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“Describing the prevalence and unique demographic and clinicopathologic features of HPV-negative cervical cancer”

HPV-negative cervical cancer (HPV-CC) has been described to represent 10% of cervical cancer cases and to be associated with more advanced presentation and attenuated survival outcomes. The objective of this study was to describe the prevalence of HPV-CC in our region and to compare demographics and clinicopathologic features of HPV-CC to HPV-positive cervical cancer (HPV+CC).

A retrospective chart review of patients diagnosed with cervical cancer at a safety-net hospital between January 1, 2015 and December 31, 2020 was conducted. HPV status was determined by HPV testing within 6 months of histologic diagnosis. HPV-CC was defined as a negative HPV test and HPV+CC was defined as a positive HPV test.

Preliminary data was collected from 101 cases of cervical cancer. Of the 101 cases reviewed, 29 (28.7%) had HPV testing performed within 6 months of their primary cervical cancer diagnosis. Twenty-two (75.9%) had a positive HPV test and 7 (24.1%) had a negative HPV test. The most common HPV test modality was Roche Cobas (n=14). HPV subtypes were not specified for 7 patients, but notable for HPV 16 (n=9), non16/18 high risk (n=9), HPV 18 (n=6), and HPV45 (n=1). Of the 29 patients with HPV test results within 6 months of diagnosis, 10 (34.5%) were stage I, 12 (41.4%) stage II, 3 (10.3%) stage III, 2 (6.9%) stage IV and 2 (6.9%) stage unknown. Twenty-two (75.8%) were squamous cell carcinoma, 5 (17.2%) were adenocarcinoma and 2 (6.9%) were other histology. Ten (34.5%) were black, 14 (48.2%) were white. Four (14.8%) subjects were of Hispanic ethnicity. Twenty-four (82.8%) spoke English as their first language. Insurance coverage was mostly Medicaid (n = 16, 55.2%) followed by private (n=5, 17.2%), Medicare (n=3, 10.3%), unknown (n=3, 10.3%) and no insurance (n=3, 10.3%). Most (81.8%) of stage I-II cases were HPV+CC, while only 40.0% of Stage III-IV cases were HPV+CC (p = 0.091). No other differences between groups with regards to histology, race, ethnicity, insurance coverage, or language were noted.

One quarter of our cervical cancers are HPV-CC, which is higher than has been previously reported. Furthermore, we note a trend concerning for a more advanced stage presentation with HPV-CC. Contemporary HPV based screening practices might be missing aggressive cervical cancers and may need to be re-evaluated. Describing the prevalence and clinicopathologic features of HPV negative cervical cancer at large and locally will be vital to ensuring that our screening and treatment practices match the needs of the women in our community.