

## **Lay Summary**

**BRAIN UK Ref: 23/017**

**AN1792 immunotherapy effects on plaque-associated synapse loss and gliosis**

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Alzheimer's disease is the commonest cause of dementia in later life, responsible for two thirds of cases. It affects about 5% of people over 65 years of age, 20% of people over the age of 80 and 50% of people over 90 years. It is a cause of great difficulty to families and carers and huge economic cost. There is currently no good treatment. Evidence suggests that the initial problem in the brain is deposition of a substance called amyloid- $\beta$  ( $A\beta$ ). We have previously shown that vaccination against  $A\beta$  can result in removal of  $A\beta$  from the brain. Our work has resulted in a collection of cases that is unique worldwide for the study of changes in the brain after vaccination. It has become of particular importance because the licencing authority in the United States has recently approved the use of vaccination for Alzheimer's disease. We now wish to provide tissue samples to a collaborator to understand in detail how the treatment can change what is happening in the brains of people suffering from Alzheimer's disease.