

**Reversal of cognitive decline:
A novel therapeutic program**

Aging

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FROM ABSTRACT:

This report describes a novel, comprehensive, and personalized therapeutic program that is based on the underlying pathogenesis of Alzheimer's disease, and which involves multiple modalities designed to achieve metabolic enhancement for neurodegeneration (MEND).

The first 10 patients who have utilized this program included patients with memory loss associated with Alzheimer's disease (AD), amnesic mild cognitive impairment (aMCI), or subjective cognitive impairment (SCI). The prognosis for all 10 patients was poor and "their cognitive decline essentially untreatable."

Nine of the 10 displayed subjective or objective improvement in cognition beginning within 3-6 months, with the one failure being a patient with very late stage AD.

Six of the patients who had to discontinue working because of their decline, were all able to return to work with improved performance.

Improvements have been sustained, and at this time the longest patient follow-up is 2.5 years from initial treatment, with sustained and marked improvement.

The results also suggest that, at least early in the course, cognitive decline may be driven in large part by metabolic processes.

KEY POINTS FROM THIS ARTICLE:

- 1) "Cognitive decline is a major concern of the aging population, and Alzheimer's disease is the major cause of age-related cognitive decline, with approximately 5.4 million American patients and 30 million affected globally."
- 2) "In the absence of effective prevention and treatment, the prospects for the future are of great concern, with 13 million Americans and 160 million globally projected for 2050, leading to potential bankruptcy of the Medicare system."
- 3) "Unlike several other chronic illnesses, Alzheimer's disease prevalence is on the rise, which makes the need to develop effective prevention and treatment increasingly pressing."

- 4) Alzheimer's disease (AD) is the third leading cause of death in the US, behind cardiovascular disease and cancer.
- 5) Women are at the epicenter of the Alzheimer's epidemic: 65% of patients are women, and a woman's chance of developing AD is greater than her chance of developing breast cancer.
- 6) Neurodegenerative disease therapeutics is the "field of greatest failure of biomedical therapeutics."
- 7) "In the case of Alzheimer's disease, there is not a single therapeutic that exerts anything beyond a marginal, unsustained symptomatic effect, with little or no effect on disease progression."
- 8) "In the past decade alone, hundreds of clinical trials have been conducted for Alzheimer's Disease, at an aggregate cost of billions of dollars, without success."
- 9) Therapeutically, targeting multiple pathways simultaneously may be additive, multiplicative, or synergistic in managing the Alzheimer's Disease patient.

Dr. Bredesen presents 3 case studies:

- A 67-year-old woman with 2 years of progressive memory loss, could no longer perform her demanding, analytical job.

She had trouble navigating roads, even familiar roads, and she would become lost trying to figure out where to enter or exit the road.

After three months of treatment, she "noted that all of her symptoms had abated: she was able to navigate without problems, remember telephone numbers without difficulty, prepare reports and do all of her work without difficulty, read and retain information."

"Her memory was now better than it had been in many years."

2.5 years later at age 70, she remains asymptomatic and continues to work full-time.

- A 69-year-old man with 11 years of slowly progressive but accelerating memory loss.

PET scan showed reduced glucose utilization, consistent with Alzheimer's disease.

He possessed 1 ApoE4 allele.

Progressive difficulty recognizing the faces at work (prosopagnosia).

Homocysteine of 18 $\mu\text{mol/l}$
 CRP <0.5mg/l
 25-OH cholecalciferol 28ng/ml
 Hemoglobin A1c 5.4%
 Serum zinc 78 mcg/dl
 Serum copper 120 mcg/dl
 Ceruloplasmin 25 mg/dl,
 Cholesterol 165mg/dl (on Lipitor): HDL 92, LDL 64,

He began on the therapeutic program, and after six months, his wife, co-workers, and he all noted essentially complete restoration of all functions.

- A 55-year-old female attorney suffering from progressively severe memory loss for 4 years. She was unable to perform her job.

After five months on the therapeutic program she noted significant improvement, she was able to work once again, was able to learn Spanish, and began to learn a new legal specialty.

10) "Results from the 10 patients reported here suggest that memory loss in patients with subjective cognitive impairment, mild cognitive impairment, and at least the early phase of Alzheimer's disease, may be reversed, and improvement sustained, with the therapeutic program described here."

11) "The results reported here are compatible with the notion that metabolic status represents a crucial, and readily manipulable, determinant of plasticity, and in particular of the abnormal balance of plasticity exhibited in SCI, MCI, and early AD."

12) "The normalization of a single metabolic parameter, such as vitamin D3, may exert only a modest effect on pathogenesis, the optimization of a comprehensive set of parameters, which together form a functional network, may have a much more significant effect on pathogenesis and thus on function."

13) "One potentially important outcome is that all six of the patients whose cognitive decline had a major impact on job performance were able to return to work or continue working without difficulty."

THE BASIC THERAPEUTIC PROGRAM:

- Elimination all simple carbohydrates
- Elimination of gluten
- Elimination of processed foods
- Increased vegetables, fruits, and non-farmed fish
- Stress reduction by learning and performing yoga and meditating 20 minutes twice per day
- Supplementing with 0.5 mg of melatonin nightly
- Supplementing with 1 mg methylcobalamin daily
- Supplementing with 2000-5000 IU vitamin D3 daily
- Supplementing with 2000 mg of fish oil daily
- Supplementing with 200 mg CoQ₁₀ daily
- Increasing her sleep from 4-5 hours per night to 7-8 hours per night
- Optimizing oral hygiene using an electric flosser and electric toothbrush
- Fasting for a minimum of 12 hours between dinner and breakfast
- Not eating for a minimum of 3 hours between dinner and bedtime
- Exercising for a minimum of 30 minutes, 4-6 days per week
- Chelating heavy metals, especially Hg (mercury), Pb (lead), Cd (cadmium)
- Supplementing with NAC (N-acetyl cysteine)
- Supplementing with ALCAR, acetyl-L-carnitine
- Supplementing with MgT, magnesium threonate
- Supplementing with Trp, tryptophan
- Meat consumption limited to non-farmed, grass-fed beef or organic chicken
- Taking probiotics
- Taking 1 tsp coconut oil twice per day
- Supplementing with herbs *Bacopa monniera* 250 mg, *Ashwagandha* 500 mg, and turmeric 400 mg each day
- Supplementing with methyltetrahydrofolate 0.8 mg, and pyridoxine-5-phosphate 50 mg each day;
- Supplementing with vitamin C 1 g per day
- Supplementing with vitamin E 400 IU per day
- Supplementing with Zn picolinate 50 mg per day
- Supplementing with α-lipoic acid 100 mg per day
- Supplementing with citicoline 200 mg daily

COMMENTS FROM DAN MURPHY:

For 10 years I have taught an innate dietary and required supplement class for a nutrition company, Nutri-West [**800-443-3333**]. The class includes concepts on healthy aging, longevity, neurodegeneration prevention, and optimizing brain function. The strategies covered are nearly identical to those presented in this article, very validating. One can view schedule for this class by looking at my web page [www.danmurphydc.com] or their web page [www.nutriwest.com].