



The Compass Clinic Times

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www.compass-clinic.com

A Message from Dr. Goodman

Is There a Role for Inflammation in Alzheimer's and Parkinson's Disease?

Inflammation is a process mediated by our immune system. It is typically a reaction to a stimulus that would be potentially harmful to the body. In many ways, inflammation can be helpful, such as reacting to an infectious or environmental agent and limiting its harm to the body. However, inflammation can have a deleterious effect and in fact may play a role in the pathologic process of neurodegenerative diseases such as AD and PD. Our brains have billions of cells, these cells include the neurons, about 86 billion, as well as the supportive cells, the glia. The brain cell to glia ratio is different in different parts of the brain. For example, in the top part of the brain, the cerebrum, there are probably four times as many glia cells than neurons. Whereas the back part of the brain, the cerebellum, the ratio is opposite. A very important job of the glia cells is to have either pro-inflammatory or anti-inflammatory effects, utilizing "cytokines" whose effects are based on the specific cytokine the glia secretes. In fact, it is felt now that genetic mutations can contribute to the inflammatory response in the brain such as a mutation in the TREM 2 gene and others. Likewise, activities of the protein RIPK triggers an inflammatory response in the brain and is felt to play a role in AD as well as ALS. Currently, there are efforts to improve diagnosing an inflammatory response in the brain utilizing peripheral blood biomarkers as well as the development of a new brain PET scan that can measure brain inflammation. The idea of inflammation playing a role in AD is not new and was initially based on an observation that those with Rheumatoid Arthritis have a decreased risk of developing AD. It is now felt that rather RA being protective of AD, it may be the chronic NSAID use is

neuro protective with anti-inflammatory effects. Unfortunately, trials in cognitively symptomatic individuals with NSAIDS have failed possibly because the pathology of AD begins decades before becoming symptomatic.

A very common role in inflammation in the body is to fight infection. We have always pictured our brains as being sterile. However, now we know our brains are loaded with microbes, many of which reside in our intestines. Epidemiologically, it has been observed that Neurosurgeons have a higher risk of developing AD. Likewise, caregivers of AD patients have a higher risk (about 300%) of developing AD over caregivers of non-AD patients. This could be due to the increased stress of work environment and demands of caregiving. Association does not equal causation, though this association raises the question of an infectious component. Physiologically, cerebral amyloid, a signature protein of AD, has antimicrobial effects, which may or may not be of any significance. Recently, it has been determined, those with AD have a high incidence of periodontitis. The primary organism that causes periodontitis is P.gingivalis. DNA from this bacteria has been found in the brain and spinal fluid of those with AD as well as components of the gingipain, which is the toxic substance released by the P.gingivalis. At Bioclinica, I participated in a phase I trial with results that has led to a larger phase II trial which we will be enrolling this month. Other targets, in addition to amyloid and tau, are being investigated and we are very hopeful that a disease modifying treatment will soon be available to our patients.

COMMUNITY CORNER

Alzheimer's & Dementia Resource Center adrccares.org, 407-436-7750

- Offers classes, support groups, and online tips for caregivers, along with a calendar of events.
- Affiliated with Brain Bank – see website for more details.

Alzheimer's Association

www.alz.org

Alzheimer's Disease and Related Dementias (ADEAR)

National Institute on Aging

www.nia.nih.gov/health/alzheimers

- Extensive Resources for Healthcare Professionals

Lewy Body Support Group

2nd Monday of the Month at 4:30pm

Bioclinica Conference Room, 5th Floor

100 W Gore St, Orlando, FL 32806

Contact for More Info: Sue Boudier 914-589-2004

Parkinson's Association of Central Florida

ParkinsonCF.org

National Parkinson's Foundation

Parkinson.org

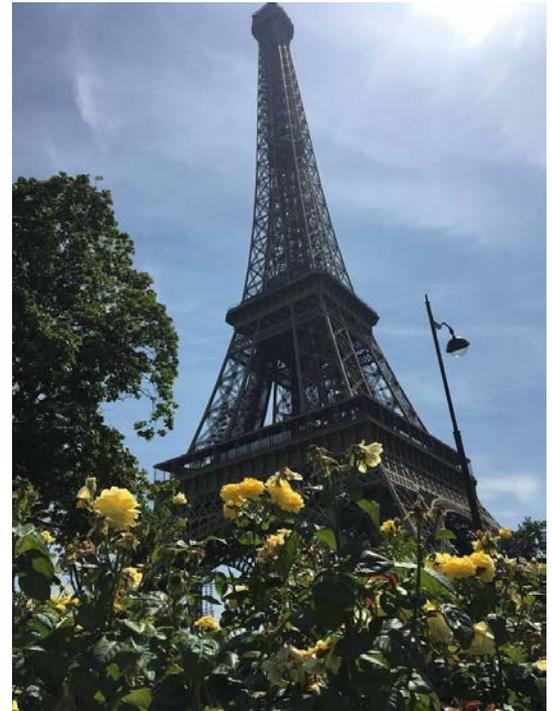
Michael J. Fox Foundation

MicaeljFox.org



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Current Trial Count

Alzheimer's Disease

- Symptomatic - 12

- Asymptomatic- 3

Parkinson's Disease - 6

Dementia with Lewy Bodies - 2

ALS - 2

The Importance of Referring to Clinical Trials

“The only channel for development and approval of safe and efficacious drugs for AD is through clinical trials. Scientist and biopharmaceutical companies cannot win the battle against AD without the help of at risk cognitively normal individuals, symptomatic patients, caregivers, and primary care providers. Non trial specialist and PCPs form the first line of defense in the care of individuals with AD, offering detection, diagnosis, and the treatment with existing therapies.”

Jeffrey Cummings, MD, Lou Ruvo Center for Brain Health, Las Vegas and Kate Zhong, MD, CNS Innovations, Las Vegas

Alzheimer's Association International Conference

Los Angeles, California, July 14 – 18, 2019

Stay tuned to hear about new discoveries in diagnostics and treatment as well as current and new theories of targeting Alzheimer's Disease pathology. Efforts also continue to improve trial recruitment to facilitate drug development and hope for effective treatment for those diagnosed with Alzheimer's Disease.