

Project Title: Early detection of dementia in subjects with type 2 diabetes based on white matter hyperintensities estimated by automatic retinal image analysis (ARIA) method.

Pictures of the brain taken using magnetic resonance imaging (MRI) scans can show areas of bright white (high intensity) known as White Matter Hyperintensities (WMH). WMH are caused by damage to the walls of the small blood vessels and can be an early sign of dementia. A previous study using our software which automatically measures blood vessels in the back of the eye from photographs (ARIA) demonstrated a high accuracy of estimating the volume of WMH. Here we aim to compare the grade and volume of WMH in people with diabetes compared to those without diabetes. Additionally, we would assess the relationship between WMH and diabetic kidney disease and nerve damage as these are also caused by damage to the small blood vessels.