Title: *Prevalence of Malignancies Among Adult Kidney Transplant Recipients in Colombia: Analysis of the National Health Registry, 2019–2023*

Authors: Andrea Zapata-Arango[1], Kateir Contreras-Villamizar[123], Diana Vargas-Angel[23], Valentina Camacho-López[4], Paola García-Padilla[123], Diego Rosselli[5]

Affiliations:

1. Department of Internal Medicine, Pontificia Universidad Javeriana, Bogotá, Colombia
2. Nephrology Unit, Hospital Universitario San Ignacio, Bogotá, Colombia
3. Kidney Transplant Unit, Hospital Universitario San Ignacio, Bogotá, Colombia
4. Nephrology Research Group, Pontificia Universidad Javeriana, Bogotá, Colombia
5. Department of Epidemiology and Biostatistics, Pontificia Universidad Javeriana, Bogotá, Colombia

Background: Kidney transplant recipients have an increased risk of malignancy related to chronic immunosuppression. However, population-based data from Latin America remain scarce. We evaluated the prevalence of malignancies among kidney transplant recipients in Colombia using the national mandatory health registry.

Methods: We conducted a cross-sectional prevalence study using secondary data from the Colombian Integrated Social Protection Information System (SISPRO). Adults (>20 years) registered between January 2019 and December 2023 were included. Kidney transplant recipients and malignancies were identified using ICD-10 codes. Cancer prevalence per 1,000 individuals and prevalence ratios (PR) with 95% confidence intervals (CI) were calculated comparing transplant recipients with the non-transplanted population.

Results: The study included 17,405 kidney transplant recipients and 38,832,056 individuals from the general population. Overall cancer prevalence was significantly higher among transplant recipients (185.1 vs. 38.1 per 1,000 individuals; PR 4.86, 95% CI 4.73–5.04). The highest prevalence ratios by organ system were observed for genitourinary malignancies (PR 12.95, 95% CI 11.41–14.68), otorhinolaryngologic cancers (PR 7.61, 95% CI 6.92–8.32), and hematologic malignancies (PR 6.67, 95% CI 6.02–7.39). The greatest excess risks were identified for anal canal carcinoma (PR 50.38, 95% CI 42.84–59.26), esophageal cancer (PR 28.56, 95% CI 23.87–34.18), native kidney renal cell carcinoma (PR 21.92, 95% CI 18.96–25.35), and acute lymphoblastic leukemia (PR 20.07, 95% CI 15.73–25.61).

Conclusions: Kidney transplant recipients in Colombia experience an almost fivefold higher prevalence of malignancy compared with the general population. These findings support the implementation of tailored cancer surveillance strategies in this high-risk population and provide a foundation for future studies evaluating transplant-specific screening approaches in Latin America.