

Defining the clinical and immunogenetic profile in antibody-associated demyelination

Supervisors:

Dr Sudarshini Ramanathan
Professor Russell Dale
Associate Professor Fabienne Brilot
Associate Professor Stephen Reddel

Location:

Westmead Campus, University of Sydney

Start:

2020

Project Outline:

Neuroimmunology is a rapidly evolving and exciting field - in recent years there has been significant momentum in identifying patients with antibodies targeting certain antigenic targets in the central nervous system, which results in inflammatory damage of the optic nerve, spinal cord, and brain. Some of these antibodies result in demyelination and serve as critical biomarkers to distinguish these patients from those with multiple sclerosis, which responds to different treatments. Our group has been an international leader in the clinical and immunological characterisation of patients with antibodies targeting myelin oligodendrocyte glycoprotein (MOG). MOG antibody-associated demyelination is now established as an under-recognised condition which can result in lasting disability including blindness and paralysis. However, early detection and effective treatment with immunotherapy can allow patients to return to their normal function and quality of life, rendering it a compelling focus for research.

Our research team initiated and leads the Australian and New Zealand MOG Study Group, a national multicentre collaboration of over 150 neurologists from over 45 centres in Australasia; and is responsible for one of the largest international cohorts of patients with MOG antibody-associated demyelination including approximately 300 adults and 200 children. The student undertaking this project will perform detailed analysis of patients in this cohort with a focus on the clinical, radiological, immunogenetic, and therapeutic characterisation of this disorder. The student will further be a key player in a national multicentre epidemiological study we will lead in antibody-associated demyelination, and have additional opportunities to build laboratory experience in neuroimmunology.

Funding opportunities and support are available. This project will be ideally suited as a PhD for a neurology advanced trainee or fellow with a commitment to building expertise in neuroimmunology.

Contact:

Dr Darshi Ramanathan - sudarshini.ramanathan@sydney.edu.au