

### Prevalence of High-Grade Anal Intraepithelial Neoplasia (AIN) in Anal Lesions in HIV + Men Who Have Sex with Men (MSM) from a Venezuelan Private Medical Center

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**Background:** anal intraepithelial neoplasia (AIN) is frequent in HIV-1-infected men-who-have-sex-with-men (MSM). High-grade AIN is considered the precursor of invasive anal squamous cell cancer. Anal condylomata, high-grade AIN, and anal squamous cell cancer are more common in MSM, particularly those with HIV. This study investigates the prevalence of histologically and molecularly confirmed high-grade AIN within anal lesions of MSM.

**Methods:** we studied 188 MSM evaluated at Hospital de Clinicas, one of main private Venezuelan medical centers. Coloproctological exam was performed and anal samples were collected for cytological, histological analyses, HPV-DNA-PCR and hybridization detection methods. Anal biopsy was performed with abnormal coloproctological exam. Cytology results were reported using two main categories: low-grade (LG-AIN) and high-grade (HG-AIN) anal intraepithelial neoplasia. Anal squamous cells of unknown significance (ASCUS) were reported. CD4+ T-cell counting and HIV-1-RNA viral level were evaluated. Low-risk HPV (6 and 11) and high-risk HPV (16/18/31/33/35) probes were used for HPV DNA amplification. Variables were analyzed with SPSS

**Results:** main patient age was  $40.5 \pm 1.5$  y-old, main CD4 counts  $354.7 \pm 28.8$  cells/mm<sup>3</sup>, geometric mean viral load  $3.21 \pm 0.16$  log HIV-RNA copies. From the total, 41.6% presented HG-AIN at cytology, 41.6% were normal, 0.5% LG-AIN ( $p < 0.05$ ). HPV DNA presence was detected in 56.3% of patients, in 75% of patients with SIL ( $p < 0.05$ ), 13.7% classified as high-risk HPV, 15.8% low-risk, 5.8% mixed, 20% negative. Anal condylomata were found in 1.6% of patients, 2.6% presented ASCUS

**Conclusions:** high-risk and low-risk HPV were detected. There was no relationship between specific HPV types identified and variables tested. Anal HPV was nearly universal in men infected with HIV and often caused by multiple types. High-grade AIN contained a HPV types greater burden. These data demonstrate high prevalence of HPV in HIV-infected MSM and suggest the need to develop HPV screening protocols for males.

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### Epidemiologic and Immunologic Characters of HIV/TB Co-infected Patients

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**Background:** Tuberculosis is the only opportunistic infection in HIV infected patients which presents by it itself. Tuberculosis is a contagious infection which can be a threatening infection for non HIV infected population as well as HIV infected people and a public health problem. Prevention, diagnosis and treatment of tuberculosis as soon as possible are important.

**Methods:** All 455 western blot confirmed HIV infected patients in VCT (voluntary counseling testing) clinic of Tehran Univesity of Medical Science in a two-year interval (April 2004-March 2006), are screened for tuberculosis

**Results:** Among 63 cases of TB/HIV co-infected patients there are 32 cases of pulmonary tuberculosis (51% of TB/HIV co-infection) mean age is 37.5 years ( $R = 26-51$ ). Mean CD4 count and CD4% are 207 ( $R = 8-1000$ ) and 14% ( $R = 1-60\%$ ), Mean CD8 count and CD8% are 770 ( $R = 187-1611$ ) and 57% ( $R = 28-81\%$ ) respectively. 19 of 32 (60%) have positive sputum smears. 26 cases suffer from extra-pulmonary tuberculosis. 11 cases present isolated extra-pulmonary tuberculosis (17.5% of TB/HIV Co-infection) (pleural effusion, peripheral adenopathy, osteoarticulaire tuberculosis, Meningitis). Mean age is 38.5 years (30-50). Mean CD4 count and CD4% are 256 ( $R = 5-632$ ) and 15% ( $R = 2-28\%$ ), mean CD8 count and CD8% are 911 ( $R = 164-1833$ ) and 52% ( $R = 31-67\%$ ) respectively. 15 cases present disseminated tuberculosis (24%). Mean CD4 count and CD4% are 125 ( $R = 25-365$ ) and 10% ( $R = 1-21\%$ ), mean CD8 count and CD8% are 1063 ( $R = 120-2680$ ) and 61 ( $R = 24-76$ ) respectively

**Conclusions:** One of seven (63 of 455) HIV infected patients experience symptomatic clinical tuberculosis (incidence = 14%) and one of nine TB/HIV co-infected die of tuberculosis (Mortality = 11%). More than 50% of TB/HIV co-infected patients suffer from pulmonary tuberculosis and 60% of them have positive sputum smears. One of four (15 of 63) (24%) suffer from disseminated tuberculosis. Pulmonary and Isolated extra-pulmonary tuberculosis patients suffer from moderate immune deficiency (mean CD4 > 200) while disseminated tuberculosis occurs in severe immune deficient patients.

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