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內文：

I. Introduction

- Highly active antiretroviral therapy (HAART) modified the course of HIV disease after 1995 with longer survival and improved quality of life
- HAART cannot eradicate HIV infection, infected CD4 + T-cells is established during the earliest stages
- Toxic side effects of HAART
 - ⇒ Hypersensitivity
 - ⇒ Lactic acidosis
 - ⇒ Higher blood lipids
 - ⇒ Anemia
 - ⇒ Neuropathy
 - ⇒ Lipodystrophy
 - ⇒ Pancreatitis

II. Features of periodontal lesions in HIV-infected adult p'ts

- Seven cardinal oral lesions
 1. Oral candidiasis
 2. Oral hairy leukoplakia
 3. Kaposi sarcoma
 4. Non-Hodgkin lymphoma
 5. Linear gingivitis erythema (LGE)
 6. Necrotizing ulcerative gingivitis (NUG)
 7. Necrotizing ulcerative periodontitis (NUP)
 - ⇒ 5.6.7 strong associated with HIV
 - ⇒ Criteria of HIV-related oral lesions
 - ◆ Not well defined in children
- Linear gingivitis erythema (LGE)
 - ⇒ Distinct fiery red band along the margin of gingiva
 - ⇒ Anterior teeth , common extend to posterior teeth
 - ⇒ Bleeding , discomfort
 - ⇒ Petechia-like patch on attach or free gingiva
- Necrotizing ulcerative gingivitis (NUG)
 - ⇒ Rapid onset and painful inflammation of gingiva
 - ⇒ Rapid destruction of soft tissue
- Necrotizing ulcerative periodontitis (NUP)
 - ⇒ Bleeding , sharp pain ulcerated gingival papillae
 - ⇒ Rapid and extensive soft tissue necrosis
 - ⇒ Advanced loss of periodontal attachment , bone exposure
- Risk factor for periodontal disease in HIV-infected
 - ⇒ CD4⁺ cells counts , viral load , species of microbiota
- CD4⁺ cells counts < 200 cells mm⁻³ , immune deterioration
- HAART therapy era , CD4⁺ cells counts are low

III. Prevalence of periodontal lesions in HIV-infected individuals

- HAART change epidemiology of opportunistic infection in HIV-infected p'ts
- HAART also decreased the mortality and morbidity of HIV infection
- Oral candidiasis appears to be the most decreased lesion after HAART

IV. Bacteria associated with periodontal disease in HIV-infected patients

- Putative periodonopathogenic bacteria
 - ⇒ *Aggregatibacter actinomycetemcomitans*
 - ⇒ *Fusobacterium nucleatum*
 - ⇒ *Porphyromonas gingivalis*
 - ⇒ *Prevotella intermedia*
 - ⇒ *Tannerella forsythia*
 - ⇒ *Treponema denticola*
- Not usually linked with periodontal disease
 - ⇒ *Enterococcus faecalis*
 - ⇒ *Acinetobacter baumannii*
 - ⇒ *Pseudomonas aeruginosa*
 - ⇒ *Campylobacter pylori*
- Complex combinations of microbes in subgingival area in HIV-infected p'ts
- Subgingival biofilm microorganisms active inflammatory cells
 - ⇒ Polymorphonuclears (PMN)
 - ⇒ Lymphocytes
 - ⇒ Macrophages
- Host defense factor
 - ⇒ Hypotonic nature of saliva
 - ⇒ Endogenous inhibitors of HIV
 - ◆ Particularly secretory leucocyte protease inhibitor (SLPI) that blocks HIV infection in several cell-culture systems
 - ⇒ Salivary mucins MUC5B and MUC7
 - ◆ Trap and aggregate the virus and can inhibit it by 100%
 - ⇒ sIgA antibodies which neutralize HIV
 - ⇒ Antimicrobial peptides such as a and b-defensins
 - ⇒ Histatins and lactoferrin
- Infectious virions and proviral HIV-1 DNA in saliva from GCF
 - ⇒ Include serum and HIV-containing macrophages and lymphocytes
 - Increased during periodontal infection
- Dendritic cells (DCs) and macrophages in gingival express C-type lectin receptors which are targets for HIV and other microbes
 - ⇒ DC-SIGN (Dendritic cell-specific ICAM-3-grabbing non-integrin, CD209),
 - ⇒ MR (mannose receptors, CD206)
 - ⇒ Langerin (CD207)
- For patients with chronic periodontitis, an increase in the number of dermal dendritic cells (DDCs) expressing DC-SIGN receptors and a trend for increased mannose receptors identified in the inflamed gingival lamina propria
- Dendritic cells, DDCs and LCs, form immune conjugates with CD4 + T cells in the lamina propria and under these conditions it is possible for dendritic cells to transfer HIV in the T-lymphocytes in the inflamed gingival lamina propria
- HIV+/AIDS patients under HAART
 - ⇒ Present CD4 + lymphocyte counts of $>500 \text{ cells ml}^{-1}$
 - ⇒ Undetectable viral loads can suffer opportunistic oral HIV-associated

infections

V. Conclusions

- HAART significantly modified the course of HIV disease
 - ⇒ Oral candidiasis infection more significantly decreased after the introduction of HAART
 - ⇒ Prevalence and course of periodontal lesions have also been modified

題號	題目
1	下列何者不是 AIDS 病人口內常見的病徵? (A) Hairy leukoplakia (B) Candidiasis (C) Necrotizing ulcerative periodontitis (D) Hairy tongue
答案(D)	出處：Ch.7 p.237 ~ p.242 Hairy tongue 為抽菸常見舌部病徵
題號	題目
2	下列與 AIDS 相關的口腔病灶，何者所發生的致病源與其他三者不同 (A) Candidiasis (B) Herps zoster (C) Hairy leukoplakia (D) Kaposi's sarcoma
答案(A)	出處：Ch.7 p.230 ~ p.250 (A) Candidiasis 為 fungus infection (B) Herps zoster 為 Herps simplex virus (HSV)引起 (C) Hairy leukoplakia 為 Epstein-Barr virus (EBV) (D) Kaposi's sarcoma 為 Human herpesvirus type 8 (HHV-8)引發