Dementia breakthrough as new disease type identified

Illness that mimics Alzheimer's may have skewed drug trials

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The newly identified condition, known as Late, is thought to affect at least 20 per cent of people over the age of 80 ALAMY

Scientists have identified a new form of dementia that has often been mistaken for Alzheimer's disease and which is likely to have hampered efforts to find a cure.

The researchers believe the impact of the disease rivals that of Alzheimer's, and its discovery has been regarded as the biggest breakthrough for years.

Signs of the degenerative condition known as limbic-predominant age- related TDP-43 encephalopathy, or Late, are thought to be present in the brains of between 20 and 50 per cent of individuals aged above 85. It could be advanced enough to affect faculties such as memory in about half of them.

About 20 per cent of older people who receive an Alzheimer's diagnosis would probably be better classified as having Late, studies suggest. Another 30 per cent may have both conditions.

Symptoms for both diseases include memory problems, cognitive decline and mood disorders. However, they appear to be linked to the accumulation of separate toxic substances in the brain and Late progresses more slowly.

Peter Nelson, of the University of Kentucky, part of the team that described the disease, said: “Late probably responds to different treatments than Alzheimer’s, which might help explain why so many past Alzheimer’s drugs have failed in clinical trials.”

Bart De Strooper, director of the UK Dementia Research Institute, was not involved in the study but urged researchers to revisit the results of Alzheimer’s drugs trials dismissed as failures. “We were probably treating the wrong people with the wrong drug, to a certain extent,” he said.

Alzheimer’s is the most common form of dementia, affecting an estimated 500,000 Britons. The cause is unknown and a cure remains elusive.

Late, which was formally described for the first time yesterday in the journal *Brain*, appears to progress more gradually than Alzheimer’s. However, the two conditions often occur in tandem, causing a more rapid decline than either would alone.

At present, Late can be identified only by examining the brain after death. Researchers are expected to prioritise efforts to develop new diagnosis techniques and potential treatments.

It has long been recognised that a large number of people who die in advanced age have dementia symptoms but do not have two hallmarks of Alzheimer’s — substances known as amyloid and tau — in their brains. Research now indicates that a third substance, TDP-43, plays a key role in these cases.

TDP-43 is a protein that normally helps to regulate which genes are active in the brain and other tissues. Recent research has shown that mis-folded TDP-43 is common in older adults. Post-mortem examinations have suggested that roughly a quarter of people aged above 85 have enough mis-folded TDP-43 protein to affect their memory and thinking abilities. Malfunctioning TDP-43 has also been associated with severe shrinkage of the hippocampal region of the brain, which deals with learning and memory.

The new study indicated that some genes linked to a heightened risk of Alzheimer’s were also linked to an increased chance of someone having Late.

Robert Howard, of University College London, said: “Those of us who work in dementia have long been puzzled by our patients who have all the symptoms of

Alzheimer’s disease, but whose brains do not contain the pathological features of the condition.

“We have also been puzzled by a group of often very old patients whose dementia does not progress as rapidly as we would expect with Alzheimer’s disease. We now know that these puzzling patients are probably suffering from Late and not Alzheimer’s disease and that Late may be ‘mimicking’ Alzheimer’s in about 20 per cent of cases.”

Nina Silverberg, of America’s National Institute on Aging, said: “Recent research and clinical trials in Alzheimer’s disease have taught us two things: first, not all of the people we thought had Alzheimer’s have it; second, it is very important to understand the other contributors to dementia.”