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2019 Part the Cloud: Translational Research Funding for Alzheimer's Disease (PTC)

RCT With a Ketone Ester Drink in MCI

This Phase II clinical trial will determine if a nutrition rich treatment can serve as an alternative brain fuel in people with mild cognitive impairment.

PI

- Ph.D., McGill University, Canada, 1980
- University of Sherbrooke Research Chair in Brain Metabolism and Aging from 2011-2018
- Elected member of National Academy of Medicine, France since 2009

STUDY

- CADRO category: Translational Research & Clinical Interventions
- The current study builds off of the Association's Part the Cloud Translational Funding for Alzheimer's Disease awarded to Dr. Cunnane in the past.

Background

Several clinical trials have shown that chemical structures called ketones may improve brain function. Ketones may work by providing fuel for the brain, and could help correct drops in brain energy levels that can precede mild cognitive impairment (MCI) or Alzheimer's. Ketones are found in sports drinks, for example, to help boost a person's average energy levels. In a recently concluded clinical trial (Phase I), Dr. Stephen Cunnane and colleagues identified appropriate levels of ketone dosage to produce an improvement in brain function.

Research Plan

Building on their prior work, Dr. Cunnane and colleagues will perform a phase II clinical trial to determine if regular consumption of a nutrition-rich treatment, which includes ketones could increase brain energy levels in 55-80 year old adults with MCI. The researchers will also evaluate if this approach may improve the participants' cognition and/or quality of life. Dr. Cunnane will perform brain scans to measure the experimental treatment effects on beta-amyloid plaque formation in the brain, as well as use intermittent blood tests to track changes in biological markers (biomarkers) for MCI, as participants consume the drink three times daily for six months.

Impact

Brain changes associated with Alzheimer's begin many years prior to the appearance of clinical symptoms. Mild Cognitive Impairment (MCI) is considered an initial stage of early memory loss that a person may experience. If successful, this study could provide evidence to support a non-invasive, accessible approach to tackle MCI, which often precedes Alzheimer's disease, to develop for a possible larger scale study and evaluate the efficacy of this potential treatment. Brain scans performed during this study may also help researchers better understand how ketones influence brain function, and if they could represent a new strategy to prevent or slow Alzheimer's progression.