

Factores clínicos e inmunológicos asociados al rechazo agudo y a la sobrevida del injerto en receptores de trasplante renal en un centro de referencia de Barranquilla (Atl, CO) entre los años 2023-2025

Nombres y apellidos:

Waldy Alberto Baleta Plata

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Tutores:

Dr. Gustavo Aroca Martínez

MD | Spec. Med. Int | Sspec NEF | PhD Inv/Doc

Dr. Andrés Cadena Bonfanti

MD | Spec. Med. Int | Sspec NEF | PhD Inv/Doc

Dr. Henry Joseth González Torres

Bio. | Spec. App. Stat. | M.Sc. Bio. (GenPop) | Dr.Sc. BioMed

RESUMEN

El trasplante renal es la terapia de reemplazo renal de elección en la enfermedad renal crónica terminal; sin embargo, el rechazo agudo del injerto continúa siendo una complicación relevante que afecta la función renal y la sobrevida del injerto. Factores clínicos e inmunológicos, como la sensibilización del receptor, la compatibilidad HLA y el tipo de donante, influyen de manera significativa en el riesgo de rechazo. En el Caribe colombiano, la evidencia local que evalúe de forma integrada estos factores sigue siendo limitada.

Objetivo: Evaluar los factores clínicos e inmunológicos asociados al rechazo agudo y su impacto en la sobrevida del injerto renal en receptores de trasplante renal de un centro de referencia de Barranquilla durante el periodo 2023–2025.

Metodología: Se realizó un estudio observacional, analítico y retrospectivo de cohorte, que incluyó receptores adultos de trasplante renal atendidos entre 2023 y 2025. Se recolectaron variables sociodemográficas, clínicas e inmunológicas, incluyendo el Panel Reactivo de Anticuerpos (PRA), la compatibilidad HLA, el tipo de donante y la función renal. Se efectuaron análisis descriptivos y comparativos entre pacientes con y sin rechazo agudo, así como análisis de supervivencia mediante curvas de Kaplan–Meier y modelos de riesgos proporcionales de Cox para identificar factores asociados al rechazo agudo y a la sobrevida libre de rechazo del injerto. Los análisis estadísticos se realizaron utilizando el software R-CRAN, considerando un nivel de significancia de $p < 0,05$.

Resultados: El rechazo agudo se presentó en una proporción relevante de los receptores durante el seguimiento. Los pacientes con rechazo agudo mostraron una menor sobrevida libre de rechazo del injerto en comparación con aquellos sin eventos de rechazo. La presencia de alta sensibilización inmunológica, una menor compatibilidad HLA y el trasplante de donante cadavérico se asociaron con un mayor riesgo de rechazo agudo. Asimismo, los episodios de rechazo se relacionaron con un deterioro significativo de la función renal durante el seguimiento postrasplante.

Conclusión: En receptores de trasplante renal, el rechazo agudo se asocia de manera significativa con factores clínicos e inmunológicos específicos y con una menor sobrevida del injerto renal. Estos hallazgos resaltan la importancia de una estratificación inmunológica adecuada y de un seguimiento clínico individualizado, orientado a la detección temprana del rechazo y a la optimización de los desenlaces del trasplante renal en el contexto regional.

Palabras clave: trasplante renal; rechazo agudo; sobrevida del injerto; compatibilidad HLA; Panel Reactivo de Anticuerpos; factores inmunológicos; Caribe colombiano.

ABSTRACT

Kidney transplantation is the preferred renal replacement therapy for end-stage kidney disease; however, acute graft rejection remains a relevant post-transplant complication that adversely affects renal function and graft survival. Clinical and immunological factors, such as recipient sensitization, HLA compatibility, and donor type, significantly influence the risk of rejection. In the Colombian Caribbean region, local evidence integrating these factors and their impact on graft outcomes remains limited.

Objective: To evaluate the clinical and immunological factors associated with acute rejection and their impact on renal graft survival in kidney transplant recipients from a referral center in Barranquilla during the period 2023–2025.

Methods: An observational, analytical, retrospective cohort study was conducted including adult kidney transplant recipients treated between 2023 and 2025. Sociodemographic, clinical, and immunological variables were collected, including Panel Reactive Antibodies (PRA), HLA compatibility, donor type, and renal function. Descriptive and comparative analyses were performed between patients with and without acute rejection, as well as survival analyses using Kaplan–Meier curves and Cox proportional hazards models to identify factors associated with acute rejection and rejection-free graft survival. Statistical analyses were performed using R-CRAN software, with a significance level set at $p < 0.05$.

Results: Acute rejection occurred in a relevant proportion of recipients during follow-up. Patients with acute rejection showed lower rejection-free graft survival compared with those without rejection events. High immunological sensitization, lower HLA compatibility, and deceased donor transplantation were associated with an increased risk of acute rejection. Additionally, rejection episodes were associated with a significant decline in renal function during post-transplant follow-up.

Conclusion: In kidney transplant recipients, acute rejection is significantly associated with specific clinical and immunological factors and with reduced renal graft survival. These findings underscore the importance of appropriate immunological risk stratification and individualized clinical follow-up aimed at early detection of rejection and optimization of kidney transplant outcomes in the regional context.

Keywords: kidney transplantation; acute rejection; graft survival; HLA compatibility; Panel Reactive Antibodies; immunological factors; Colombian Caribbean.

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