

Mini Review

Pre Transplant Counseling about Challenges Faced after Kidney Transplantation

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Abstract

Kidney transplantation has become the preferred mode of therapy for patients suffering from end stage renal disease. There has been substantial data that it improves the quality of life and longevity of patients suffering from kidney failure. The whole process of transplantation is multi-disciplinary, and it is worthy of note that there are also many risks and challenges associated with it which remain valid throughout the life of the graft. Pre transplant counseling about these challenges is very important to guide in decision making and also to prepare the attending medical team looking after the patients in future. A detailed understanding about infectious complications and potential for malignancy in the context of immunosuppression is very important to preserve graft function as well the life of the recipient. It is also very important to understand what factors affect the graft function and affect its longevity. Through regular follow ups clinicians can anticipate and pick things early and appropriate referrals can be made.

Keywords: Kidney transplant; Counseling; Infection; Malignancy; Graft survival**Introduction**

Kidney Transplantation has revolutionized the management of end stage renal disease and has provided a significant survival advantage over dialysis [1]. Despite this huge benefit it should be borne in mind that this treatment has many risks associated with it. While counseling potential transplant recipients it is highly important that an informed discussion making process is carried out and challenges faced on the journey after transplantation be clearly explained to patients and their families. Some of the common challenges faced after kidney transplantation are related to post-transplant infections, malignancy, and challenges related to survival of the graft.

Infections

After kidney transplantation, the highest incidence of infection is in the first 3 months which is due to strong induction therapy [2]. However, the risk of infection persists throughout life due to maintenance immunosuppression. There is a strong predisposition to all kinds of common infection including opportunistic viral and fungal infections like *cytomegalovirus*, polyoma and pneumocystis which can be both derived from donor as well as reactivation within the recipient. Nosocomial infections post operatively and community acquired bacterial infections are also common in the immediate post-transplant period [3]. Prophylaxis is considered essential against

organisms like cytomegalovirus and pneumocystis for three to six months in most centers after transplantation.

Pre transplant screening of both donor and recipient against common pathogens is important and includes a detailed history and serology for HIV, hepatitis B and C, herpes simplex, tuberculosis, syphilis, cytomegalovirus, Epstein Barr, and toxoplasma. Infections may manifest as symptoms related to a particular organ or as graft dysfunction and may need specific radiological and microbiological investigations.

Malignancy

Immunosuppression predisposes a kidney transplant recipient to the risks of malignancy with incidences up to three times or more compared to general population. Commonest are skin cancers, post-transplant lymphoproliferative disorder and solid organ tumours associated with squamous epithelium [4]. This increased incidence is obviously linked to the immunosuppression which results in unchecked expression of oncogenic viruses like Epstein barr and the human papilloma viruses apart from its direct effect.

Robust routine screening for all common cancers as well as skin examination on a regular basis is recommended. Dose reduction as part of the treatment strategy in the occurrence of malignancy should be practiced as well as switching to an m-tor inhibitor can also be considered [5].

Graft Survival

Post transplantation graft survival is dependent upon many factors including those related to the donor as well as recipient. Across many centers around the world, the 1 year survival of graft approaches 95% [6]. This is due to better donor and recipient screening and newer methods of immunosuppression. Causes of graft loss can be categorized as early and late.

Living donor kidneys have a better graft survival compared to cadaveric kidneys. Standard criteria donor kidneys have better graft survival than extended criteria donor kidneys. Delayed graft function

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confers less survival advantage if it is due to prolonged warm and cold ischemia times as well as extended criteria donor kidneys. Recipient factors like pre-formed HLA antibodies and HLA antigen mismatch confer a lower graft survival due to rejection incidences in the immediate post-transplant period.

Causes of late allograft loss can be broadly classified as immune and non-immune and result in interstitial fibrosis/tubular atrophy which is the ultimate result of irreversible graft dysfunction [7].

Conclusion

In conclusion, knowledge about the risks associated with kidney transplantation is important to guide patients towards potential challenges that lay ahead. It is also important that all the involved healthcare workers have a good understanding of these risks so that prompt treatment is initiated, and appropriate referrals are made.

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