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BACKGROUND

- Anal cancer is a major source of cancer morbidity for people living with HIV (PWH)
- Evolving guidelines recommend initiating anal cancer screening for PWH at age 35.
- Emerging evidence such as the preliminary results of the ANCHOR trial are expanding the evidence base supporting the cancer prevention benefits of anal high-grade squamous intraepithelial lesion (HSIL) treatment.
- Therefore, **the goal of this project** was to determine the outcomes for anal dysplasia screening in people living with HIV (PWH) younger than 35 years of age.

METHODS

- Between January 2014 and August 2020, we identified initial anal cytology and high-risk HPV (hrHPV) test results for all PWH < 35 years who underwent screening in our health system (n=1,397).
- We then collected information on subsequent high-resolution anoscopy (HRA)-guided biopsies and linked cancer registry entries for this cohort.
- Using these data we compared screening and HRA outcomes according to demographics, CD4 count, HPV vaccination status and age subgroups.

| Characteristic | |
|------------------------------------|--------------------|
| Age, n, % | |
| <25 | 143 (10) |
| 25-29 | 596 (43) |
| 30-34 | 658 (47) |
| Men, n, % | 1,294 (93) |
| High-risk HPV | |
| Any | 881 (85) [of 1037] |
| 16/18 | 446 (43) [of 1037] |
| Cytology results | |
| Inadequate | 238 (17) |
| Benign | 242 (17) |
| ASCUS | 426 (31) |
| LSIL | 327 (24) |
| HSIL | 156 (11) |
| HPV vaccination prior to screening | 388 (28) |
| Underwent high-resolution anoscopy | 710 (51) |
| Highest biopsy result, n, % | |
| Benign | 122 (17) |
| LSIL | 299 (42) |
| HSIL | 289 (41) |

Table. Cohort characteristics for PWH younger than 35 years undergoing anal dysplasia screening.

For PWH <35 years old, high-risk HPV infection, anal cytologic abnormalities and high-grade intraepithelial lesions were very common.

RESULTS

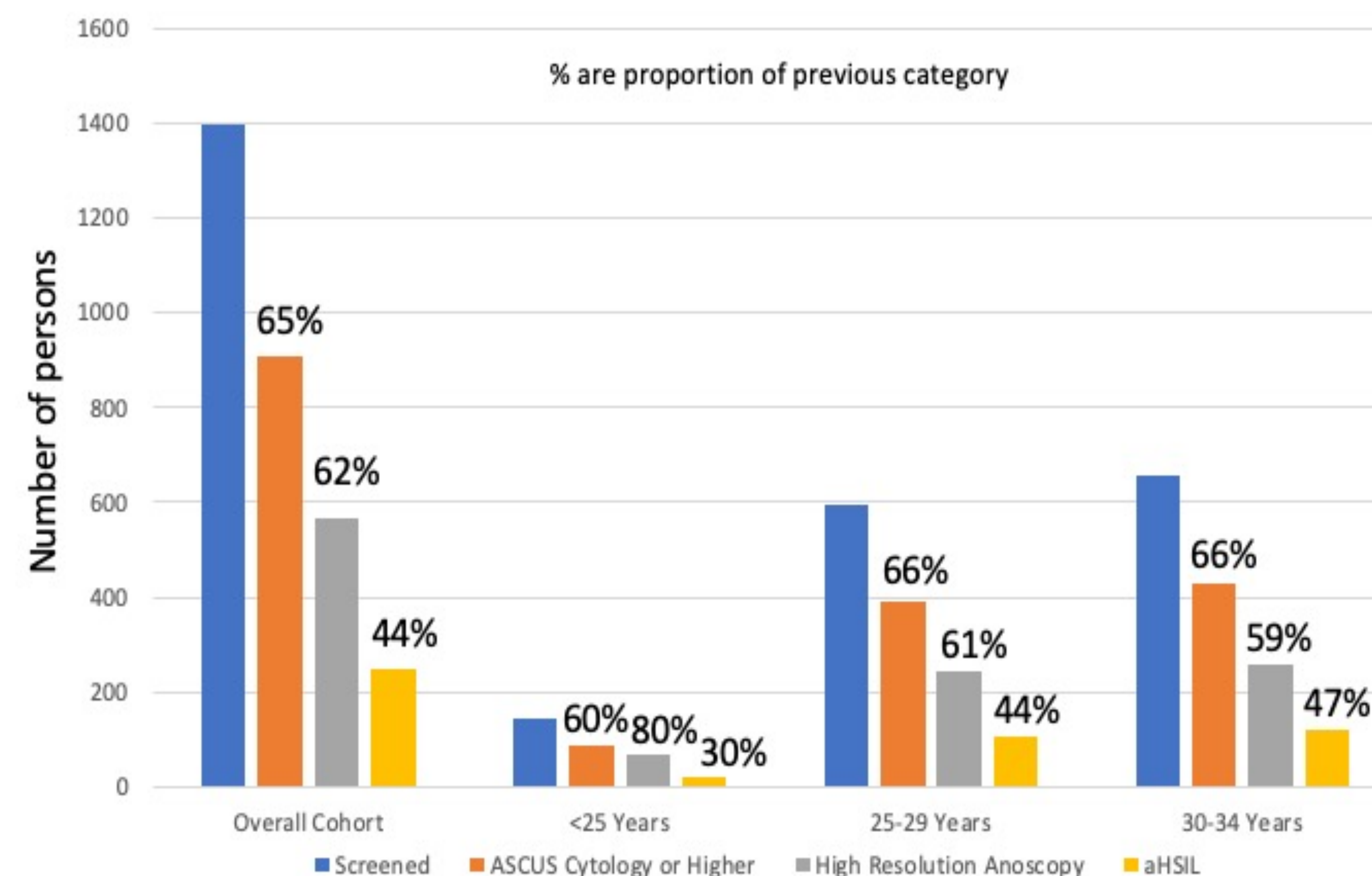


Figure. Anal dysplasia screening results for PWH younger than 35 at initial screen; overall cohort and results stratified by age subgroups.

RESULTS

- Most subjects (66%) had cytologic abnormalities of ASCUS or greater (11% had HSIL cytology).
- 75% of cytology samples were co-tested for hrHPV with 85% of tests positive for any hrHPV type and 43% positive for HPV 16 and/or 18.
- Of subjects with abnormal screening cytology 62% underwent subsequent HRA which yielded anal HSIL in 44%
- Women had substantially less histologic HSIL than men (8% versus 22%; p=0.001).
- There was no significant difference in the proportion of persons diagnosed with histologic HSIL by age subgroup (<25, 25-29, 30-34; p=0.7).
- CD4 count at initial screen was not associated with severity of cytologic abnormalities, hrHPV infection or HSIL diagnosis.
- History of HPV vaccination was associated with lower rates of HPV 16/18 infection (38% in vaccinated versus 45% in unvaccinated, p=0.02) but did not impact rates of overall hrHPV infections or eventual HSIL diagnoses.
- No incident cancers were diagnosed during the follow-up period.

CONCLUSIONS

- High-risk HPV infection, Cytologic abnormalities, and associated histologic HSIL were all common in PWH under age 35.
- HPV 16/18 (along with other high-risk HPV types) were highly prevalent supporting need for continued efforts to vaccinate high-risk persons.
- With emerging evidence regarding the benefits of anal HSIL treatment, the role of screening should be further investigated in this population.

ADDITIONAL KEY INFORMATION

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This work supported by NCI R01CA232890 and R01CA232888