Outcomes of kidney transplantation and its clinical advancements.

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Abstract

The overall one-year kidney transplant results have significantly improved as a result of recent improvements in surgical, immunosuppressive, and monitoring methods. However, the results of kidney allografts over the long term have not significantly changed. In actuality, the main causes of kidney allograft failure have been chronic and acute antibody-mediated rejection (ABMR), non-immunological complications following kidney transplantation, including multiple occurrences of primary kidney disease, infections, and malignancies, as well as complications like cardiovascular diseases, infections, and malignancies. Big data and artificial intelligence are expected to drastically change kidney transplant research in the near future in the current era of using electronic health records (EHRs). Additionally, the use of telemedicine is growing, offering advantages like connecting with in rural locations and assisting in facilitating easier access to limited healthcare resources for kidney transplantation.

Keywords: Immunosuppressive, Malignancies, Artificial intelligence.

Introduction

The best option for treating end-stage kidney disease (ESKD) patients' survival and quality of life is kidney transplantation. The one-year kidney transplant survival rate has increased significantly to >95% as a result of improvements in surgical, immunosuppressive, and monitoring methods. However, the results of kidney allografts over the long term have not significantly changed. In reality, kidney transplant failures are still brought on by acute and chronic antibody-mediated rejection (ABMR) [1]. The recurrence of primary kidney disease and other post-kidney transplant problems, such as cardiovascular illnesses, infections, and cancer, also play significant roles in the poor long-term allograft survival and patient mortality. One significant immunological barrier to solid organ transplantation is the identification of non-selfstructures present in donor cells. In organ transplantation, human leukocyte antigens (HLA) are regarded as the most significant non-self allo-antigens. Patients may also develop antibodies to targets other than HLA.

In order to estimate cardiovascular disease risk in kidney transplant recipients and to improve screening and therapy methods, it is critical to recognise these problems. These include modifying one's lifestyle and immunosuppressive regimen as well as choosing the best possible glycemic and lipid control plan based on one's metabolic profile and medical background [2].

One of the three main reasons of death following kidney transplantation is cancer. The possibility of posttransplant cancer is well known. viral infections' effects, induction It is been suggested that immunosuppressive maintenance regimens and post-transplant malignancy are significant risk factors. Immunosuppressive medications may have caused viral reactivation, which in turn accelerated tumour growth, or immune surveillance may have been compromised. A well-designed paired kidney donation programme and proper payment of donation-related fees are essential components for growing the donor pool. For incompatible donor/recipient combinations that would normally be impractical or require desensitisation, paired kidney donation allows living kidney donation. Other proposed ways for boosting the donor pool include ABO-incompatible transplantation, the usage of higher risk donors, advanced donation using a voucher system, and giving donors with financial incentives [3].

Parathyroid hormone (PTH) levels decrease after a successful renal transplant, notably in the first three months. However, one year following transplantation, 30% to 60% of patients still had increased PTH levels. Following kidney transplantation, persistent hyperparathyroidism can lead to significant problems such fracture/bone disorders, cardiovascular disease, vascular calcification, and allograft malfunction. Long dialysis sessions, high PTH levels before transplantation, a reduced eGFR after transplant, post-transplant hyperkalaemia, and post-transplant elevated alkaline phosphatase are all risk factors for chronic hyperparathyroidism [4].

Reaching out to patients in distant locations and assisting in increasing accessibility to limited healthcare resources are two advantages of telemedicine. Studies have shown that telehealth for transplant care may be related with a reduction in cost and time and may potentially enhance access to transplantation

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for ESKD patients as telemedicine technologies continue to expand [5].

Conclusion

The most current kidney transplant research tends to concentrate mostly on noninvasive monitoring and the development of genetic methods for improving histological diagnosis. Big data and artificial intelligence are expected to drastically change kidney transplant research in the near future in the current era of using EHRs. Additionally, the use of telemedicine is growing, which has advantages including reaching out to kidney transplant patients in far locations and assisting in boosting accessibility to limited healthcare resources for kidney transplantation.

References

1. Abecassis M, Bartlett ST, Collins AJ, et al. Kidney transplantation as primary therapy for end-stage renal disease: A National Kidney Foundation/Kidney Disease Outcomes Quality Initiative (NKF/KDOQITM) conference. Clin J Am Soc Nephrol. 2008;3:471-480.
2. Viklicky O, Novotny M, Hruba P. Future developments in kidney transplantation. Curr Opin Organ Transplant. 2020;25:92-8.
3. Garg N, Samaniego MD, Clark D. Defining the phenotype of antibody-mediated rejection in kidney transplantation: Advances in diagnosis of antibody injury. Transplant Rev. 2017;31:257-267.
4. Huang E, Sethi S, Peng A, et al. Early clinical experience using donor-derived cell-free DNA to detect rejection in kidney transplant recipients. Arab Archaeol Epigr. 2019;19:1663-1670.
5. Cheungpasitporn W, Chebib FT., Cornell LD, et al. Intravitreal Antivascular Endothelial Growth Factor Therapy May Induce Proteinuria and Antibody Mediated Injury in Renal Allografts. Transplant. 2015;99:2382-6.

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