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LI scientist to study Alzheimer's, aggression link

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A Long Island scientist, one of the world's leading experts in Alzheimer's research, has embarked on answering a major question about the disease: Why do nearly half of all patients become agitated to the point of aggression and violence?

The question has perplexed scientists and family caregivers for decades, with both sides asking how even-tempered people throughout most of their lives become agitated, aggressive and prone to hallucinations, paranoia and capable of physical threats.

Aggressive behavior has made it difficult for some families to care for these patients at home. Institutions have responded with potent drug therapy, experts say.

While the problem may seem psychological, it is part of the complex biology of Alzheimer's disease and deeply rooted in the insidious unraveling of the human brain, said Dr. Peter Davies, director of the Litwin-Zucker Research Center for the Study of Alzheimer's Disease, a division of the Feinstein Institute for Medical Research in Manhasset.

Yesterday, the Manhattan-based Alzheimer's Foundation of America announced the awarding of a $500,000 grant to Davies and colleague, Dr. Jeremy Koppel, also of Litwin-Zucker.

"Right now there really is no good drug treatment for this problem," Davies said. "We can use the major tranquilizers," he said, referring to two anti-psychotic medications, risperidone and seroquel. "These drugs are not good solutions because they have very sedating effects in older people." He said the medications also raise the risk of cardiovascular problems and stroke in the elderly.

Davies, Koppel and their team not only will study specific areas of the brain to better understand the aggression phenomenon, they also will attempt to develop a mouse that possesses a key signature of the disease — a mysterious brain manifestation called "tangles." The team also will use the grant to work on possible antibody-based medications targeted to the underlying cause of tangles, which irreparably damage the brain.

Aggressive behavior in Alzheimer's, Davies said, is likely caused by damage to specific populations of brain cells.

"We are fairly certain that we have identified this as a biological aspect of Alzheimer's," Davies said of aggressive behavior in people with Alzheimer's.

Davies has led dozens of studies over the past four decades centered on an abnormal version of a protein called "tau," which forms inside dying brain cells. The damage causes the notorious tangles.

Scientists who view brain specimens of patients who've died of Alzheimer's have long known tangles occur in combination with another indelible feature of the condition, a sticky protein called amyloid, which is intimately involved in development of Alzheimer's plaque. Even though scientists do not know what causes Alzheimer's disease, plaques and tangles are leading culprits. An abundance of tangles accumulate in the brain's frontal region, a site Davies' studies suggest may also be involved in aggressive behavior.

Alzheimer's disease can last 20 years or more and is typified by multiple stages and plateaus, said Jean Jones, assistant director of a Hempstead adult day care program for people with mild forms of dementia, and affiliated with the Parker Jewish Institute in New Hyde Park. Not all patients become aggressive or violent, she said. "A lot of people stay in mild and moderate disease for a long time," Jones said.

Charles J. Fuschillo Jr., president and chief executive officer of the Alzheimer's Foundation, said relying on the insight of a pioneer in Alzheimer's research may produce answers soon. "We felt strongly that this was a research project that needed to be funded," he said. "Each individual living with this disease is different from the next so we hope to learn a lot from Dr. Davies."


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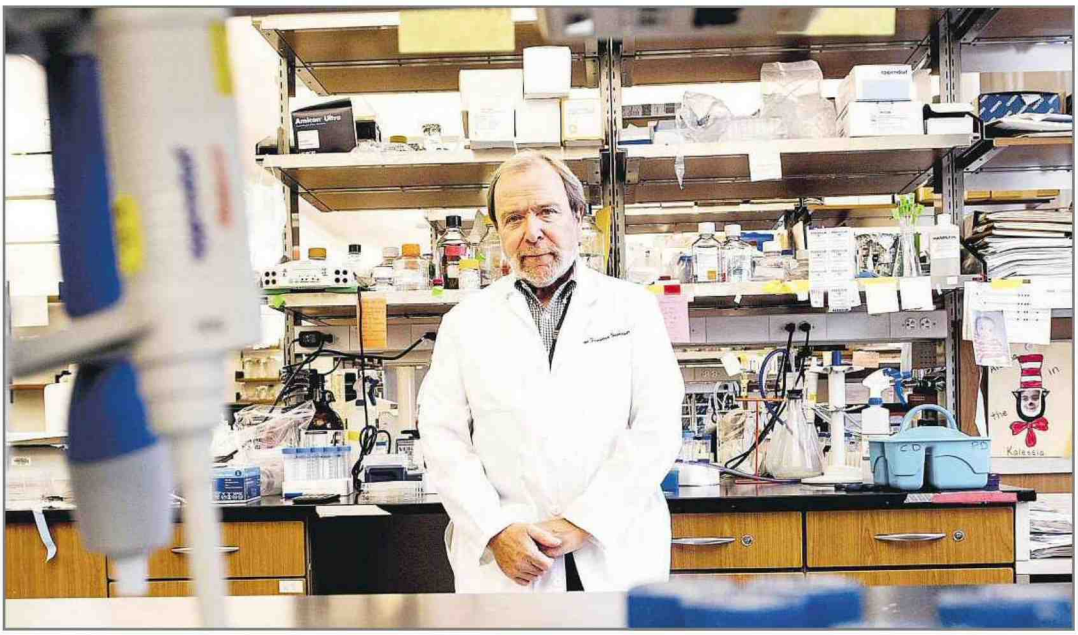

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Alzheimer's researcher Dr. Peter Davies at North Shore University Hospital in Manhasset yesterday.

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