Prevalence and risk factors for anal dysplasia among men who have sex with men living with HIV: The HPV Screening and Vaccine Evaluation (HPV-SAVE) Study

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Introduction

- HPV-associated anal cancer is a malignancy occurring at rates much higher among men who have sex with men living with HIV (MSMLWH) than in the general population.
- Despite recent evidence that screening and subsequent treatment of precancers reduces the incidence of anal cancer,[1] access is limited.
- To triage access to limited screening services, there is a need to identify risk factors to discern subpopulations most at risk of cancer.

Objective

- **To determine risk factors for anal dysplasia in a sample of MSMLWH in Canada**

Methods

- Between 01/2016 and 05/2021, participants were recruited from primary care and specialized HIV clinics in Vancouver, Ottawa and Toronto.
- Participants completed a questionnaire pertaining to sociodemographics, medical history and health care utilization.
- Participants were screened for anal dysplasia via anal cytology (pap), defined as any non-normal result using the Bethesda classification.
- We completed descriptive statistics to report the prevalence of anal dysplasia and univariate logistic regression to identify risk factors for dysplasia.

Results

TABLE 1: BASELINE DEMOGRAPHICS OF MSMLWH ENROLLED IN THE HPV-SAVE STUDY (N=585)	
LIFETIME NUMBER OF MALE PARTNERS, N (%)	
<50	236 (41.7)
50-100	119 (21.0)
>100	211 (37.3)
PAST CHLAMYDIA INFECTION, N (%)	90 (16.2)
PAST GONORRHEA INFECTION, N (%)	76 (13.6)
PAST SYPHILIS INFECTION, N (%)	110 (19.8)
PAST ANAL FISSURES, N (%)	152 (26.8)
PAST HEMORRHOIDS, N (%)	300 (52.4)
PAST ANAL WARTS, N (%)	217 (38.1)
AGE, N (%)	
<30	42 (7.2)
30-50	239 (40.9)
50-65	251 (42.9)
>65	53 (9.1)
CD4 COUNT, N (%)	
<300	30 (7.8)
300-500	95 (24.5)
>500	262 (67.7)
YEAR OF HIV DIAGNOSIS, N (%)	
<1990	73 (13.7)
1990-2000	100 (18.7)
2000-2010	145 (27.2)
>2010	216 (40.4)
RACE, N (%)	
WHITE	410 (70.4)
BLACK	32 (5.5)
OTHER (ASIAN, LATINO, INDIGENOUS)	140 (24.1)
SMOKING STATUS, N (%)	
CURRENT SMOKER	108 (18.8)
RECENT CESSATION (<5 YEARS)	43 (8.0)
LONG-TERM CESSATION (>5 YEARS)	146 (25.4)
NEVER SMOKED	277 (48.3)
PHYSICIAN VISITATION, N (%)	
QUARTERLY	372 (64.0)
BIANNUAL	165 (28.4)
YEARLY OR LESS	44 (7.6)

Figure 1: Presence of anal dysplasia among MSMLWH

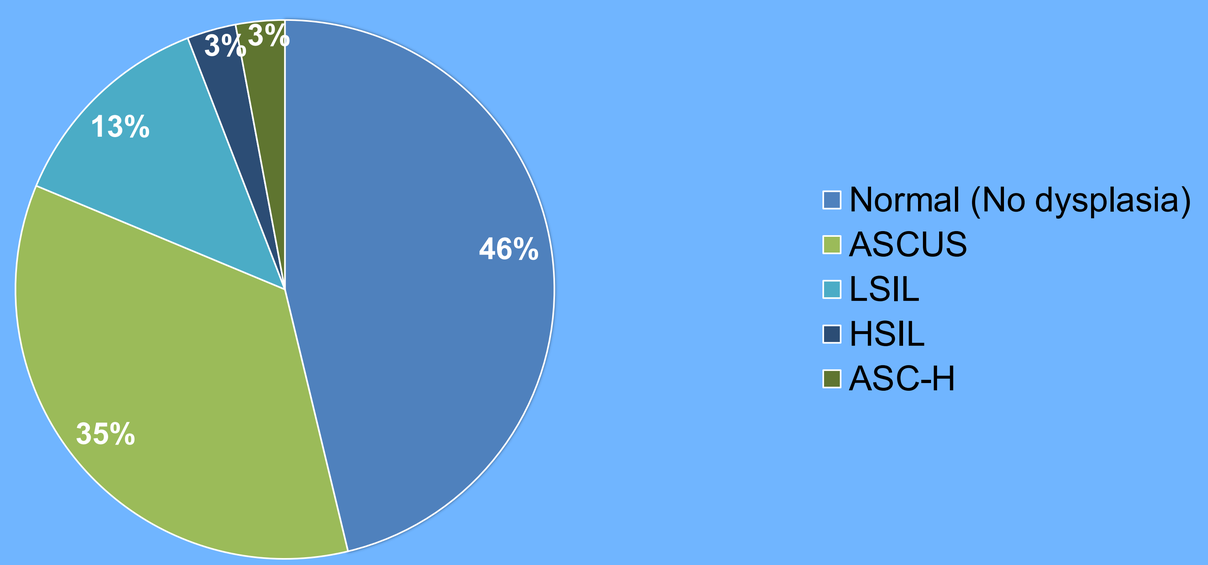
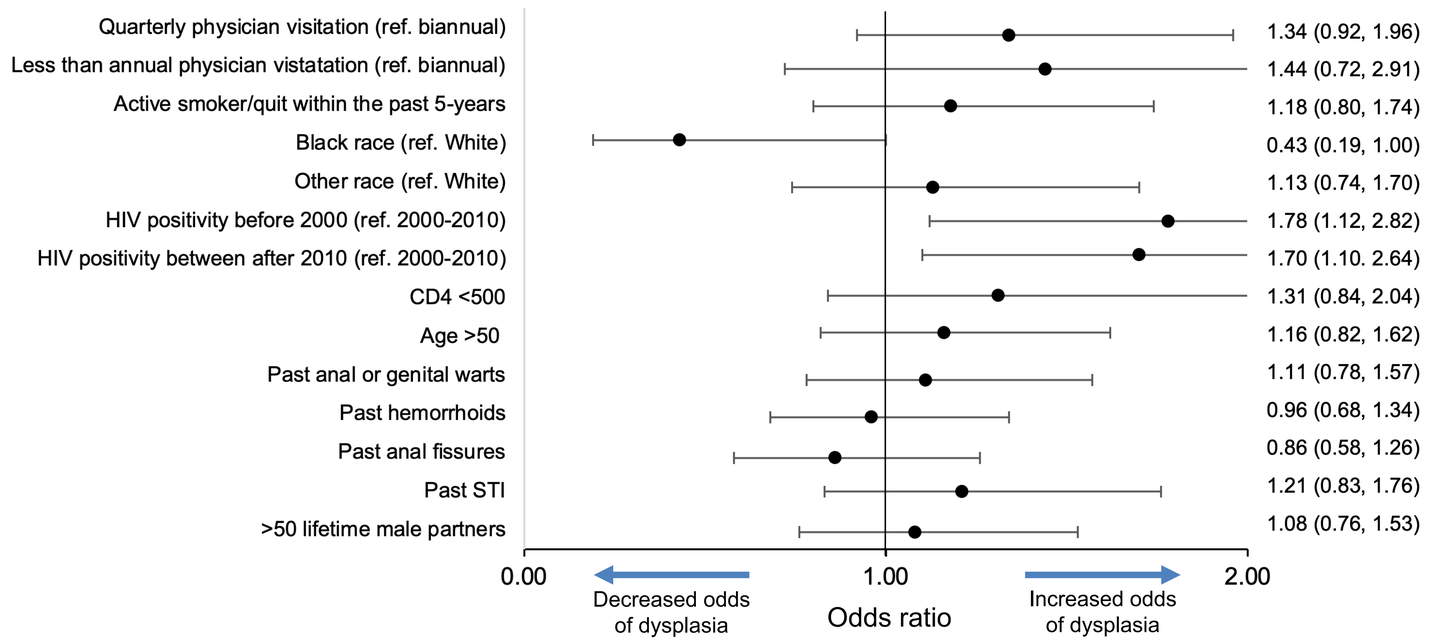


Figure 2: Association between selected sociodemographic characteristics and anal dysplasia among MSMLWH



Conclusions

- Anal dysplasia is common among MSMLWH, regardless of CD4 count, age and history of HPV-associated conditions.
- Variables involved in determining sexual risk such as past STI infection or number of lifetime sexual partners do not appear to influence the risk of dysplasia.
- HIV infection after 2010 or before 2000 increased the likelihood of dysplasia relative to infection between 2000-2010. Future studies should assess the role of comorbidity burden on the development of anal dysplasia.
- Black MSMLWH are less likely to experience anal dysplasia compared to their White counterparts.
- Previous research suggests that Black MSMLWH are less likely to be screened compared to White MSMLWH.[2] Future studies are needed to understand the role of mediators and confounders in anal cancer screening and detection.
- Our findings suggest that few patient characteristics significantly influence the risk of dysplasia, among MSMLWH. The choice to screen should be multifactorial and subject to patient values and preferences.

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1. N Engl J Med 2022; 386:2273-2282. 2. J AIDS 2020; 84(3):295-303