Chilean creates technique to detect Alzheimer's and Parkinson's early

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Scientist based in the USA developed several tests for the diagnosis of neurodegenerative diseases.

Detecting Alzheimer's, Parkinson's, or another neurodegenerative disease before symptoms start and with just a blood sample, could soon be a reality. Several experts from around the world are working on it. And one of them is Chilean.

Claudio Soto, Doctor of Science and Biochemistry, is based in the USA where he currently works as a professor in the Department of Neurology at the University of Texas. There he runs a laboratory dedicated to the study of neurological diseases and is now working on a technique with which several tests can be developed to detect Alzheimer's, Parkinson's and other neurodegenerative diseases before symptoms appear.

For more than 15 years, Dr. Soto has been studying prions, proteins that for some reason become pathogenic. To detect this type of pathology, Soto and his team devised a technique called PNCA, which consists of imitating what happens in the disease process. Many years before experiencing the first symptoms, proteins begin to clump together. Under this logic, what Soto and his team do is “incubate” and externally induce the aggregation of defective proteins. "If the sample contains abnormal proteins, by inducing aggregation, they begin to clump quickly,” he says.

Last year, Soto's group published in the journal Cell Report, the first report on the detection of beta-amyloid (Alzheimer's) protein aggregates in cerebrospinal fluid. Now, they are about to be published in another scientific journal, demonstrating the results of this technique in human blood samples.

The researcher formed a company to commercialize this detection technique for the different diseases in which he has investigated its use, each test for a different protein. His idea is to partner with a pharmaceutical company that can follow the task of marketing and selling the tests, so that he can dedicate himself to what he is truly passionate about: knowledge.
Soto is also a member of the international scientific panel of the Millennium Institute of Biomedical Neuroscience (BNI) and a few weeks ago he was visiting Chile. "The panel makes recommendations for the BNI to become a reference center in Latin America," explains Andrés Couve, its director.

“Claudio has discoveries and applications that he develops, no longer individually, but with pharmaceutical companies and groups with a large amount of financial resources to be able to reach clinical studies. In Chile we can do preliminary studies, in an animal model, but for clinical phase 2 and 3, we need significant risk capital and in that Chile has a gigantic deficit”, says Couve.