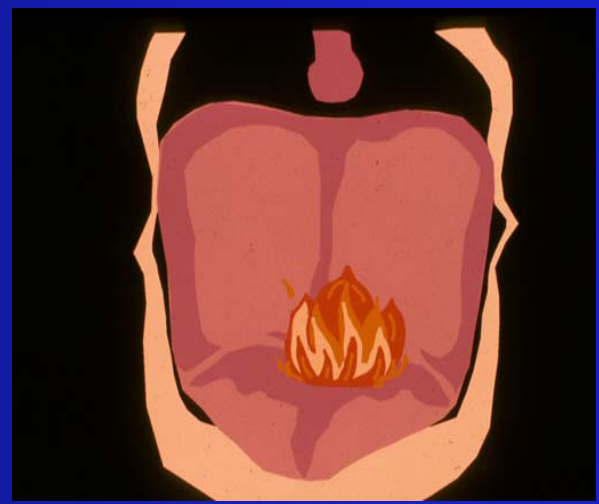
- Candidiasis
- Histoplasmosis
- Cryptococcus

Oral Candidiasis, *Candida albicans*

- fungal infection associated with:
  - antibiotic treatment
  - corticosteroid treatment (inhaled and systemic)
  - diabetes, xerostomia, smoking
  - removable dental appliances
  - defects in cell-mediated immunity
- observed in 60-80% of individuals with HIV (pre-HAART)

Oral Candidiasis- symptoms

- Oral burning
- Dysphagia
- Dysgeusia
- Loss of appetite



Erythematous Candidiasis

red, flat patches on any oral mucosal surface

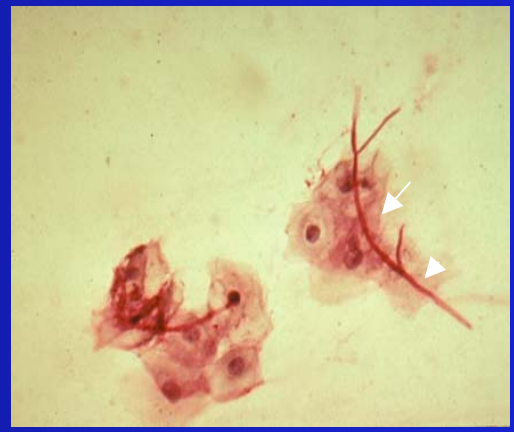
Dorsal tongue

Hard palate

Diagnostic Tools for "yeast"

1. Cytologic smear

2. KOH Prep



Cheek cells showing fungal hyphae

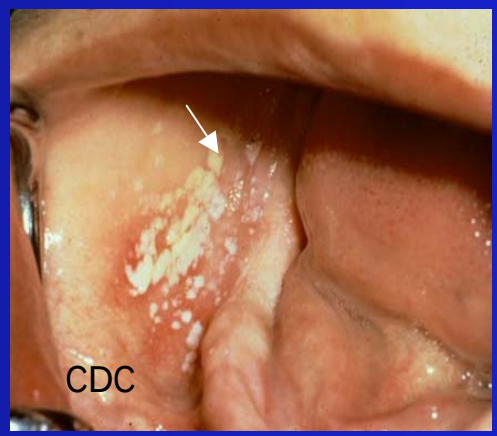
3. Culture

Pseudomembranous Candidiasis ("thrush")

- creamy white or yellowish curd-like plaques on any oral mucosal surface
- usually on red mucosa, easily wiped off - may bleed

soft palate

inside of cheek



Pseudomembranous Candidiasis

Hard Palate

Gingiva

Note the physiologic pigmentation (dark brown areas) on the palate and gingiva

Hyperplastic Candidiasis

- larger areas of white or discolored or coalesced plaques
- cannot be wiped off
- sign of severe immune suppression

Angular cheilitis

- fissures and redness radiating from either or both corners of the mouth
- usually concurrent with intraoral candidiasis
- bottom -post-treatment healing

Oral Candidiasis - Treatment

- Topical - nystatin
  clotrimazole (Mycelex)
  amphoteracin B oral suspension (Fungizone)
- Systemic - fluconazole 100 mg tabs (Diflucan)
  (Two tabs day one, then 1 per day for two weeks.)

Candidiasis Treatment - for Partials and/or Dentures

- Treat oral removable appliances

**Get a NEW toothbrush

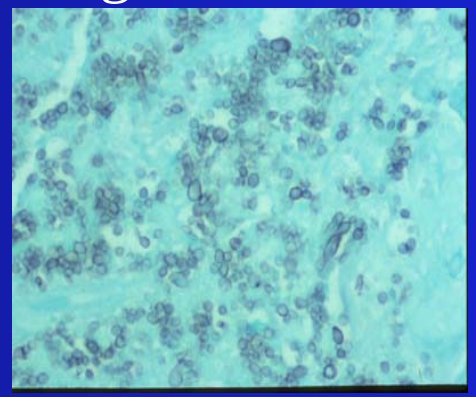
Histoplasmosis

Affects any oral site - gingiva most common, also tongue, buccal mucosa and palate

Usually has ill-defined margins and may be accompanied by submandibular lymphadenopathy

Clinical - chronic ulcer, erythema, and swelling

Silver stain (GMS) shows histoplasmosis organisms



Viral Conditions

- Oral Hairy Leukoplakia (OHL)
- Herpes Simplex (HSV)
- Varicella-zoster (VZV)
- Human Papilloma Virus (HPV)
- Cytomegalovirus (CMV)

Oral Hairy Leukoplakia (OHL)

- white lesion, usually present on lateral borders of tongue,
- vertically corrugated hyperkeratotic patches

Oral Hairy Leukoplakia (OHL)

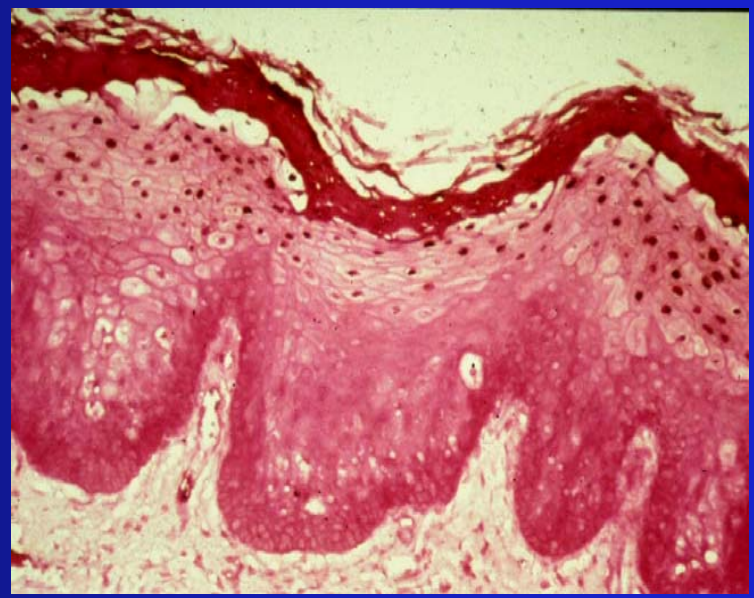
- may appear as hairy or feathery projections
- does not wipe off
- associated with Epstein Barr virus
- asymptomatic (unless co-infected with Candida)

Oral Hairy Leukoplakia - Diagnosis

- Biopsy for definitive diagnosis
- If positive with EBV DNA, suggest
  - HIV counseling and testing

Punch biopsy

EBA/DNA in-situ hybridization

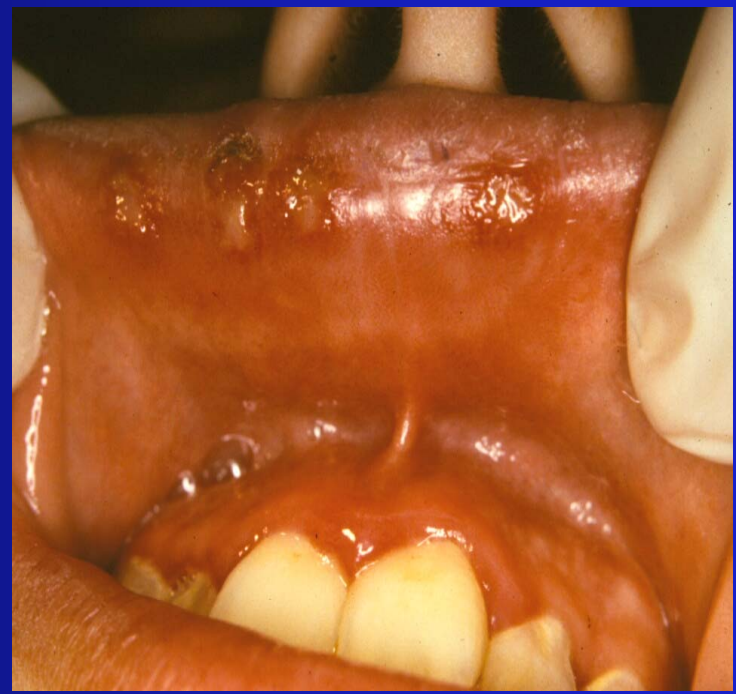


Herpes Simplex Virus (HSV)

- Affects peri-oral areas, lips, palate, gingiva, and intraoral mucosa
- Multiple small vesicles in a cluster (left)
- Vesicles may become ulcerated and coalesce to appear as large ulcers (right)
- Vesicles contain live virus
- Vesicles eventually crust

Herpes Simplex Virus (HSV)

- In HIV+, reactivation clinically appears similar to primary herpes



Varicella-Zoster Virus ("Shingles")

- Result of reactivation of latent Varicella-Zoster virus
- Painful clusters of vesicles – usually localized to one neurodermatome
- May develop recurrent HSV
- Third division of trigeminal nerve affected in photo- (stops at midline of face)

Human Papilloma Virus (HPV)

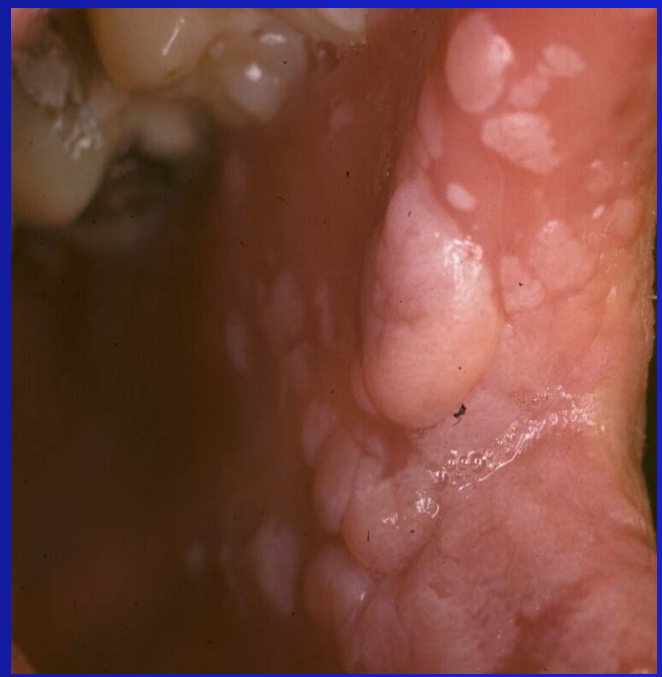
- Condyloma Acuminatum - also called “Oral or Venereal Warts”
- Intraoral or perioral, gingiva, palate, buccal mucosa, covering large areas
- single or multiple
- cauliflower-like or flat
- at site of sexual contact

Human Papilloma Virus (HPV)

- Maybe sessile, flat, or raised
  - High recurrence rate

Lips

Inside lips and cheek



Cytomegalovirus (CMV)

- Human herpes virus (HHV-5)
- Serologic evidence of infection common
- CMV retinitis may affect 1/3 of patients with AIDS- may progress to blindness
- May appear as chronic ulcer anywhere in oral cavity
- Biopsy to confirm diagnosis

Periodontal Disease

- Linear Gingival Erythema (LGE)
- Necrotizing Ulcerative Periodontitis (NUP)

Periodontal Disease Etiology

- Microbial dental plaque initiates periodontal disease
- Disease behavior is dependent on host defenses
- Systemic factors modify all forms of periodontal disease by their effects on normal immune and inflammatory defenses

Linear Gingival Erythema (LGE)

- profound red band along gingiva where tissue meets the teeth
- mild pain
- responds poorly to conventional treatment

mild

more advanced

Linear Gingival Erythema (LGE) Treatment

- Dental debridement
  - 0.12% Chlorhexidine gluconate (PerioGard or Peridex)
  - Rinse 2 times per day for 2 weeks
- Patient must brush 2-3x/day and floss daily

Necrotizing Ulcerative Periodontitis (NUP)

- marker of severe immune suppression
- rapid destruction of gingival tissue and supporting bone
- VERY painful,“deep jaw pain”
- exacerbated by tobacco & xerostomia

Necrotizing Ulcerative Periodontitis (NUP) -Treatment

- Dental debridement with 0.12% chlorhexidine gluconate or povidone iodine
- Antibiotics
  - Metronidazole 250 mg 3 times per day for 7-10 days OR
  - Clindamycin 300 mg 3 times per day for 7-10 days
- Nutritional supplements
- Close follow-up until resolved

Neoplasms

- Kaposi's Sarcoma
- Non-Hodgkin's lymphoma
- Squamous Cell Carcinoma

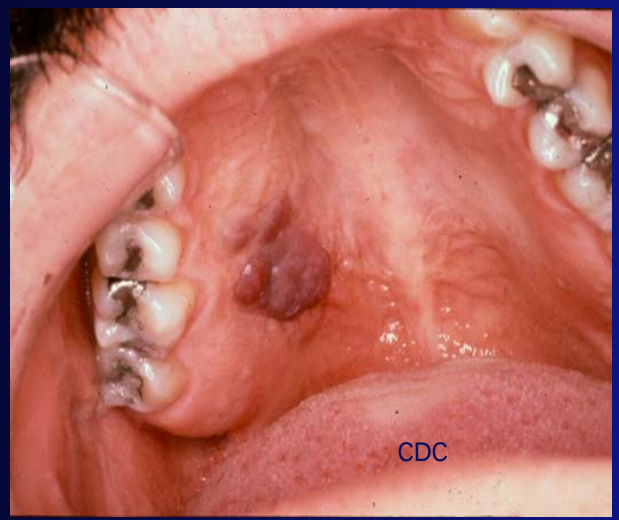
Kaposi's Sarcoma

- Diagnostic for AIDS in HIV positive individual
- Most common oral malignant neoplasm associated with AIDS
- Associated with sexually transmitted virus (HHV-8)
- Intraoral site is initial presentation in 20- 70% of reported cases
- Biopsy necessary to confirm diagnosis

Kaposi's Sarcoma

- Appear as macules, patches, nodules or ulcerations, bluish, brownish, or reddish
- Location:
  - Intra-orally - hard and soft palate and gingiva
  - Found anywhere - GI tract, skin or viscera
- If diagnosed, communication with physician, dermatologist, oncologist, and dentist is essential

Kaposi's Sarcoma – palate



CDC

Kaposi's Sarcoma - gingiva

Probable Early lesion

Pyogenic granuloma may "mimic" Kaposi's sarcoma of the gingiva

- Smooth lobulated growth, pink, red, or purple in color - May be ulcerated
- 75% occur on gingiva, also on lips, tongue and inside cheek (buccal mucosa)
- Exuberant tissue response to local irritation

  (Not a tumor or malignancy)

Non-Hodgkin's Lymphoma

- Second most common HIV associated malignancy
  usually B-cell type lymphoma
- Mouth may be initial presentation
  - Palate and gingiva most common location, but could be anywhere
  - Appear as nodules, growths, painful mass
  - May be non-specific ulcer
- Prognosis is poor

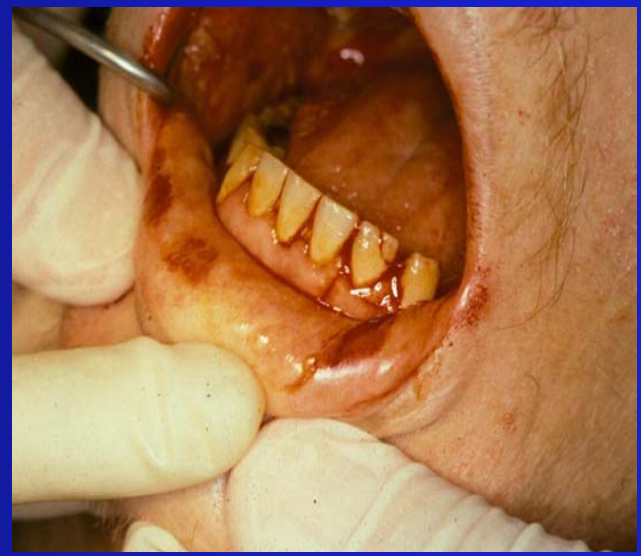
Squamous Cell Carcinoma

- Non-healing ulcer anywhere
- Biopsy any red patch, white patch, or ulcer that is non-responsive to treatment

Thrombocytopenia

- Intraoral bleeding and/or areas of ecchymosis may be observed with very low platelet counts or ineffective coagulation

- Requires immediate consultation and treatment



Recurrent Aphthous Ulcers (RAU)

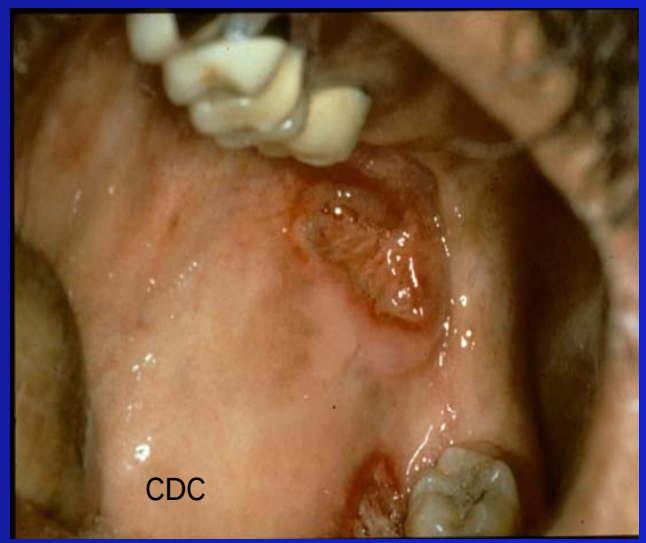
- No etiologic agent identified
- Lesions found on buccal mucosa (cheeks) posterior oropharynx, sides of tongue
- Equal frequency - but more painful and prolonged in HIV infected vs. non-infected

Minor Aphthous Ulcer “canker sores”

- variable in size - 2-5 mm. diameter
- surrounded by red halo, may have pseudomembrance covering
- located on non-keratinized (movable) mucosa
- often report history of lesions or “canker sores”

Major Aphthous Ulcers

- greater than 5 mm in diameter, painful, ,and may persist for many weeks
- biopsy often if non-responsive to treatment and necessary to r/o opportunistic infection
- may heal with scarring
- impairment of speech, swallowing and nutrition



Aphthous Ulcer Treatment

- Topical steroids:

  Fluocinonide 0.05% ointment (Lidex), with 1:1 Orabase Apply qid

  Clobetasol 0.05% (Temovate) Apply bid ..very potent

  Dexamethasone elixir (0.5 mg/5 cc)

  - Hold 1-2 teaspoonfuls in mouth 2 minutes, swish and expectorate, qid

- Systemic corticosteroid therapy for major lesions – as advised by physician

Sedative Mouth Rinse

For temporary relief of pain from oral ulcers

- Rx: Must be compounded
  - 80 ml 2% viscous xylocaine
  - 80 ml Maalox
  - 100 ml distilled water
- Disp: 260 ml
- Sig: Swish for 1 minute and expectorate

*Note – gag reflex may be diminished or lost

Xerostomia – "Dry Mouth" Signs and symptoms

- Xerostomia is the subjective feeling of oral dryness
  - Patient states they can't eat a meal without water
  - Frequent thirst
- Often accompanied by objective evidence of hyposalivation
  - Gloved hand will stick to mucosa
  - No "pooling" of saliva observed in floor of mouth
  - Significant dental decay
- Salivary gland enlargement sometimes observed

Salivary Gland Enlargement

- Enlargement of major salivary glands, usually parotid gland
- Lymphocytosis (CD8) and Lymphoproliferative response with cystic lesions
- May need biopsy and imaging to determine diagnosis

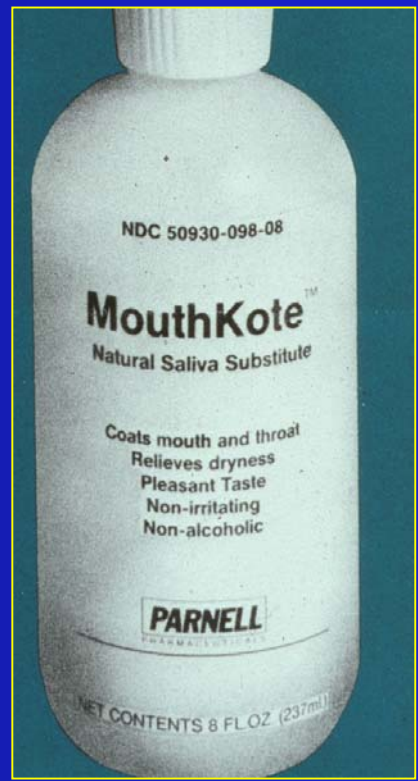
Hyposalivation

- Inadequate saliva production - common
- Due to HIV infection and medications which contribute to impaired salivation
- May occur early in the course of the disease
- Treatment with fluorides, good oral hygiene, and frequent recalls are essential to avoid tooth loss

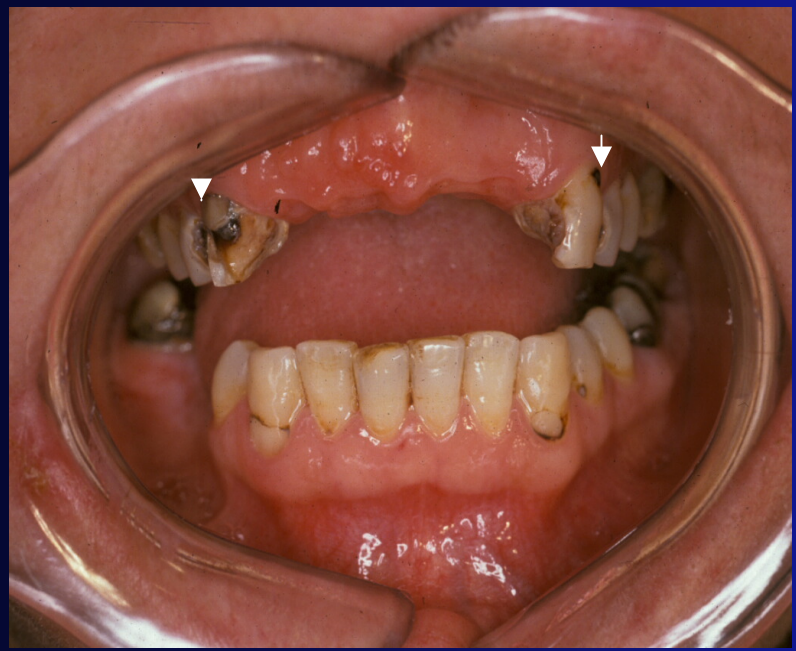
Xerostomia Treatment

- Sugarless gum (Xylitol)
- Sugar-free hard lozenges
- Artificial saliva products -
  - Optimoist, Oral moisturizer,

  - Mouth-Kote (OTC)

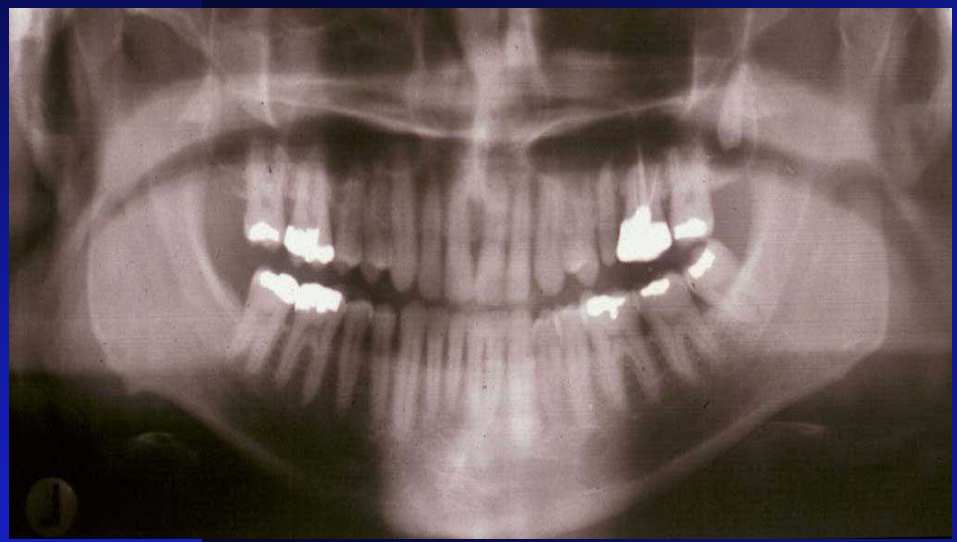


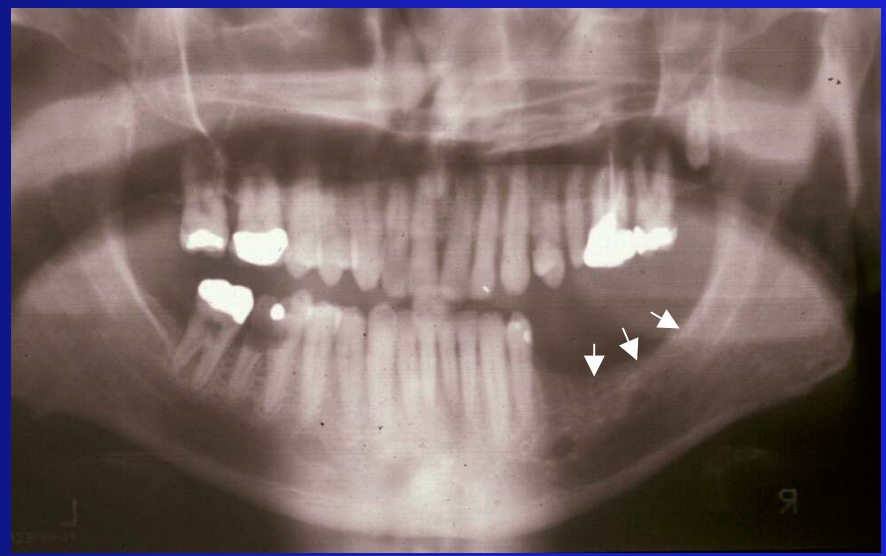
Unrestored Dental Decay (Caries)



Brown areas indicate decay

Result of hyposalivation is tooth loss *(patient lost 3 teeth in 2.5 years)*





Xerostomia Treatment

Fluorides

OTC: Gel-Kam

(0.4% stannous fluoride)

Rx: Prevident Gel

or Prevident 5000 Plus

(toothpaste plus fluoride)

Basic Oral Care Plan

- Initial dental exam for every patient
- Recall every 6 months, sooner if oral conditions include:
  - High caries rate or Xerostomia
  - Periodontal disease
  - Fungal, Viral, or Bacterial infections
  - Neoplastic lesions

Summary

- Goal - Maintain maximum health and quality of life for patients
  - Oral assessments
  - Communication among physician, nurse, dental team, and staff is essential

Additional References

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