Blood Tests Show Promise For Earlier Alzheimer’s Diagnosis

By Sharon Reynolds for NIH Research Matters

With the aging of the U.S. population, the incidence of Alzheimer’s disease continues to rise. The disease is currently the most common cause of dementia in older adults.

Brain changes associated with Alzheimer’s include abnormal clumps (amyloid-β plaques), tangled bundles of fibers (tau tangles), and the eventual death of nerve cells. These changes can lead to a progressive decline in memory and thinking skills.

Treatments don’t yet exist to slow or reverse Alzheimer’s disease progression. Researchers are working to test new therapies in clinical trials. But no blood tests can currently diagnose Alzheimer’s before symptoms develop. This complicates studies of early treatments or preventive strategies.

PET imaging and tests that use cerebrospinal fluid (CSF) can be used to identify Alzheimer’s before dementia develops. But PET imaging is expensive, and collecting CSF is invasive. Recent research found that measurements of a substance in the blood called ptau181 showed promise as an

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CCRA’s Tess Staton dubbed “Get-it-done kind of woman”

By Tess Staton

I have been working with Bobby as his care coordinator since August of 2018. Bobby and I are relatively close in age and we were both born and raised in Juneau. It’s been a good fit as we have a lot in common and we’re able to connect on many levels. Recently in conversing with each other we also realized that my mother was one of his former special education teachers, whom he was very fond of; which has only made our bond even more special.

Last year, when visiting Bobby at the pool while he was utilizing his day habilitation services, his REACH direct support staff, Alan, asked if there was a way we could get Bobby a new wheelchair. Alan explained that he lent Bobby the wheelchair he was using because his Medicaid wheelchair had become unusable, and the loaner was starting to fall apart. I encouraged Bobby, who is an independent young man despite his physical limitations, to contact his primary physician in order to obtain a referral to physical therapy so that he could be prescribed a new wheelchair that would be paid for by Medicaid.

Bobby followed my recommendation and made

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Alzheimer’s test.

Scientists have been examining whether another form of the tau protein, called ptau217, can also serve as an early marker of Alzheimer’s development. Both are found in the tau tangles that accumulate in the brain and can spill into the bloodstream. Two new studies tested different ways of measuring ptau217 in blood samples. The research teams were funded in part by NIH’s National Institute on Aging (NIA), National Institute of Neurological Disorders and Stroke (NINDS), and NIH Office of the Director (OD).

In the first study, researchers led by Dr. Oskar Hansson from Lund University in Sweden tested blood samples from three studies comprising about 1,400 people. These included people with known Alzheimer’s and other dementias, as well as those without cognitive problems. The researchers used antibodies produced by the immune system to detect tau proteins in the samples. Results were published on July 28, 2020, in *JAMA*.

The team found that ptau217 measurements were almost 90% accurate at distinguishing people who later had Alzheimer’s damage found in their brains after death. Blood measurements of ptau217 were also about 90% accurate at distinguishing people who later developed symptoms of dementia. In both study groups, ptau217 was better than ptau181 — and as good as PET imaging and CSF testing — at pinpointing Alzheimer’s development.

Finally, the team tested ptau217 in samples from people who carry a genetic mutation that causes early-onset Alzheimer’s. Levels of ptau217 correlated with those who later developed the disease, up to 20 years before symptoms were seen.

In the other study, a team led by Drs. Nicolas Barthélemy and Randall Bateman from...
Dear Friends,

With the turn to autumn, I’m pleased to report that Alzheimer’s Resource of Alaska is meeting the needs of those we serve throughout the state in record numbers. Of course, much if that increase is a byproduct of the pandemic – as the need is even greater for a listening ear, a caregiving coach, and a safe community where engagement and support are provided. None of us pretends this is ideal; each of us longs for the day when we gather and meet in real life rather than through a video display.

I couldn’t be more impressed with our staff, especially at this time. The cover story about Juneau-based Care Coordinator Tess Staton illustrates why. If you’ve ever wondered just what it is that a Care Coordinator does, her account of her dogged advocacy on behalf of her client will open your eyes. A consummate professional, Tess figures out how to get things done when others might accept “no”. She goes above and beyond, but that’s the quality that has Care Coordination Resource of Alaska (CCRA) recognized as a center of excellence in care coordination services in Alaska.

I hope many of you will join us for Mission: Possible, our virtual gala and silent auction. We’re holding this event on November 13, which happens to be Family Caregiver Appreciation Day and falls in the middle of National Alzheimer’s Awareness Month. The timing couldn’t be better for ARA and its mission. Look for an e-mail and social media messages from us over the next few weeks with information on how you can participate. You can also visit our website to learn more.

The news from the National Institute of Health (NIH) Research Matters about promising results in biomarker testing is a welcome development. While a blood test for Alzheimer’s disease is not available yet, this research study is significant. In the future, a simple blood test may hold the key to early interventions that slow the progression of disease. It may help identify a broader pool of individuals who want to participate in research and clinical trials. We’re not there yet, but our national investment in research is fueling this kind of excitement.

Very best wishes,

Pamela Kelley
Executive Director
CCRA’s Tess Staton dubbed “Get-it-done kind of woman”  
(Cont. from page 1)  
an appointment. However, his primary physician was on leave and had been for several months, and the physician covering for him didn’t feel comfortable writing Bobby the referral; even though he physically showed him how his wheelchair was falling apart at the seams. When I spoke to Bobby a few days after his appointment, he was extremely frustrated by this interaction and wasn’t sure how to proceed. I asked Bobby if he would like my assistance with this matter, which he gladly accepted.  
I immediately contacted the doctor’s office and explained the situation to them. Within a day they followed up with Bobby and provided a referral to physical therapy. I also contacted Southeast Alaska Independent Living (SAIL), which has an equipment loan closet. I helped him fill out SAIL’s paperwork, and later accompanied him and Alan to their first meeting to ensure he was comfortable and got the equipment he truly needed.  
After the appointment, when helping Bobby and Alan load the new loaned wheelchair into his car, they both expressed their appreciation for my assistance. Alan commented on his amazement that, less than a week after Bobby had spoken to me about the challenges, I helped him resolve the issue by getting him the referral he needed AND helped him obtain a loaner wheelchair to use in the meantime. He reported that on the way to the appointment Bobby and he had determined that I was a “Get-it-done kind of woman;” with which I proudly agreed. I’m happy to report that Bobby has received his new Medicaid wheelchair!  

Blood Tests Show Promise For Earlier Alzheimer’s Diagnosis  
(Cont. from page 2)  
Washington University in St. Louis tested a method that used mass spectrometry to measure ptau217 in the blood of 126 volunteers. The technique they developed can measure extremely small amounts of ptau217 in the blood. Results were published on July 28, 2020, in the Journal of Experimental Medicine.  
In tests of the first 36 participants, measurements of both ptau217 and ptau181 in the blood predicted with more than 90% accuracy which participants had Alzheimer’s changes seen by PET imaging. Tests of another 92 participants used even smaller samples of blood. In these tests, only levels of ptau217 accurately identified people whose brains showed Alzheimer’s damage on imaging tests.  
“This is just an exploratory study, but we think phosphorylated tau 217 is a promising target for an early diagnostic test,” Barthélemy says.  
Further research is needed to test the accuracy of ptau217 measurements in larger, racially and ethnically diverse populations. More studies are also needed to understand how levels of ptau217 change during disease development.
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Classes and events are being offered online via Zoom and are available to attend statewide. All classes listed below require registration.

CAREGIVING 101

Family Meeting
Friday, 10/2, 1pm-2:30pm
REGISTER HERE

Alaska Mental Health Trust Authority
Monday, 10/5, 1pm-2:30pm
REGISTER HERE

Holidays and Traveling: Tips For a Loved One Living With Dementia
Saturday, 10/10, 1-2:30pm
REGISTER HERE

Senior Targeted Fraud and Scams
Monday, 10/12, 1pm-2:30pm
REGISTER HERE

The Art of Long Term Care Planning
Monday, 10/19, 1-2:30pm
REGISTER HERE

Honoring Connection: How to Improve Communication
Tuesday, 10/20, 5:30-7pm
REGISTER HERE

Intimacy, Sexuality and Dementia
Monday, 10/26, 1-2:30pm
REGISTER HERE

Professional Webinars
Questions or registration assistance, contact: Amber Smith: 586-6044 or asmith@alzalaska.org

The Power of Music
Tuesday 10/20, 12 pm - 1:00pm
REGISTER HERE

Intellectual and Developmental Disabilities and Dementia
Tuesday 11/17, 12 pm - 1:00pm
REGISTER HERE

Mouth Care Without the Battle
Tuesday 12/1, 12 pm - 1:00pm
REGISTER HERE

Assistive Technology of Alaska
Monday, 11/2, 1-2:30pm
REGISTER HERE

Making Visits Positive
Friday, 11/6, 1-2:30pm
REGISTER HERE

What Is It Like to Have Dementia?
Monday, 11/9, 1-2:30pm
REGISTER HERE

Next Steps After a Diagnosis of Dementia
Saturday, 11/14, 1-2:30pm
REGISTER HERE

Guardianship Explained
Monday, 11/16, 1-2:30pm
REGISTER HERE

Meaningful Activities of Daily Living
Tuesday, 11/17, 5:30-7pm
REGISTER HERE

Nutrition and Aging
Monday, 11/23, 1-2:30pm
REGISTER HERE

When Does Forgetting Become a Worry?
Monday, 11/30, 1-2:30pm
REGISTER HERE

End of Life Decision
Friday, 12/4
1pm-2:30pm
REGISTER HERE

Grief and the Holidays
Monday, 12/7, 1-2:30pm
REGISTER HERE

Activities of Daily Living
Saturday, 12/12
1:00pm-2:30pm
REGISTER HERE

Creating Moments of Joy
Tuesday, 12/15
5:30pm-7pm
REGISTER HERE

Care for The Caregiver
Monday, 12/21, 1-2:30pm
REGISTER HERE

Mind Matters | Brain Works
Support for those who have been recently diagnosed with Alzheimer’s or related dementia, or those living with moderate memory loss, and their care partners.

Screening & Pre-registration required
For more info contact: Amy Becia at 907-561-3313 or email: abecia@alzalaska.org

Statewide Support Groups
Click here
Mission Impossible

Virtual Gala & Silent Auction

Save the Date!

November 13, 2020

alzalaska.org/mp for more information

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