



RACP Foundation Research Awards

FINAL REPORT

Project Title	A prospective study of cellular and humoral components of the renal allograft immune response and their correlation with therapeutic outcomes	
Name	Dr Susan Wan	
Award Received	2016 RACP Jacquot Research Entry Scholarship	
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Chief Investigator / Supervisor	Associate Professor Kate Wyburn	
Administering Institution	The University of Sydney	
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	Finish Date:	31 December 2016

PROJECT SUMMARY

Kidney transplantation is a life-saving treatment that also improves quality of life for people with kidney failure. However, a kidney transplant may fail due to rejection. Rejection is a process where the body's immune system recognises that the transplant is foreign and tries to attack it. The immune response to a transplant is complex and involves different types of immune cells and proteins. These include cells called T-cells and 8-cells, and proteins called antibodies. Antibodies against the transplant are produced by 8-cells and can damage the transplanted kidney. The aim of this project is to characterise how the immune response changes over time in response to a kidney transplant. In particular, a detailed understanding of how T-cel/s and 8-cells interact with each other, and how antibodies against the transplant are produced may help us to understand rejection. Increasing our knowledge of the immune response during rejection may allow us to diagnose rejection earlier and to find more effective treatments against it, which would ultimately improve the survival of the transplant as well as the kidney transplant patient.

PROJECT AIMS / OBJECTIVES

AIMS:

1. To investigate the interplay between cellular and humoral aspects of the alloimmune response using a prospective and longitudinal bank of sera, lymphocytes and kidney biopsy tissue
2. To identify markers of cellular and antibody-mediated rejection and graft dysfunction in order to improve individual patient risk stratification and to inform on future targets for therapy.

SIGNIFICANCE AND OUTCOMES

This study will characterise the transplant patient's immune profile, including their cellular and antibody responses, and correlate this with clinical outcomes. We envisage that this tailored approach will be translated into the clinical setting and will potentially enable the individualisation of therapies in kidney transplant recipients. The increased knowledge of each patient's immune profile will inform management options and preventative measures to optimise graft and patient survival.

PUBLICATIONS / PRESENTATIONS

1. Wan S, Wyburn K, Yin J, Watson N, Saunders J, Eris J. Donor Specific Antibodies in Kidney Transplant Recipients and Associated Clinical Outcomes.