

**Poster 4: Survival in HPV and non-HPV associated invasive cervical cancer: outcomes in a large, integrated healthcare system**

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Topic: Cervical

**Objectives**

To ascertain differences in outcomes between HPV associated (HPVA) and non-HPV associated (NHPVA) cervical cancers within an integrated healthcare system.

**Methods**

This is a data-only retrospective cohort study examining female patients aged 18-90 years diagnosed with cervical cancer between 2011-2017. Cancer diagnosis was identified using our institution's cancer registry. Key demographic and clinical variables were abstracted from the electronic health record and chart review. The primary outcome, five-year overall survival (OS), was assessed overall and according to HPVA and NHPVA cancer and endocervical adenocarcinoma (ECA) histology. Chi-square and Fisher exact tests were used to compare categorical variables and two-sample Wilcoxon rank sum tests for non-normally distributed continuous variables between the HPVA and NHPVA groups. Kaplan-Meier curves were utilized to compare 5-year OS between study groups.

**Results**

There were 395 patients identified with NHPVA (n=34) vs HPVA (n=361) cancer. Despite no difference in stage at diagnosis, NHPVA cancers were more likely to be diagnosed at older ages (median 54 years vs 47 years,  $p=0.05$ ) and have surgery as part of treatment (94% vs 70%,  $p<0.01$ ) compared to HPVA cancers. There was no difference in five-year progression-free survival (PFS) (62% vs 63%,  $p=0.96$ ) or five-year OS between NHPVA and HPVA cancers in the entire cohort (65% vs 67%,  $p=0.95$ ). In the subset of ECA patients, variations in diagnosis age were more pronounced (NHPVA median 54 years vs HPVA 42 years,  $p<0.01$ ). There was the suggestion of worse five-year PFS in NHPVA ECA (62% vs 76%,  $p=0.11$ ), and statistically and clinically significant worse five-year OS compared to HPVA ECA (65% vs 78%,  $p=0.03$ ). Kaplan-Meier analysis of ECA patients visualizes five-year OS, censoring those with  $<5$  years follow-up (log-rank  $p<0.01$ , Figure 1).

**Conclusions**

Current literature suggests that NHPVA cervical cancer is more aggressive, presents at later stages, and is associated with poorer outcomes compared to HPVA cervical cancer. In a large, integrated healthcare delivery system, differences in outcomes were not as pronounced as previously reported. This is possibly related to the high percentage of cases diagnosed in early stages in our sample, suggesting that stage remains the most important prognostic factor.

Abstract Table or Graph

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