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ANAL CANCER

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# Population-based analysis of National Comprehensive Cancer Network (NCCN) guideline adherence for patients with anal squamous cell carcinoma in California.

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### • Abstract

**Background:** Oncology-specific evidence-based treatment guidelines aim to improve cancer care. Our study analyzed adherence to the National Comprehensive Cancer Network (NCCN) treatment guidelines for anal squamous cell carcinoma in California and the associated impacts on survival. **Methods:** Patients aged 18 to 79 years diagnosed with anal squamous cell carcinoma (SCC) between January 1, 2004 and December 31, 2017 with follow-up through November 30, 2018 were identified in the California Cancer Registry. Patient demographics, socioeconomic status (SES) and tumor stage were identified. We determined whether patients received NCCN guideline-adherent care (AdC) by pre-defined criteria. Odds ratios (OR) and 95% confidence intervals (CI) were estimated using logistic regression for receiving AdC. Overall survival (OS) and disease specific-survival (DSS) were calculated using Cox regression models. **Results:** Of 4,740 patients with a diagnosis of anal SCC in California, 926 (19.5%) did not receive AdC (non-AdC). Non-AdC had worse DSS (HR 1.96, 95% CI = 1.56, 2.46,  $p < 0.0001$ ) and worse OS (HR 1.87, 95% CI = 1.66, 2.12,  $p < 0.0001$ ). Females were more likely to receive AdC (OR 1.38, 95% CI = 1.18, 1.62,  $p < 0.0001$ ). Medicaid patients were less likely to receive AdC (OR 0.75, 95% CI = 0.57, 1.00,  $p = 0.0476$ ). Patients with the lowest SES were less likely to receive AdC (OR 0.65, 95% CI = 0.50, 0.83,  $p = 0.0007$ ). Characteristics associated with DSS and OS included female gender, black race, Medicare/Medicaid, and SES (particularly, lower-middle SES). **Conclusions:** NCCN guideline-adherent care was associated with improved disease-specific and overall survival in anal SCC patients in California.

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