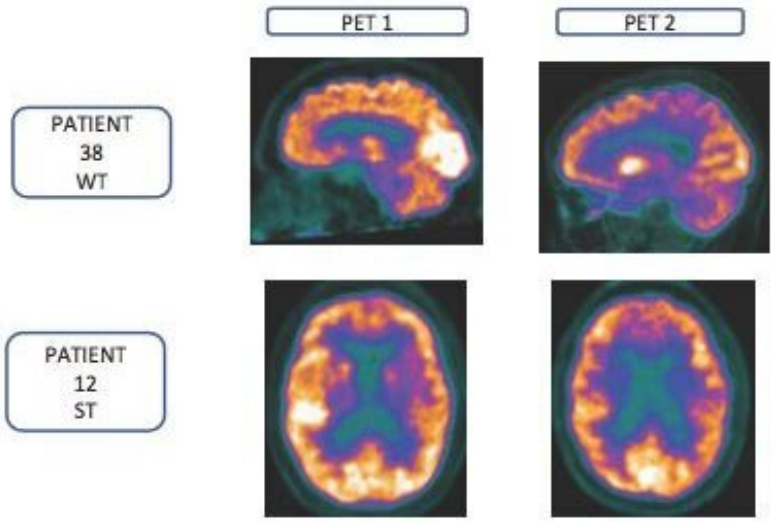
Medical Xpress

Specific multinutrient combination benefits patients with early stage Alzheimer's disease

June 12 2019



18F-FGD-PET scans of two patients, without nutritional intervention (top row) and with nutritional intervention with the drink containing Fortasyn Connect® (bottom row) at the beginning and after eight months of intervention. Credit: Nutricia

A new longitudinal study has shown that a nutritional drink designated a "food for special medical purposes" containing the multinutrient combination Fortasyn Connect can benefit patients with the earliest stages of Alzheimer's disease (AD), mild cognitive impairment, who are at risk of progressing to the dementia stage of AD, report scientists in the *Journal of Alzheimer's Disease Reports*.

The purpose of this study was to assess whether this multinutrient combination can benefit patients with mild cognitive impairment who are at risk of progressing to the dementia stage of AD. Previous studies have shown that Fortasyn Connect can have benefits in early AD.

"The initial asymptomatic phase (preclinical AD) continues into a prodromal phase with mild but noticeable cognitive impairment, yet with functional autonomy, with eventual further progression to dementia. This gradual progression creates a window of opportunity for intervention," explained lead investigator Maria Sagrario Manzano Palomo, MD, Ph.D., Department of Neurology, Infanta Leonor Hospital, Madrid, Spain. "Recent trials have involved multimodal, non-pharmacological approaches including dietary intervention, which is an important modifiable risk factor."

This longitudinal study, with a one-year follow-up, was carried out from June 2015 to December 2016 in the Neurology Department of Infanta Cristina Hospital, Madrid, Spain. Investigators recruited 43 patients with mild cognitive impairment and a mean age of 70. 58.5% of the patients were women.

Neuropsychological tests and 18F-FDG-PET imaging were conducted at the inclusion visit and checked again at the one-year follow-up, which also included a neurological examination and a Subjective Changing

Scale completed by the caregiver. Seventeen patients received the product while 24 patients were in the group without intervention, and two patients withdrew.

F-FDG-PET imaging studies provide a measure of the number of synapses in a brain region (this number decreases in mild cognitive impairment progressing to more advanced AD); the ability of this food for special medical purposes to impact this decrease in synaptic number was assessed.

18F-FDG PET scans showed a significant worsening in the group without nutritional intervention compared with the group receiving the product. There was a significant worsening in memory performance, executive functions and attention in the group without intervention, while the group receiving the product showed a stabilization in these outcome measures. Similarly, caregivers indicated a stabilization/improvement in the group with nutritional intervention. This observational real-life study illustrates the positive experience of clinical use of this food for special medical purposes.

"The nutritional drink containing the multinutrient combination Fortasyn Connect has already been shown in previous studies to have a significant effect on several cognitive domains in patients in the early stage of AD including those with mild cognitive impairment," commented Dr. Manzano. "The results of this study support the hypothesis that the product can benefit patients with mild cognitive impairment who are at risk of progressing to the dementia stage of AD. Caregivers also reported benefits in patients."

Richard Wurtman, MD, who developed the multinutrient combination Fortasyn Connect with colleagues at the Massachusetts Institute of Technology Department of Brain and Cognitive Sciences, Cambridge, MA, U.S., explained, "Most people had thought any effective

intervention would involve getting rid of brain amyloid-beta, a presumed toxin that was believed to destroy brain synapses. This study by Dr. Manzano and colleagues shows that this nutritional intervention works in patients by an entirely different biochemical mechanism. Rather than blocking a neurotoxin's effect, the data suggest that by providing nutritional support, it can help brain neurons make more synapses. This hypothesis is supported by the new data on 18F-FDG PET that there was significant worsening in the individuals who had not received the nutritional intervention and less worsening among those receiving the intervention. That is, as they say, a 'big deal.'"

George Perry, Editor-in-Chief of JAD Reports and Chief Scientist of the Brain Health Consortium at the University of Texas at San Antonio, stated, "The results of this JAD Reports study support the concept of nutrition focused on synapse formation as critical in maintaining cognition in the face of impending AD. Intervention with the nutritional drink containing Fortasyn Connect appears to support neuronal communication through synaptogenesis. We hope these insights open a new era of further investigation into nutritional interventions that support the natural plasticity of the brain to repair damage."

AD is an irreversible, progressive brain disorder that slowly destroys memory and thinking skills, and, eventually, the ability to carry out the simplest tasks. In most people with AD, symptoms first appear in their mid-60s. It is the most common cause of dementia among older adults. According to the Alzheimer's Association, 13% of people over 65 suffer from this disease in developed countries, and the number is increasing in developing countries. AD has a significant socioeconomic impact, which will lead to increased economic burden in healthcare systems all over the world.

More information: Maria Sagrario Manzano Palomo et al, Mild Cognitive Impairment with a High Risk of Progression to Alzheimer's

Disease Dementia (MCI-HR-AD): Effect of Souvenaid® Treatment on Cognition and 18F-FDG PET Scans, *Journal of Alzheimer's Disease Reports* (2019). DOI: 10.3233/ADR-190109