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ORAL ABSTRACT

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Assessment of the Performance of Cervical Cancer Screening Methods in Transmasculine Patients

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Objectives
Transmasculine patients are more likely to have insufficient samples for cytologic processing at the time of pap smear collection. Like other hypoestrogenic populations, such as postmenopausal patients, studies have shown an increased risk of atypical squamous cells of unknown significance (ASUCS) results in transmasculine patients. The primary objective of this study is to evaluate the sensitivity and specificity of both cytology and high-risk human papilloma virus (hrHPV) testing in transmasculine patients.

Methods
A multicenter retrospective chart review over a 10- year period (2015 – 2024) was conducted, collecting records from transmasculine individuals undergoing cervical cancer screening. Transmasculine patients were included if prescribed 30 mg per week of injectable testosterone or 30 mg per day of transdermal testosterone for at least 6 months prior to pap smear collection. Individuals were excluded if using estrogen concurrently, or if patients had a history of hysterectomy, malignancy, or radiation to pelvic organs. Demographic information, pap smear results (including both cytology and hrHPV, if available), and pathology reports of both colposcopic biopsies hysterectomy specimens were collected. In patients with multiple tests recorded, the first pap smear and colposcopy pairs were utilized for sensitivity and specificity calculations.

Results
A total of 453 transmasculine patients met inclusion criteria for the study, and 600 pap smears were collected. The median age of this cohort was 30. A total of 108 cytology tests and 72 hrHPV tests had corresponding biopsy results. Sensitivity and negative predictive value of both cytology and hrHPV tests to predict the presence of cervical intraepithelial neoplasia (CIN) 2+ was 100%. Specificity of cytology was 78.0% (95%CI: 68.6% - 85.7%) with a positive predictive value (PPV) of 29.0% (14.2% - 48.0%), and the specificity of hrHPV was 63.5% (50.4% - 75.3%) with a PPV of 28.1% (14.7% - 46.7%). Of the 600 pap smears collected, 7.4% (44/600) were insufficient samples, and 9.2% (42/453) of patients had at least one insufficient cytology sample during the study period.

Conclusions
Sensitivity of both tests was high, as no false negative tests were detected in this cohort. While the specificity of cytology to predict the presence of CIN2+ was higher than that of hrHPV alone, the overlapping confidence intervals suggest that the difference could be attenuated or nonexistent in the larger population. The high rate of insufficient paps in this cohort is a significant drawback of utilizing cytology for screening purposes, which may offset the benefit of its greater specificity, as patients must present to care in 2-4 months for repeat screening. Ultimately, clinicians should use shared decision making with patients to acknowledge the difference in test performance and high rate of insufficient cytology samples in the transmasculine population and discuss alternatives such as primary HPV testing.

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