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January 8 at 3:16 PM - A French pharmaceutical company on Thursday said promising results in preliminary research using a combination of existing medications to treat Alzheimer's could point the way toward someday combating the dementia-causing disease with a drug cocktail.

The drugs, which are not now used to treat Alzheimer's, include acamprosate calcium, which has been prescribed since 1989 to reduce cravings and alleviate withdrawal symptoms in alcoholics. It was combined with baclofen, a medication that has been used for decades to treat the spastic movements in people suffering from multiple sclerosis.

The findings, which were obtained in laboratory cultures and animal testing, suggest the way forward to treating Alzheimer's disease could be the same method discovered years ago to treat HIV, a senior company official said.

"Maybe the illusion we had was that we could treat a disease such as Alzheimer's with a single silver bullet," Daniel Cohen, an author of the study and a founder of Pharnext, said Wednesday in a telephone interview. "When you fight a complex disease, you have to use a complex treatment."

Using already known drugs and at lower doses than usual means the cocktail should be safe and could perhaps lead to an approved therapy in a shorter time than it takes to develop new drugs, Cohen said.

Richard Lipton, who heads the Einstein Aging Study at the Albert Einstein College of Medicine and the division of cognitive aging and dementia at Montefiore Medical Center, said after reviewing the company's study that its data and therapeutic approach sounded promising.

"The notion of combining therapies is extremely appealing," Lipton said.

Most pharmaceutical research focuses on developing a new drug for a disease. But Lipton also likened the focus on finding a single drug to treat a disease to trying to prevent someone from traveling from Grand Central Station to the United Nations building across town by blocking only one street. Using a multi-targeted approach would be better, but in pharmaceutical research, it's also more costly and challenging, he said.

Lipton also cautioned that although Pharnext's approach and data look good, the battle against Alzheimer's has produced countless studies suggesting progress in the laboratory on animal models that has not translated into successful treatments for humans.

"If everything that worked in animals worked for humans with Alzheimer's, I'd be a lot happier," he said.

Instead of joining what has so far been a frustrating search for a single drug to halt or prevent Alzheimer's disease, Pharnext has focused on what it calls "pleodrugs," a name taken from the Greek word "pleotropic" that refers to a single gene's ability to produce multiple effects. The privately held Paris-based company has also mined genetic and pharmacological data to identify possible combinations of approved drugs that might target specific pathologies of Alzheimer's disease.

In this case, Pharnext targeted biochemical processes that maintain equilibrium in brain cells. Specifically, the company focused on chemical imbalances that occur between "excitatory" responses in neurotransmitters involving glutamate and "inhibitory" responses involving gamma-Aminobutryic acid (GABA) and glycine. Imbalances in those systems appear to lead to neurodegenerative effects seen in Alzheimer's, the researchers said.

One of the approved drugs, acamprosate calcium, decreases levels of glutamate, which is also key to regulating processes that control natural cell death and survival and is generally safe even at high doses, the researchers said. Baclofen targets GABA receptors and has been used for decades to treat the spastic movements in people suffering from multiple sclerosis. Like acamprosate, it too remains safe even at high doses, the researchers said.

The drug combo was administered to cell cultures and rodents. The researchers found that the combination of the two drugs produced not just an additive effect but a synergistic effect in protecting brain cells and the circulatory network that nourishes them from damage caused by beta amyloid, Cohen said. The researchers also found evidence that systems that had been disturbed by Alzheimer's disease were normalized.

Pharnext, in interviews with company officials and a study that appears in Nature's peer-reviewed online journal Scientific Reports, said preclinical studies suggest that combining two approved drugs can have a synergistic impact in alleviating cognitive impairment and protecting the brain's neurons and blood vessels from Alzheimer's-related damage.