The Potential Role of Inflammation in Alzheimer's Disease

An Expert Interview with Jeffrey Cummings

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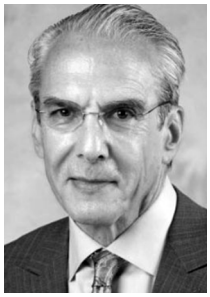

Jeffrey Cummings

Jeffrey Cummings is the director of the Chambers-Grundy Center for Transformative Neuroscience, a centre devoted to using the tools of neuroscience and neurologic drug development to transform people's lives. He was a founding director of the Cleveland Clinic Lou Ruvo Center for Brain Health in Las Vegas and served as director of the Mary S. Easton Center for Alzheimer's Disease Research and the Deane F. Johnson Center for Neurotherapeutics, at the University of California, Los Angeles. He is a world-renowned Alzheimer's disease researcher and leader of clinical trials, with expertise in neuropsychiatric assessment, clinical trials, developing new therapies for brain diseases and the interface of neuroscience and society.

Keywords

Alzheimer's disease, brain–gut axis, gut microbiome, inflammation

Disclosures: Jeffrey Cummings has provided consultation to AB Science, Acadia, Alkahest, AlphaCognition, AriBio, Avanir, Axsome, Behren Therapeutics, Biogen, Biohaven, Cassava, Cerecin, Cortexyme, Diadem, EIP Pharma, Eisai, GemVax, Genentech, Green Valley, Grifols, Janssen, LSP, Merck, Novo Nordisk, Oligomerix, Ono, Otsuka, PRODEO, ReMYND, Renew, Resverlogix, Roche, Signant Health, Suven, United Neuroscience and Unlearn AI pharmaceutical, assessment, and investment companies. He owns the copyright of the Neuropsychiatric Inventory. Dr Cummings is supported by Alzheimer's Drug Discovery Foundation (ADDF), NIGMS grant P20GM109025; NINDS grant U01NS093334; NIA grant R01AG053798; NIA grant P20AG068053; and NIA grant R35AG71476.

Acknowledgements: Stuart Wakelin of Touch Medical Communications provided editorial assistance, funded by Shanghai Green Valley Pharmaceutical Co., Ltd.

Review process: This is an expert interview and as such has not undergone the journal's standard peer review process.

Compliance with ethics: This article is an expert interview and does not report on new clinical data, or any studies with human or animal subjects performed by any of the authors.

Authorship: The named author meets the International Committee of Medical Journal Editors (ICMJE) criteria for authorship of this manuscript, takes responsibility for the integrity of the work as a whole, and has given final approval for the version to be published.

Received: 3 March 2022

Published online: 25 March 2022

Citation: *touchREVIEWS in Neurology.* 2022; 18(Suppl. 1):2–3

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Support: The publication of this article was supported by Shanghai Green Valley Pharmaceutical Co., Ltd., who were allowed to review the essay for scientific accuracy before submission. Any resulting changes were made at the author's discretion.

Alzheimer's disease (AD) is the most common form of dementia, and causes a progressive decline in memory, language, executive and visuospatial function, personality and behaviour.[1] For many years, there have been only four approved medications to improve cognition in patients with AD, but these only address the symptoms, and do not affect the course of the underlying disease.[2–5] In an expert interview, Professor Jeffrey Cummings discusses the role of inflammation in AD and the upcoming GREEN MEMORY study (NCT04520412), a global randomized clinical trial investigating the use of GV-971 (sodium oligomannate) for the treatment of AD.[6,7]

Q. What are the key therapeutic targets in Alzheimer's disease?

The key targets in AD are amyloid, of course, which we've been working with for many years, and tau, which is associated with neurodegeneration and neurofibrillary tangles.

Q. What treatments are currently available for Alzheimer's disease?

Inflammation is increasingly recognized as an important target for AD therapeutics. Beyond that, metabolic factors and genetic factors are also being looked at.

The currently available therapies include the cholinesterase inhibitors and memantine, which we've had for many years. In 2021, aducanumab was approved in the USA. It is an anti-amyloid monoclonal antibody. In 2019, GV-971, or oligomannate, was approved in China and is on the market in China.

We increasingly recognize that inflammation has a critical role in neurodegeneration. The activities in the brain with amyloid and tau generate inflammation, and that exacerbates neuronal death.

Q. How might inflammation and gut homeostasis play a role in combating Alzheimer's disease?

One of the important sources that we now recognize is dysbiosis of the gut. So, by having inflammatory processes in the gut, one can measure inflammatory processes in the blood, and those inflammatory processes, in turn, influence inflammation in the brain.

Q. What is the GREEN MEMORY trial?

GV-971, or oligomannate, was approved in China and is on the market there following a successful phase III trial in China.[8] To determine the efficacy and safety of GV-971 in global populations, the GREEN MEMORY trial has been initiated. It includes sites in North America, in Europe and in China, and will explore the efficacy, the safety and the biomarker effects of GV-971. ❑

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