A Biological Model of Alzheimer Prevention (and Possibly Treatment), Part 1

Cognitive decline has long been thought of as an inevitable effect of aging, but its roots begin decades before obvious symptoms manifest.

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News media are replete with alarming statistics about the current and future incidence of Alzheimer's Disease. A recent CBS headline announced the latest data from the Centers for Disease Control predicting already troubling rates will "soar" in coming decades, with the number of cases potentially doubling by 2060 to almost 14 million Americans. With its impact going significantly beyond a personal toll to create devastating burdens on the family and the economy, Alzheimer's Disease has become a disturbing public health phenomenon. What is most frightening is that despite billions of dollars spent annually on Alzheimer's research, we don't seem to be any closer to pinpointing a cause or finding a cure.

Drug Development Hits a Wall

In the last few years, many major drug companies have ceased conducting clinical trials for Alzheimer's Disease. Just this year, dramatic articles have announced that Johnson & Johnson, Eli Lilly/AstraZeneca, and most recently Pfizer have abruptly discontinued trials, halted research funding, and laid off researchers due to embarrassing or even dangerous outcomes. From thousands of failed trials, the Food and Drug Administration has approved a total of 5 drugs, only 3 of which arrived in the last 14 years. Sadly, none of these approved prescriptions has shown long-term effectiveness. As discouraging accounts continue to pour in, fresh perspectives and optimism are critical.

The most knowledgeable people, in my opinion of course, in this field have both long ago and recently concluded that pharma's over-cerebral, silver bullet approach to this disease is a fool's errand and that not only will monotherapy but drug therapy itself never prove useful. But as we have long known, paradigms are slow to change. (I would even urge well meaning givers to stop donating to Alzheimer Associations and their ilk (and also take a Tough Love look at the UK's laudable Alzheimer campaigns,including The Guardian's scattered reporting) that have failed to awaken to this new reality. It's really time to shake things up, and supporting the status quo will only impede real therapeutic progress.)

It breaks my heart every time I find myself sitting before a patient who either boasts or simply confides to me how his or her loved one has been dutifully taking Aricept and how they have hope things won't progress but of course the drug doesn't appear to be working. No one has checked hormone levels. No one has checked key vitamin and mineral levels, except perhaps, sometimes, for vitamin D. Ditto for accumulations of metals, mold toxins or intestinal overgrowths of bacteria or fungi. They mostly resist my attempts to broaden their thinking and, as the evening television adverts have programmed them over the years, pin their hopes on the next expensive miracle pill.

The Value of Early Detection

Experts agree that early detection is the primary goal, yet physicians rarely discuss preventive measures beyond generic diet and exercise mantras. Clinicians remain slow to translate into practice mounting scientific research identifying the risk factors and objective diagnostic markers that are essential for developing more effective prevention and treatment strategies. Many lack full understanding of the disease process and thus fail to explore unconventional options, offering little hope to patients and their families. Furthermore, all currently approved prescription drugs for Alzheimer's were developed using incomplete models of disease, exemplifying the futile efforts of pharmaceutical research.

Many have described Alzheimer disease as an inevitable effect of aging, but proof is mounting that its roots begin decades before obvious symptoms manifest. Neuroscientific discoveries have given us unprecedented knowledge about the how, when, what, and where of disease in the brain, and technological progress is allowing us to distinguish structural and functional impairments in their earliest stages of development. Consensus is gaining that, discovered earlier, brain damage leading to Alzheimer's Disease may be both treatable and preventable. Robust research indicates that specific risk factors, genetic errors of metabolism, and biochemical imbalances are identifiable in the initiation of Alzheimer's Disease that suggest precise, achievable treatment models based on individual variations.

Modifiable Factors Potentially Involved in Alzheimer's Risk

The neurocognitive symptoms of dementia and Alzheimer's Disease stem from barriers to communication between neurons primarily attributed to plaques and tangles, essentially scar tissue that obstruct, isolate, and kill brain cells. Loss of connection and death occurs when neurons lack access to sufficient nutrients for energy and protection and incur cumulative insults from inflammatory activity. The significant metabolic turnover in the brain requires a substantial variety of nutrients including B-vitamins, mineral cofactors, and antioxidants that neural cells require for optimal functioning, communication, and defense against inflammation. Like the rest of the body, the brain obtains the majority of these substances from the food we eat, and its integrity is determined by the composition and quality of our diets.

While the brain's significant energy demands are well known, it seems that most physicians overlook the fact that its nutrient needs are also elevated. Despite a bounty of evidence indicating that nutrition is just as important for the brain as it is for the body, conventional medicine stubbornly refuses to abandon reactionary models that attempt to treat nutritional deficiency symptoms with pharmaceutical drugs. The human diet provides not just fuel for cells, but the

vitamins, minerals, antioxidants, and other compounds that keep the brain's machinery running smoothly. Accurate control and response by neurons require careful concentrations and ratios of these invisible means of communication that produce thought, memory, mood, and movement. Given the brain's profound role in human health and well-being, it is astonishing that more attention is not given to nourishing and protecting our most vital organ.

Pharmaceutical drugs fail patients because, at best, they provide interference within dysfunctional processes and slow the rate of deterioration; they do nothing to promote recovery. Since we now know that neural dysfunction and loss ultimately leading to Alzheimer's Disease originate decades before significant symptoms bring concern. In order to repair and strengthen the brain, we must provide what neurons need to revive and restore connections. By targeting specific cellular nutrient requirements, we target neural degeneration at its roots and facilitate the brain's innate healing capabilities by correcting interrupted processes and providing the tools it needs to rebuild.

Don't Wait Until It's Too Late

The impacts of aging on the brain begin years before we want to think about growing old, but just like saving for retirement, we can't afford to wait until we run out of money. It is similarly irresponsible for doctors to wait until obvious symptoms of dementia and cognitive decline appear before addressing brain health. With the growing epidemic of Alzheimer's Disease, new perspectives and novel treatments based on advancing science are the clear path forward for preventing this devastating disease from robbing families and society of the love, wisdom, and productivity that come with age.

While there are a growing number of cases of reversal and improvement (especially among Dale Bredesen's famous ReCode groups), as with many things including it would seem HIV infection, the best "cure" for Alzheimer's Disease (and age related cognitive decline, generally) is well-informed prevention.

And if you've got $1,300 you can part with without pain, I'd consider opting for his Cognoscopy, although we suspect the price will come down over the next few years. I did my best to price out the various components from the labs I use and am stilling fiddling with the numbers but hope to be able to offer it at just over half Dr. Bredesen's price. If nothing else, it seems kind of cool (but probably a luxury for most of us) to track one's hippocampal volume. You can also see how you compare to others your age. I don't think Bredesen includes this (which is kind of an MRI of the brain) in his $1,300 work-up although he does recommend it in his book, The End of Alzheimer's, for those who can afford it or have insurance coverage.

Valid and useful models for prevention are clearly outlined in the scientific literature that do not involve prescribing pharmaceuticals at end-stage dementia. Nutritional interventions have both profound public health implications and the potential to stop escalating rates of Alzheimer's Disease. In this series of articles, I will begin to explore the science and research describing nutritional lithium, vitamin B12 (preferably methylated), and folate (ditto) for both treatment and prevention of Alzheimer's Disease. Next time we will take a closer look at lithium, an unassuming mineral that holds astounding implications for preventing and treating not only Alzheimer's

Disease but a shocking array of mental and mood disorder. Supplied primarily from tap water, this essential nutrient has been shown in randomized clinical trials to be at least as effective as currently-approved drugs for inhibiting cognitive decline and dementia in Alzheimer's patients.

About Mike: Michael Barr, DAOM, studied acupuncture and Chinese herbal medicine in Los Angeles and New York and currently has practices in NYC and New Jersey. He current obsession is Functional Medicine: in a nut shell how everything in the body is interconnected & how just about everything that ails (and directs) you has its origins in your gut. To learn more about Functional Medicine, for questions, or for an invitation to his discounted supplement and herbal medicine dispensary, reach out to him at his new telemedicine platform, Root Resolution Health.
