Piketty et al. Infectious Agents and Cancer 2010, 5(Suppl 1):A59
http://www.infectagentscancer.com/content/5/S1/A59

INFECTIOUS AGENTS AND CANCER

MEETING ABSTRACTS Open Access

Persistence of anal squamous intraepithelial lesions and anal HPV infection in HIV-infected patientsdespite immune restoration under cART

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From 12th International Conference on Malignancies in AIDS and Other Acquired Immunodeficiencies (ICMAOI)
Bethesda, MD, USA. 26-27 April, 2010

Background

A high prevalence of anal squamous intraepithelial lesions (ASIL) and HPV infection have been observed in HIV-infected MSM in the pre-cART era. To date, the impact of cART on the natural history of HPV infection and ASIL is poorly documented.

Methods

94 HIV-infected MSM naïve of cART were enrolled in a longitudinal study before starting a first-line regimen of cART. Each patient provided anal samples for cytology, histology, and HPV DNA testing at baseline, month 12, and month 24 of cART. HPV DNA was detected by real-time PCR and Roche Linear Array assay. Anal cytologic was processed by the Thin Prep™ method (Hologic). CD4+ and CD8+ T cell responses to HPV-16 E6 and E7 proteins were measured in a subgroup of individuals exhibiting HPV-16 anal infection at inclusion.

Results

Prevalence of low-grade SIL, high-grade SIL, and HPV infection was similar at M12 compared to baseline. Among patients with normal cytology and/or histology at baseline, 44% progressed to SIL at M12 whereas 31% of patients with ASIL at baseline exhibited a regression at M12. Specific anti-HPV CD4 T cell responses were mostly undetectable both at baseline and M12. (Table 1 and 2)

At month 12, prevalence of anal HPV DNA detection was similar than at baseline. High-risk HPV was detected at month 12 in 92% of the patients with high-risk HPV infection at baseline. Low-risk HPV was detected at month 12 in 91% of the patients with low-risk HPV infection at baseline. HPV-16 and HPV-18 were detected at month 12 in 13% and 3.7% of patients with no HPV-16 and HPV 18 infection at baseline, respectively. HPV-16 was detected in 100% and 70% of high-grade SIL at baseline and month 12, respectively.

Table 1 The median age of the patients was 39.7 years (33.2-43.5). Baseline and month 12 cytologic and/or histologic results

	CD4/mm^3 median (Q1-Q3)	Plasma HIV RNA log$_{10}$ copies/mL	VL <50	Prior AIDS event	Visible lesion	Presence of condyloma	Anal SIL	Low-grade SIL; High-grade SIL
Baseline	299 (242 – 342)	4.8 (4.17 – 5.26)	1%	4 (4%)	40/94 (43%)	23/94 (25%)	51 (54%)	30 (32%); 8 (9%)
M12	500 (411 – 575)	1.6 (1.6 – 1.6)	93%		25/71 (35%)	5/71 (7%)	41 (58%)	24 (34%); 10 (14%)

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Table 2 Baseline and month 12 virological results

	Number of HPV	Number of high-risk and low-risk type	High risk HPV	HPV-16	HPV-18	HPV-16 DNAlog_{10} copies/10^6 cells
Baseline	5 (2 – 7)	3 (2 – 5); 2 (1 – 4)	83 (90%)	49 (53%)	28 (30%)	6.1 (5.3 – 7.1)
M12	5 (2 – 6)	3 (1 – 4); 2 (1 – 4)	59 (87%)	28 (41%)	15 (22%)	6.1 (2.0 – 7.2)

Conclusion

Our results demonstrate a high prevalence and incidence of ASIL and anal HPV infection in HIV-infected MSM despite CD4 recon-stitution under cART. These data suggest that all HIV-positive MSM, even under antiretroviral therapy, remain at risk of anal SIL.

Acknowledgements

This article has been published as part of *Infectious Agents and Cancer* Volume 5 Supplement 1, 2010: Proceedings of the 12th International Conference on Malignancies in AIDS and Other Acquired Immunodeficiencies (ICMAOI). The full contents of the supplement are available online at http://www.biomedcentral.com/1750-9378/5?issue=S1.

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Published: 11 October 2010

doi:10.1186/1750-9378-5-S1-A59
Cite this article as: Piketty *et al.*: Persistence of anal squamous intraepithelial lesions and anal HPV infection in HIV-infected patientsdespite immune restoration under cART. *Infectious Agents and Cancer* 2010 **5**(Suppl 1):A59.