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Abstract

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Extended diagnosis to treatment time and associated factors in kidney cancer, Puerto Rico, 2020-2025

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ABSTRACT

Introduction. Timely treatment intervention following kidney cancer diagnosis is critical to minimize disease progression and improve outcomes (Ou et al., 2022). In Puerto Rico, identifying demographic and clinical predictors of extended diagnosis to treatment (DTT) intervals is key to improving cancer care delivery. **Objective.** To evaluate DTT among kidney cancer patients in Puerto Rico across various clinical, comorbid and demographic factors. **Method.** A retrospective cohort study analyzed 91 kidney cancer patients from the Puerto Rico BioBank (2020-2025). Descriptive statistics, Spearman correlation, Kruskal-Wallis, and binary logistic regression (95% CI, $p < 0.05$) tests were conducted in SPSS version 32 to explore relationships between clinical, comorbid and demographic factors with DTT. **Results.** Overall median DTT was 113 days (IQR: 71–153), with 62.6% of all patients experiencing DTT > 90 days. Median DTT decreased with advancing staging (T1:118.5, T2:95, T3:82.5 days, p=0.322). In multivariable logistic regression, neither demographic nor comorbid covariates independently predicted longer DTT. Advanced staging (T3, n=12 vs. T1, n =61) trended towards lower odds of extended DTT (aOR=0.344, 95% CI: 0.093-1.269, p=0.109). **Conclusions.** More than half of all patients in Puerto Rico experienced DTT > 90 days. While cases with larger tumors get prioritized for expedited treatments, early-stage patients face the longest DTT intervals and risk disease progression. Individual demographic, clinical, and comorbid factors did not predict these longer intervals. These results highlight the need for a larger scale study, with an expanded sample size and a more comprehensive analysis, to identify more patient-level and systemic determinants affecting DTT. Future interventions focusing on psychological distress, and care-coordination will help mitigate the consequences, while driving policy and delivery reforms towards a timelier and more patient centric approach.

Keywords: Kidney Neoplasms, Kidney Cancer, Diagnosis-to-Treatment time, Healthcare Disparities, Psychological Support strategies, Puerto Rico, Psychological Supportive strategies.