

Anal Cytology Abnormalities in HIV-Infected Men: Are Heterosexual Males at Risk?

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BACKGROUND

- HIV-infected persons have an increased risk of anal cancer. Anal HPV colonization and HIV-related immunosuppression are thought to contribute to this increased risk.
- Screening with anal cytologic testing has been proposed to detect pre-cancerous lesions in HIV-infected persons, but it is unclear if persons of all sexual risk groups benefit from testing.

OBJECTIVE

- To compare results of anal cytology testing in HIV-infected heterosexual men (HM) and men who have sex with men (MSM).

METHODS

- We identified all anal cytology tests performed at Mount Sinai in HIV-infected men from 2005-2012.
- We then collected data on demographics, anti-retroviral use, and subsequent high-resolution anoscopy (HRA).
- Our analytic sample consisted of 456 HIV-infected MSM and 123 HIV-infected HM.
- We compared rates of abnormal anal cytology, histology, and frequency of biopsy by sexual risk group.

RESULTS

Characteristic	MSM N = 456	HM N = 123	P-value
Age (years), median (interquartile range)	45 (37-51)	53 (48-59)	<0.001
Smoking			
Never	184 (40)	33 (27)	0.03
Former	112 (24)	41 (33)	
Current	137 (30)	45 (37)	
Unknown	22 (5)	4 (3)	
Anti-Retroviral Use	433 (95)	119 (97)	0.4
Anal Cytology Results			
Inadequate	36 (8)	23 (19)	<0.001
Benign	118 (26)	60 (49)	
ASCUS	158 (35)	21 (17)	
ASC-H	4 (1)	1 (1)	
LSIL	119 (26)	16 (13)	
HSIL	20 (4)	1 (1)	
Number of Cytology Testing Episodes, mean	1.9	1.6	0.002

ASCUS = Atypical Squamous Cells of Undetermined Significance, ASC-H = Atypical Squamous Cells Cannot Rule Out High Grade Lesion, LSIL = Low Grade Squamous Intraepithelial Lesion, HSIL = High Grade Squamous Intraepithelial Lesion

Table 1. Baseline Characteristics by Sexual Risk Group

Cytology	Histology		P-value
	HGAIN	Invasive Carcinoma	
MSM (n=187)			
ASCUS	21 (25)	0 (0)	<0.001
ASC-H	0 (0)	0 (0)	
LSIL	41 (47)	0 (0)	
HSIL	9 (69)	0 (0)	
Heterosexual men (n=28)			
ASCUS	1 (8)	1 (8)	0.3
ASC-H	0 (0)	0 (0)	
LSIL	4 (30)	0 (0)	
HSIL	0 (0)	0 (0)	

HGAIN = High Grade Anal Intraepithelial Neoplasia

Table 2. Histology Findings in Subjects with ASCUS or Greater Cytology

Characteristic	MSM N = 456	HM N = 123	P-value
Referred for HRA?			
All Patients	214 (47)	36 (30)	<0.001
Cytology >= ASCUS	187 (62)	28 (70)	0.3

Table 3. Patients Referred for HRA

Characteristics	MSM N = 131	HM N = 33	P-value
Benign Cytology with Eventual Atypia (must have more than 1 pap)	52 (40)	3(9)	0.001

Table 4. Patients with Benign Cytology who Eventually had Atypia

CONCLUSION

- Heterosexual men appear to have low risk for high-degree atypia on anal cytologic testing and are more likely to have benign cytology and histology than MSM.
- Further research is needed regarding the safety and appropriateness of anal cytology testing for cancer screening in heterosexual males.