Local researcher lands federal grant for Alzheimer's study

Sid O'Bryant at UNT Science Center, holds a vial of blood in the lab. O'Bryant recently was awar

Carolyn Poirot
Reporter

Texas researchers have developed a blood test to screen for Alzheimer's disease, and last month Sid O'Bryant at the University of North Texas Health Science Center was awarded a $625,000 federal grant to further validate the screening test and demonstrate its accuracy against autopsy-confirmed Alzheimer's.

O’Bryant led the team from the Texas Alzheimer’s Research and Care Consortium, which developed the screening tool over the last seven years. He joined UNTHSC’s Institute for Aging and Alzheimer’s Disease Research in January and received the federal grant in April from the National Institute on Aging, a part of the National Institutes on Health.

The new test uses biomarker proteins in blood serum, combined with clinical evaluation, to classify patients with Alzheimer’s. It already has proven 88 to 96 percent accurate – as accurate as the much more expensive, invasive and technologically complex cerebral spinal fluid analysis that is currently used to diagnose the disease.

“This is designed to be a front-line screening test to tell primary care physicians it is time to get the patient to a specialty clinic,” O’Bryant said. “It can pick up very early stages of Alzheimer’s [often before patients and physicians identify symptoms] and could be part of an annual physical for any older person who wants it.”

“Although further validation is required, the blood test, as part of a multitiered screening tool, holds the potential to change geriatric medicine globally,” the research consortium said in a website announcement about the new test. “This test could be affordably given on an annual basis to all individuals over 65 years of age.”

In addition to getting patients taking Alzheimer’s drugs earlier, when they are most effective, the blood test could also be used as a cost-effective way to follow the progression of Alzheimer’s and determine more quickly and easily which medication is most effective for a particular patient at a particular time in the course of the disease.

Current state-of-the-art cerebrospinal fluid analysis with neuroimaging requires a lumbar puncture and MRI or PET scan, which costs $1,000 to $5,000, depending on the imaging technique used, O’Bryant said.

And some patients may not consent to a spinal tap or be able to undergo neuroimaging because they have a pacemaker or other health issue, he pointed out.

His new screening test, which works across both blood serum and plasma, “should not cost more than $200 a pop,” he said. And blood can be collected at any clinic or in-home visit.

Just about a year ago, the accuracy of his blood-based screening test was confirmed in an independent study by the Alzheimer’s Disease Neuroimaging Initiative. It is the first such test to be cross-validated in independent samples of patients with and without the disease.

At this time, a final, definitive diagnosis of Alzheimer’s disease can still only be confirmed with an autopsy.

“It takes a lot of steps before a new test can be approved [by the Food and Drug Administration] for clinical use, but hopefully within five to seven years this may be in the hands of local clinicians,” O’Bryant said in early May.

The research consortium was funded by the Legislature in late 2005. It took six more years for O’Bryant to get funding from the National Institutes of Health.

“The NIH grant is something of a vindication because for 20 years researchers have been looking for a simple but accurate blood test for Alzheimer’s, and we have had failure after failure after failure. We took a new approach to an old problem and have come up with a blood test that works,” he said.

The consortium involves physicians and researchers at UNTHSC in Fort Worth and Texas Tech University HSC in Lubbock, the University of Texas Southwestern Medical Center in Dallas, Baylor College of Medicine in Houston and the University of Texas HSC in San Antonio.

UNTHSC will work with the Mayo Clinic and researchers in Germany and Australia during the next two years to determine whether the blood-screening test is as accurate as autopsy.

O’Bryant said he also is working on an NIH grant proposal to study Alzheimer’s disease in the Mexican-American population.

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