

The End of Alzheimer's Part 3

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I always like to understand the bigger picture and why things work. That's why I shared a groundbreaking book called *The End of Alzheimer's* where Dr. Dale Bredesen shared his successes based on the view that the etiology of Alzheimer's is caused by 3 distinct conditions: excessive inflammation, a lack of growth factors which he calls atrophic and toxins. You can see a link to the right for those discussions.

Let's take a step further. Dr. Russell Blaylock, a neurosurgeon, suggests another major piece to the Alzheimer's puzzle is latent infections. Latent, hidden or what some call smoldering infections activate the brain's immune cells called microglia. This activation causes inflammation as well as adds to excitotoxicity. Excitotoxicity is a term Dr. Blaylock coined when the brain is exposed to compounds like MSG that cause over-excitation of the brain. He calls the additional stimulation of the microglia "immune-excitotoxicity".

Technically, infections create inflammation and could be considered a subcategory of inflammation; but I think latent infections are a big enough cat-



egory that it should be explored independently.

Here are some examples of infections:

Bacteria: like Chlamydia, H. pylori as well as the spirochetes family which includes Lyme, syphilis and various periodontal infections. 90 percent of Alzheimer's brains have been shown to contain spirochetes.

Virus: like HSV-1, cytomegalovirus and Epstein Barr create an increase in cytokines, chemokines and other inflammatory molecules. Viruses like Herpes-1 are dormant in all of us but as we age and put

under stress they can be reactivated. Cytomegalovirus is an example of a common virus that once reactivated worsens existing brain damage caused by other viruses such as HSV-1.

Fungal Infections: "Immunohistochemical analysis identified fungal material inside neuronal cells in the post-mortem AD brain, including macromolecules from *Candida glabrata*, *Penicillium notatum*, and *C. albicans*".

But it may be the combinations of infections that create the greatest threat. Dr. Blaylock calls the combination of infec-

tions "infectious burden." He shared this study comparing the effect of an "infectious burden" on the risk for Alzheimer's disease. 128 Alzheimer's patients and 135 healthy control subjects were examined, measuring antibodies to commonly identified organisms such as cytomegalovirus, Lyme organism, Chlamydia, and H. pylori, etc. "Researchers found a strong association between an increased number of pathogens and the risk of Alzheimer's disease. People infected with four or five organisms had an Alzheimer's risk 398 percent higher than those with zero to two infections. Importantly, they found that Alzheimer's patients with a high infectious burden had the highest level of inflammatory mediators such as cytokines, chemokines, and interferons.

This explains why people with high infectious burdens deteriorate faster. People with poor gum health, weak immune systems, those under tremendous stress, those who eat pro-inflammatory diets, who exercise rarely, and practice poor hygiene are the most prone to multiple infections with a high infectious burden."

And it's not just infections in the brain that adds to the burden. Infections in the peripheral nervous system are also a factor. Many studies have shown that stimulation of the immune system peripherally, outside the brain, can trigger prolonged brain inflammation and brain degeneration.

Infectious conditions such as pneumonia, respiratory tract, infections or urinary tract infections are higher in Alzheimer's patients than healthy, age-matched controls. Other studies have demonstrated that numerous infections over a 4-year period doubled the risk of Alzheimer's development.

And while we are on the topic of infections let's not forget infections from "botched root canals." Infected teeth and the brain inflammation that is created is one of the most insidious and overlooked sources of pain and inflammation. Keep in mind that latent or smoldering infections contribute to the creation and sustainment of a class of oxygen free radicals called ROS, short for reactive oxygen species. ROS are part of normal metabolism, however when under stress, free radicals are created faster than the body can make antioxidants.

What happens to mitochondria in the excessive presence of ROS? Exactly, they become dysfunctional and can't create enough energy for cells to repair and reproduce. Mitochondria are essential to fight off virus as well as how we recover from a viral infection, so mitochondrial support is suggested for all cognitive issues. That's one reason some patients in mild ketosis report profound changes. Going into a state of mild ketosis ignites antioxidant production. Dr. Richard Veech said when the body is in a mild state of ketosis, it makes 150 grams of antioxidants a day. When in ketosis the body also makes beta-hydroxybutyrate which is a source of fuel for the mitochondria.

There are many powerful plant extracts that have anti-viral and antibacterial properties. Biotics Research provides many of them and assures they are bio-available, toxin free products. Ashwagandha as Bio-Ashwagandha, curcumin as Curcum-Rx, resveratrol and quercetin as ResveraSirt, arabinogalactans as IAG, grape seed extract as Bio-Cyanidins, EGCG as EGCG-200mg, berberine as Berberine HCL, oregano as emulsified ADP, lysine as L-Lysine HCL, and more.

I want to encourage you to learn how to become an expert in finding and treating latent or hidden infections. You can see a link to the right that will get you started.

Remember as Dr. Bredesen documents in his book, cognitive decline is occurring 10 years before Alzheimer's is diagnosed. The brain is slowly deteriorating but we can look and treat clues like hidden infections early.

The good news is that the deterioration process can be measured and monitored and therefore need not be permanent. I know I am preaching to the choir but with conditions as severe as Alzheimer's, we need to keep digging to find ways to enhance life, whether it is diet, nutrients, movement, music as in humming, meditation and prayer, aggressively reducing toxins and as we've just discussed, treating latent infections.

Thanks for reading this week's edition. I'll see you next Tuesday.