We have previously demonstrated that uterine cervical mixed carcinomas with adenoid cystic differentiation are high-risk human papillomavirus (HPV) related but pure adenoid cystic carcinomas (ACCs) of vulvar and uterine cervical origin appear to be unrelated to high risk HPV and contain NFIB related chromosome translocation. However, data on clinicopathologic features and survival outcomes of ACCs in lower female genital tract are limited to case reports and small case series studies. Here we systemically analyzed 84 cervical ACCs and 71 vulvar ACCs to identify clinicopathologic features and survival factors in a population based surveillance, epidemiology and end results study. While cervical ACCs tended to occur in the elderly (median, 72 years), vulvar ACCs commonly occurred in the patients a decade younger (median, 59 years, p<0.001). The median size of cervical and vulvar ACCs were 3.3 cm and 3.4 cm respectively. The patients with cervical and vulvar ACCs tended to have higher stage disease and a significant proportion of these patients received radiotherapy with or without surgery. The patients with cervical ACC had poor prognosis compared to that of vulvar ACC. The 10-year cause specific survival (CSS) rates for patients with cervical ACC were 57.9% and vulvar ACC are 80.7% (p<0.001). Increased age and high stage were significantly associated with a worse prognosis in the patients with cervical and vulvar ACCs by univariate and multivariate analysis. Our data demonstrated the distinctive clinicopathologic features and survival outcomes differing significantly among ACCs in lower female genital tract, thus providing a rationale for location/pathologic type-based treatment modalities.