

# Investigating the causes of Alzheimer's

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Scientists at the University of Bristol are investigating what causes the leaks that develop in blood vessels in Alzheimer's disease, thanks to funding from the UK's leading dementia research charity, the Alzheimer's Research Trust.

Blood vessels in the brain are normally highly selective in what they allow to pass from the blood stream into the brain. This protects the brain from damage by toxins and other harmful substances.

In Alzheimer's disease, an abnormal protein, amyloid, builds up in the walls of blood vessels and makes them leaky. This may then cause damage to surrounding brain cells.

Bristol researchers will focus their research efforts on a substance called bradykinin, which influences the leakiness of blood vessels in the brain. Previous research, including some by the Bristol group, suggests that some of the effects of amyloid on leakiness of blood vessels in Alzheimer's disease may be related to changes in bradykinin.

The researchers will investigate where bradykinin and related proteins are distributed within the brain and how this changes in Alzheimer's disease, particularly in blood vessels that contain amyloid.

Dr Patrick Kehoe of the Dementia Research Group at the University of Bristol said: "From these studies we hope to find out more about bradykinin in Alzheimer's disease: its contribution to leakage from blood vessels and damage to nearby nerve cells.

"A better understanding of this will indicate whether treatments that target this substance will be able to reduce or prevent this damage."

Rebecca Wood, Chief Executive of the Alzheimer's Research Trust said, "We are excited to be funding such interesting research that has the potential to lead to ways to protect the brain from the ravages of Alzheimer's. We look forward to seeing the results of this research."

The bulk of the research will be carried out by PhD student, Emma Ashby, who is being funded by the Alzheimer's Research Trust.

Source: University of Bristol

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