New Classification
June 2004

Classification of oral diseases of HIV-associated immune suppression (ODHIS)

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Classification of oral diseases of HIV – associated immune suppression (ODHIS)

• Present classification systems for HIV – associated oral lesions developed in the early 1990’s
• HAART
• Changing pattern of oral conditions
• New system needed
Classification of oral diseases of HIV – associated immune suppression (ODHIS)

- System should reflect:
  - Changes in epidemiology of oral lesions
  - Therapeutics
  - Development of lesions and immune systems
  - Oral lesions to oral disease

- Oral disease: abnormality characterized by a defined set of signs and symptoms in the oral cavity, extending from the vermilion border of the lip to the oropharynx, with the exception of salivary gland disease
New Classification

- Group 1 – ODHIS associated with severe immune suppression (CD4<200 cells/mm³)
- Group 2 – ODHIS associated with immune suppression (CD4<500 cells/mm³)
- Group 3 – ODHIS assumed associated with immune suppression
  - A) More commonly observed
  - B) Rarely reported
- Group 4 – Therapeutically-induced oral diseases
- Group 5 – Emerging oral diseases
Classification of oral disease of HIV-associated immune suppression (ODHIS)

- Oral diseases do not belong exclusively to one classification Group
- Overlap may exist
Use for the New Classification

- Identifying undiagnosed individuals
- Provides additional rationale for HIV testing
- Affects access and type of HIV-related healthcare
- Provides clinical markers for therapeutic interventions and efficacy
Group 1. ODHIS associated with severe immune suppression (CD4<200 cells/mm³)

- Major recurrent aphthous ulcer
- Neutropenia-induced ulcers
- Necrotizing ulcerative periodontitis
- Necrotizing stomatitis
- Cytomegalovirus (CMV)
- Chronic HSV
- Histoplasmosis
- Esophageal, pseudomembranous, and hypertrophic candidiasis
- Oral hairy leukoplakia
- Kaposi’s sarcoma
Pseudomembranous Candidiasis
Esophageal Candidiasis
Hyperplastic Candidiasis
Pseudomembranous Candidiasis / KS
Kaposi’s Sarcoma
Kaposi’s Sarcoma
Histoplasmosis
Periodontitis
Idiopathic Necrotizing Stomatitis

Consider:
• Bacterial
• Viral
• Fungal
• Combination

Necrotizing Stomatitis
Chronic HSV
Group 2. ODHIS associated with immune suppression (CD4,500 cells/mm3)

- Major recurrent aphthous ulcer
  - Increased frequency, harder to treat, atypical location
- Erythematous candidiasis
- Salivary gland disease
  - Drug induced low salivation
  - Facial palsy
  - Neuropathies
- Hyposalivation
- Human papilloma virus (HPV)
- Linear gingival erythema
- Non-Hodgkin’s lymphoma
Erythematous Candidiasis
Lymphoepithelial Cyst
Human Papilloma Virus
Group 3. ODHIS assumed associated with immune suppression

- More commonly observed
  - Angular candidiasis
  - Herpes labialis
  - Intra-oral herpes
  - Minor aphthous ulcers

- Rarely reported
  - Bacillary epithelioid angiomatosis
  - Tuberculosis
  - Deep-seated mycosis (except histoplasmosis)
  - Molluscum contagiosum
  - Varicella Zoster Virus (VZV)
Angular Candidiasis
HSV Labialis
Intra-oral Herpes
Coccidiomycosis
Group 4. Therapeutically-induced oral diseases

- Side-effect
  - Melanotic hyperpigmentation
  - Ulcers
  - Hyposalivation
  - Lichenoid drug reaction
  - Neutropenia-induced ulcers
  - Thrombocytopenia
  - Lypodystrophy-associated oral changes
  - Perioral paresthesia
  - Steven Johnson’s?
  - Exfoliative cheilitis?

- Resistance-induced disease
  - Different *Candida* spp and strains
  - HSV
Antiretrovirals and Adverse Reactions

**Drugs**
- Indinavir
- Saquinavir
- Amprenavir
- Nevirapine
- Delavirdine
- Efavirenz
- Stavudine
- Didanosine

**Adverse reactions**
- Oral ulcers
- Stevens Johnson’s
- Taste changes
- Dryness
- Perioral paresthesia
- Thrombocytopenia
Ulcers – Medication Induced

Recurrent HSV
Group 5. Emerging oral diseases

- Human papilloma virus, several HPV types (may be associated with immune reconstitution)
- Erythema migrans
- Variants of Non-Hodgkin’s Lymphoma (NHL B-cell types)
- Epithelial neoplasms
- Aggressive interproximal dental caries
Condyloma Accuminatum

HPV Genotypes 6 & 11
Squamous Cell Carcinoma
Trends in Cancer and HIV

- Between 1996-2002, KS and cervical cancer declined, not NHL

- Among Chicago clinic patients
  lung (RR = 3.63),
  HD (RR = 77.43),
  anorectal (RR = 5.03),
  melanoma (RR = 4.10),
  head/neck (RR = 9.96)

- Compared to general population, incidence has notably increased in HIV-infected individuals

Aggressive Interproximal Caries