

Cognition and cerebrovascular changes in chronic renal disease

It is well recognised that people with chronic kidney disease are at increased risk of cognitive decline, particularly when kidney functioning is very severely impaired. Vascular disease is also more common in this group, with an especially marked increase in stroke incidence as patients transition onto dialysis. Changes which occur around the period of starting dialysis have not been explored in detail, and there is a need for robust, prospective data in this area. Unanswered questions in this area include:

- 1) Does the process of haemodialysis accelerate cognitive impairment through haemodynamic mechanisms?
- 2) Are cognitive changes in chronic kidney disease due to underlying cerebrovascular disease? Is the cognitive profile of chronic kidney disease the same as the cognitive profile of vascular cognitive impairment?
- 3) How does the incidence of Transient Ischaemic Attack and stroke change as dialysis starts, and is there a significant burden of undiagnosed vascular events?
- 4) How does dialysis impact on urinary tract symptoms, and are these related to central urological control centre dysfunction due to focal brain damage?

We invite a prospective PhD student to construct a project investigating one of more of these issues, structured around a prospective longitudinal study of people starting dialysis. A collaborative group of clinical researchers at Bristol University spanning cognitive and vascular neurology, renal medicine and urology will support the student to generate their own project structure, investigating such areas as cognition, vascular changes on MRI, or burden of urological symptoms in people approaching and commencing dialysis. This provides a fantastic opportunity for a well motivated student to tailor their PhD to their own hypothesis driven work, investigating important questions about the risks of dialysis, and how quality life is impacted.

We welcome applications from individuals who are self-funded or in receipt of a full scholarship to meet the anticipated costs of postgraduate study at the University of Bristol (<http://www.bristol.ac.uk/international/fees-finance/>).

Subject areas: Neuroscience/neurology

Medical/Clinical science

Supervisors:

Dr Catherine Pennington, Consultant Neurologist & honorary clinical lecturer

Dr Phillip Clatworthy, Senior Lecturer in Clinical Sciences & Consultant Neurologist

Professor Patrick Kehoe, Gestetner Professor of Translational Dementia Research.

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