Letter from the Executive

Dementia Therapeutics officially opened its doors to the public in February. There has been incredible interest within the Bay area community, and we are in the process of enrolling our first clients. It is our sincere hope to take significant steps in helping persons with dementia and other cognitive issues remain functional for as long as possible, thereby promoting better quality of life for them as well as their families.

The March 2013 issue of the American Psychological Association’s *Monitor on Psychology* includes an article entitled “The pre-Alzheimer’s brain” that discusses neuropsychological research focused on identifying the precursors to Alzheimer’s disease that someday may lead to treatments that slow progression. It suggests that the financial cost of Alzheimer’s disease to society can be cut by almost 50% by 2050 if progression can be slowed by only five years.

Slowing the progression of decline and delaying the onset of new symptoms in individuals with various neurological conditions, including Alzheimer’s disease and other forms of dementia, is one of the primary goals of Dementia Therapeutics. After more than a year of research and development, we are on our way to accomplishing this goal.

---

**Stroke Poses Risk for Cognitive Aging**

While there is no cure for Alzheimer’s, scientists have made significant progress when it comes to early detection of the disease. The most recent scan technology, which was introduced just last June, allows people to get tested for excessive beta amyloid plaques in the brain. These plaques are thought to be an early marker of Alzheimer’s. Brain scan machines that can test for amyloid plaques are now available in over 300 hospitals and imaging centers across the United States.

But a new study questions the significance of these plaques and their relationship to cognitive decline. Scientists at the UC Davis Alzheimer’s Research Center have found that vascular brain injuries have a greater impact on cognitive function than beta amyloid plaques. Their new study, which was published in *JAMA Neurology*, compares the cognitive effects of vascular brain injury and amyloid plaques.

The first question the researchers asked was whether there was a correlation between vascular brain injury and amyloid plaques. Do people with a history of strokes have more amyloid plaques deposited in their brains? The answer was no. They had 61 participants aged 65-90, with and without cognitive impairment, go through MRI imaging, PET scans, and cognitive testing on memory and executive function. There was no evidence to suggest that infarcts (tissue loss) due to vascular brain injury related to amyloid buildup in influencing cognitive decline.

The second question was whether vascular brain injury had a bigger impact on cognitive aging than amyloid plaques. Here, the answer was yes. The more vascular brain injury an individual had, the lower...
the cognitive testing score. However, a higher level of amyloid plaques in the brain did not necessarily lead to lower test scores. In other words, vascular brain injury was a better predictor of cognitive test performance than the level of amyloid plaques.

These findings support previous studies pointing out older adults with extensive amyloid plaques that did not have any form of cognitive impairment when they died. It is another piece of evidence that we are not doomed for cognitive failure just because we have amyloid plaques. We have the power to prevent cognitive aging and decline, starting with a healthy diet to lower blood pressure and prevent strokes. Such non-pharmacological, rehabilitative approach continues to show promise in the near future.


### Environmental Issues That May Impact Alzheimer’s

Scientists have long thought that there was one part of the brain, the medial temporal lobe, which was used only for memory. But new research suggests that the medial temporal lobe could also control how we perceive objects and the world around us. The study, which was led by researchers from Georgia Tech and the University of Toronto, in partnership with the Emory Alzheimer’s Disease Research Center, shows that memory impairments may be related to difficulties distinguishing between objects that look similar. Researchers gave subjects with mild cognitive impairment (MCI) a test to determine their ability to differentiate between images such as an apple and a butterfly that were displayed side by side. Some of the tests were more challenging than others and tested subjects’ abilities to see the difference between two images that were the same but rotated or tilted on an axis.

The results of the study demonstrate that individuals with memory problems have greater difficulty distinguishing objects visually in their mind than those without memory problems. This finding may partly explain why an individual with later stage dementia may have a hard time recognizing a loved one’s face. While memory plays a role, visual perceptions may be distorted and contribute further to such problems.

This research suggests that caregivers should pay special attention to the living environment of a person with Alzheimer’s or dementia, and take care to reduce “visual clutter.” Carpets or furniture with busy patterns may
cause more frequent falls or injuries. Table settings should be solid, distinctive colors to help individuals see their utensils and food. Everyday activities such as using a telephone may become difficult because the buttons on the phone all look the same. If different size and color buttons are used instead, dialing a telephone might become an easier task. Some changes require simple manipulation of the environment while others may require purchasing items from a senior care resource store.


---

**Vitamin B12 Deficiency Linked to Health Detriments**

Our body needs vitamin B12 in order to make red blood cells. Without enough of this essential nutrient, you may be at risk for anemia. Common signs of low B12 levels include feeling weak or tired, looking particularly pale, feeling nauseous, and having gastrointestinal upset. In the longer term, low levels of B12 have been known to cause depression, anxiety, loss of balance, numbness or nerve damage, and even cognitive decline.

Especially if you are a vegetarian or vegan, vitamin supplements or even liquid injections may be necessary. If you are concerned about your B12 or other vitamin levels you may want to see your doctor about getting a simple blood test. It’s always best to speak with your doctor before starting on any mega-dose supplements.


Upcoming Events

American Academy of Neurology Conference

More than 10,000 neurologists and neuroscience professionals from across the globe will converge on San Diego, California in March to witness cutting-edge scientific presentations and comprehensive educational programs at the 65th annual meeting of the American Academy of Neurology. This conference is considered by many to be the world’s most important annual event for clinicians and researchers in the field.

Dr. Gontkovsky will be presenting results of one of his research investigations at this meeting as a poster entitled “Influence of IQ in Interpreting MMSE Scores in Patients with MS.” His study evaluated whether the influence of intelligence (IQ scores) in comparison to educational level should be considered when interpreting scores on the commonly used cognitive screening measure, the Mini-Mental State Examination (MMSE), in individuals with multiple sclerosis (MS). His research participants were 46 patients diagnosed with clinically definite MS by a board certified neurologist and referred for outpatient neuropsychological evaluation. According to his findings, education of individuals with MS appears to have only a modest effect on MMSE performance. As such, he recommends that clinicians consider patient intelligence, independent of educational level, when diagnosing neurocognitive impairment based on scores on the MMSE.

According to Dr. Gontkovsky, “This research has important implications for both practicing neurologists as well as researchers, and much more research in this area is necessary. Future investigations are needed to explore the manner in which IQ and various demographic variables, in particular education, differentially affect the performance of specific diagnostic groups on the MMSE as well as other measures of neurocognitive functioning. I would expect to see similar findings among persons with Alzheimer’s disease, Parkinson’s disease, and other neurological conditions.”

Free Information Session

We are having a free Information session on Tuesday, March 12 at 7:00pm in Palo Alto to provide information about dementia and how the Dementia Therapeutics program works to slow the progression of dementia. Many individuals worry about memory problems and how to determine the difference between normal aging and dementia. We will discuss topics such as this and define some of the different types of dementias. Please review the brochure below and RSVP to attend!
Worried someone close to you is losing their memory?

Join the Dementia Therapeutics team and Dr. Samuel Gontkovsky for a free information session to help you and your family navigate the challenges that come after an Alzheimer’s or dementia diagnosis.

Topics to be covered include:

- The definition of Alzheimer’s and other forms of dementia
- The difference between normal aging and Alzheimer’s and related dementia
- Currently available treatments for dementia
- Planning for the long-term effects of dementia
- Dementia Therapeutics as a new approach to slowing the cognitive decline associated with dementia

When: Tuesday, March 12th at 7pm
Where: 525 University Ave., 6th Floor
       Palo Alto, CA 94301

Dementia Therapeutics 650-213-8585
DementiaTherapeutics.com