Factors Associated With Anal Dysplasia Among Young MSM and TW With HIV in Atlanta

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BACKGROUND

- Men who have sex with men (MSM) and transgender women (TW) with HIV are disproportionately affected by anogenital human papillomavirus (HPV) infection
- MSM and TW with HIV have high rates of anal intraepithelial neoplasia (AIN) and subsequent anal cancer
- There are no national guidelines for anal cancer screening in this group
- Vaccination rates among men and TW remain low in the United States
- There is a need to understand risk factors for high-grade AIN to inform screening guidelines and preventative measures in this population
- We aimed to evaluate factors associated with high-grade AIN on anal biopsy among young MSM and TW with HIV in Atlanta, GA

METHODS

- Retrospective chart review from 2009-2020
- Cisgender MSM and TW with HIV aged 13-25 years at the Grady Ponce and Family Youth Clinic in Atlanta, GA
- Patients who underwent anal biopsy over the study period were included
- Data were collected on patient characteristics, sexual history, and anal histology results
- High-grade AIN defined as AIN 2 or 3
- Associations between clinical and demographic factors with high-grade AIN were estimated using logistic regression (SAS v9.4, Cary, NC)
- Adjusted odds ratios (aORs) and 90% confidence intervals (CIs) are reported
- Statistical significance was assessed at the 0.10 alpha-level

Young MSM and TW with HIV who were *incompletely or unvaccinated* against HPV were **more likely** to have high-grade anal dysplasia on anal biopsy than those who were completely vaccinated.

CONCLUSIONS

- Our study found disproportionately high rates of high-grade AIN on anal biopsy among young MSM and TW with HIV
- Those who had ever received surgical treatment for anogenital HPV and those who were incompletely or unvaccinated against HPV were more likely to have high-grade disease
- To our knowledge, this is the first study to show an association between vaccination status and high-grade AIN in this population
- Our data emphasize the urgent need to improve HPV vaccination efforts and pursue larger surveillance studies of high-grade anogenital disease among young MSM and TW with HIV

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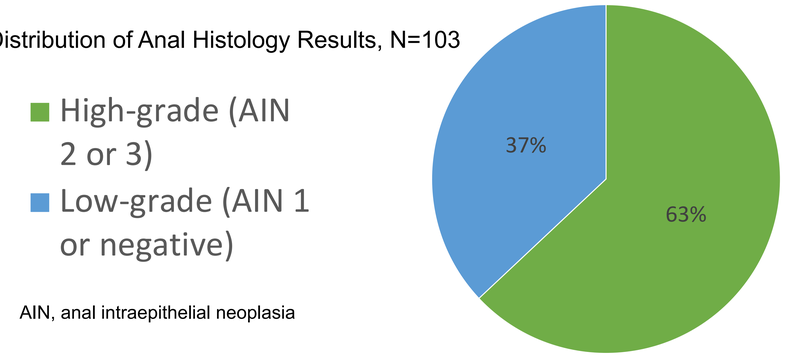
RESULTS

Table 1: Patient Demographics and Clinical Characteristics, N=103

Characteristic	No. (%)
Age at first observation (years), mean ± SD	19.71 ± 1.89
Gender identity	
Cisgender men	100 (97)
Transgender women	3 (3)
Race/Ethnicity	
Black	94 (91)
Other	9 (9)
Mode of HIV transmission	
Horizontal	101 (98)
Vertical	2 (2)
History of tobacco use	
Yes	38 (37)
No	65 (63)
History of anogenital condyloma	
Yes	85 (83)
No	18 (17)
Surgical treatment for anogenital HPV, ever	
Yes	67 (65)
No	36 (35)
Vaccination status	
Complete (3 doses)	12 (12)
Incomplete or unvaccinated (0, 1, 2 doses)	91 (88)
CD4 count at biopsy (cells/μL), mean ± SD, N=101	441.93 ± 243.33

HPV, human papillomavirus

Figure 1: Distribution of Anal Histology Results, N=103



AIN, anal intraepithelial neoplasia

Table 2: Factors Associated With High-grade Anal Dysplasia on Anal Biopsy, N=103

	aOR	90%CI		*p*-value
Age (per year increase)	1.22	0.98	1.53	0.14
CD4 count at time of biopsy (per cell/μL increase)	1.00	0.99	1.00	0.73
Vaccination status (incomplete vs. complete)[1]	5.34	1.30	21.93	0.05
Surgical treatment for anogenital HPV, ever (yes vs. no)	2.59	1.18	5.66	0.05

aOR: adjusted odds ratio, CI: confidence interval, HPV: human papillomavirus
[1]Incomplete: 0, 1, or 2 doses; complete: 3 doses