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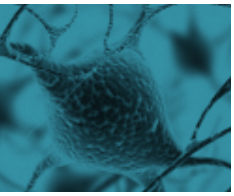

BIODVAS \\ NEUROIMAGING AND MOLECULAR BIOMARKERS OF VASCULAR COGNITIVE IMPAIRMENT.

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Vascular cognitive impairment (VCI) affects 7% of the population over 65 years of age and nearly 50% of those aged 80 years, which makes it the second leading cause of dementia after Alzheimer's disease. This prevalence is expected to double in the next 30 years, which will make VCI a priority for health services. Clinicians will be under pressure to achieve faster diagnosis and find effective treatments. This will be a challenge because VCI is poorly understood. Urgent developments in neuroimaging are necessary in order to improve diagnosis, and a better understanding of disease mechanisms is absolutely necessary if a potential therapy is to be developed. The current proposal aims to make significant advances in both respects. We will develop and characterize experimental animal models of chronic hypoperfusion that are thought to contribute to VCI using sophisticated magnetic resonance imaging (MRI) and cognitive behavioural testing. We will test pharmacological therapies that improve blood flow and inhibit the inflammatory response to gain mechanistic insight into the disease. We will also use transgenic animal models to investigate the role of the inherent brain microglia.

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