

Delirium increases risk of developing new dementia eight-fold in older patients

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Older people who have experienced episodes of delirium are significantly more likely to develop dementia, according to new research. The study is published in the journal *Brain* today.

When in hospital, older people sometimes become acutely confused and disorientated. This condition, known as [delirium](#), affects at least 15 per cent of older people in hospitals and has long thought to be simply a temporary side effect of other illness (such as an infection, a reaction to a medication or an operation). However, the new research shows that episodes of delirium can have long term effects - increasing the future risk of dementia eight-fold.

Dr Daniel Davis, lead author of the paper from the University of Cambridge, said: "This means that delirium, or the acute causes of delirium, could be a newly discovered cause of dementia. This is important, because although delirium is extremely common, less than a quarter of cases are actually diagnosed in hospitals."

Scientists at the University of Cambridge and the University of Eastern Finland recruited 553 people aged 85 and over, and assessed their memory and thinking over 10 years. Of the patients who had previously experienced at least one episode of delirium prior to the study, 77 per cent also had dementia. In comparison, only 33 per cent of the patients who had no previous history of delirium had dementia. They also recorded the number of episodes of delirium throughout the study.

In people without pre-existing dementia, experiencing delirium resulted in an eight-fold increase in the risk of dementia. In individuals with existing dementia, delirium was associated with an acceleration of dementia severity, loss of independence in physical functioning, and higher [mortality](#).

Dr Davis added: "Worsening [confusion](#) and

[disorientation](#) in older persons does not attract much attention among [clinical staff](#) and many believe that delirium is simply an inconvenient consequence of illness. However, this research suggests the possibility that delirium, or the problems giving rise to delirium, may be actually causing [brain](#) damage.

"Because some delirium is preventable, it is plausible that delirium prevention may lead to dementia prevention. We now urgently need to test if better delirium care can prevent dementia, or prevent further decline in patients who already have dementia."

The Wellcome Trust-funded study also found, for the first time, that there may be differences in the brains of people who have had delirium compared to those without delirium. Dementia is known to result from a several different pathological processes (e.g. accumulation of abnormal proteins, or blockages in blood vessels). However, this study found that when individuals had both delirium and dementia, these standard neuropathological markers were not enough to explain the dementia. This raises the important possibility that dementia occurring after delirium had alternative pathological processes causing the dementia.

Professor Clive Ballard, Director of Research at Alzheimer's Society, said: "Scientists have believed there could be a link between delirium and dementia for many years. This robust study adds weight to this knowledge. With hospitalisation thought to be a cause of delirium, it's vital that healthcare professionals recognise the potential long term impact of delirium and are aware that [older people](#) who experience episodes could be susceptible to developing dementia."

Dr Karin Neufeld, President-Elect of the American Delirium Society and Director of General Hospital Psychiatry at Johns Hopkins Hospital, commented: "Research on delirium has repeatedly highlighted

the association between cognitive impairment, and dementia and the development of delirium in the [hospital](#) setting in elderly individuals.

"This important research suggests that preventing delirium might be an important way to decrease the onset and progression of [dementia](#) in some people. The implication is that we, as healthcare professionals, need to redouble our efforts to detect and prevent delirium in hospitalised patients."

More information: The paper 'Delirium is a strong risk factor for dementia in the oldest old: a population-based cohort study' will be published in the 09 August 2012 edition of *Brain*.

Provided by University of Cambridge

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