

How does a transplant pharmacist support successful kidney transplantation in a patient with HIV and Hepatitis B co-infection and no speech, sight or hearing?

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Introduction

Kidney transplantation is considered the gold standard form of renal replacement therapy in end stage kidney disease (ESKD). Compared to dialysis, it provides better quality of life, morbidity and mortality benefits and it is more cost-effective. Outcome data of kidney transplantation in HIV positive patients suggest both, allograft and patient survival, and infection risk are comparable to non-HIV infected kidney transplant recipients (KTRs). As a result, kidney transplantation is the standard of care for appropriate candidates in this patient group.

Case report

This is a case of a 63 year old male with no speech, sight or hearing, with HIV-Hepatitis B co-infection and ESKD, receiving haemodialysis since 2014. He lived alone, self-caring and managing his medication independently. He communicates via touch sign language with two designated communicators, who provided support for a few hours per week.

After comprehensive evaluation, the patient was deemed to be a suitable KTR. Given significant drug-drug interactions (DDIs) between post-transplant immunosuppression (IS) and his antiretrovirals (ARVs): tenofovir, ritonavir, entecavir, etravirine, raltegravir and darunavir, he required an individualised plan to ensure his IS therapy after transplantation was safe and effective.

The transplant pharmacist carried out an IS trial (protocol design, IS prescribing, monitoring and patient follow up) in an outpatient setting over 4 weeks and in close collaboration with his communicators. This trial provided an optimal tacrolimus dose to reach therapeutic levels as well as being a feasibility exercise to determine medication adherence and ability to communicate and follow dose adjustments, reporting and management of adverse effects and practical arrangements for tacrolimus levels and other relevant monitoring. After successful completion of the IS trial, a patient-specific IS plan was designed by the transplant pharmacist and endorsed by the transplant multi-professional team (MPT), which completed the transplant work-up assessment.

The patient was subsequently activated on the deceased donor transplant list and received a kidney transplant in October 2018. Induction IS included basiliximab and methylprednisolone. Maintenance IS was mycophenolate, tacrolimus (Adoport® 1 mg stat followed by Modigraf® 0.2 mg every 72 hours) and prednisolone. He made a good recovery post-operatively, received intense education to self-administer his medicines and was discharged home on day 14.

He experienced delayed graft function and creatinine continued to improve, settling to a baseline 145 mmol/L, eGFR 45 mL/min. After 14 months, the patient is well with stable graft function (Figure 1), therapeutic tacrolimus levels, undetectable viral loads, maintained CD4 count, no episodes of rejection or opportunistic infections. The patient developed post-transplant diabetes mellitus managed with oral hypoglycaemic agents.

The transplant pharmacist was heavily involved during the immediate post-transplant period (in-patient) and pharmacist follow up continues in outpatient clinics.

Conclusion

Kidney transplantation in complex patients with significant communication challenges is possible through collaborative working between multiple members of the MPT across specialities and health sectors, incredibly dedicated communicators, and the patient's desire and determination to live independently and self-manage.

The transplant pharmacist's role is crucial, demonstrating direct impact on health outcomes by facilitating access to transplantation and contributing to on-going patient management post-transplant.