

Tiny blood vessels in the brain could be the key in treating vascular dementia

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Tiny blood vessels in the brain could be the key in treating vascular dementia.
Credit: University of Southampton

Researchers from the University of Southampton are to study tiny channels embedded in the walls of blood vessels in the brain to assess their impact on dementia.

Dementia is the loss of [mental ability](#) due to the gradual death of [brain cells](#). Vascular [dementia](#) is the second most common type of dementia and is estimated to affect about 150,000 people in the UK, accounting for almost 20 per cent of all dementia cases.

It is caused by problems with the small vessels of the brain. These vessels have two functions: to supply blood to the brain and to remove toxic waste. The removal of waste is along tiny pathways called basement membranes that are extremely thin: a millionth of the thickness of one human hair.

These pathways are anchored to the cells that make up the walls of the vessel, making them very difficult to see and investigate.

The Southampton experimental study will use a unique model, in collaboration with Professor Darek Gorecki of the University of Portsmouth, to look at whether it is this anchoring system that prevents the pathways to perform their function.

Professor Roxana Carare, of the University of Southampton, who is leading the study, said: "The basement membranes have a very important job in taking waste away from the brain. The failure in this system designed for eliminating waste may lead to [vascular dementia](#), a devastating condition that can affects a lot of people.

"Understanding the exact arrangement and function of all elements in the system for eliminating waste from the [brain](#) will bring us a step closer to the design of efficient therapies for vascular dementia."

Latest estimates suggesting that by 2050 the number of people living with vascular dementia in the UK could rise dramatically to 350,000 people.

Provided by University of Southampton

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