

Alzheimer's Disease: A New Treatment

Alzheimer's disease is considered incurable. In the last 10 years 244 drugs have been tried. None have worked. Four drugs are currently licensed for Alzheimer's but none stop the relentless decline which is a hallmark of this disease. In fact, a recent study, published in JAMA, found patients taking these drugs have a greater rate of decline than those taking no drugs.

Recently, four more drugs have been developed to treat Alzheimer's disease: aducanumab, lecanemab, donanemab and solanezumab. The first three have been shown to give marginal improvements in cognitive performance. They have to be given by infusion and between a quarter to a third of patients develop brain oedema or haemorrhages. They are very expensive and because of the need for infusions and regular MRI scans they are largely impractical in dementia patients. The fourth drug, solanezumab was found to be ineffective. Sadly, these drugs give barely noticeable improvements and have serious adverse effects. They do not seem to be the answer to Alzheimer's disease.

However in 2014 a study from clinics in the USA and Australia of 100 patients, using a protocol tailored to individual patients, found that in 9 out of 10 patients with Alzheimer's disease, there was reversal of cognitive decline. This had never happened before. This paper was published by research neurologist Dr Dale Bredesen's team at UCLA. They had discovered the key biochemical change in Alzheimer's disease (see below). Since then, the Bredesen protocol (called ReCODE) has been used to successfully treat many hundreds of people in seven countries.

The results are that **90% of patients and with mild dementia and about 50% with moderate dementia improve but only a minority with advanced dementia are helped.**

The Biochemistry of Alzheimer's Disease

Alzheimer's disease occurs when the rate of destruction of neurons is greater than the rate of formation of new neurons. Bredesen's team found the key to Alzheimer's is a molecule that sits on the neuron receptor called APP (amyloid precursor protein). And it is the way APP breaks down that determines whether Alzheimer's develops or not. It can either break down into two nerve nourishing substances (creating new nerves and new synapses) or into a quartet of nerve-damaging

substances (which destroy nerves and cause amyloid formation). If the latter occurs, then Alzheimer's develops.

They went on to discover that the way APP breaks down is dependent on whether there is enough essential substances available to the nerve (which include netrin-1, brain-derived neurotrophic factor, BDNF, and other key brain nutrients) which promote nerve formation and whether there is an excess of harmful substances (which include amyloid and biotoxins) which promote nerve destruction. Of critical importance they found that by controlling these factors that it was possible to tip the balance away from nerve destruction back to nerve creation. Alzheimer's occurs when the brain is starved of nutrients or has too much toxicity.

In all they discovered 36 factors which affect the control of this key biochemical change. The first patient to go on the protocol was able to reverse her cognitive decline by altering just 12 of these.

Why have I not heard of this?

Alzheimer's disease has a massive impact on people and has an equally massive impact on the NHS budget and, like diabetes, could bankrupt the NHS if numbers continue to increase at the present rate. Surely any discovery should make people sit up and take notice?

Sadly, this hasn't been the case. Dr Bredesen initially thought he might discover a drug to halt this process but soon realised this would not be possible and there would be no one-size-fits-all remedy. It could only be fixed by altering the many risk factors which influence the breakdown of APP. These vary in different Alzheimer's patients. He applied to have his protocol tested but was turned down and told it was too complex. (This complexity is the very reason why no successful drugs have yet been found).

However, scientifically, it is well-recognised that if a disease is universally fatal a control group is unnecessary. Success itself is proof of effectiveness. As Bredesen notes "everyone knows a cancer survivor but no one has heard of an Alzheimer survivor". Even with a handful of successful cases the statistical odds of it being a chance happening rapidly reach millions to one against. (It only took 4 cases to prove penicillin was effective).

In addition to this Dr Bredesen has shown that key features of the disease, like shrinkage of the hippocampus (the main area of the brain affected in Alzheimer's), reverse when the protocol is used.

Types of Alzheimer's

Dr Bredesen's team discovered 3 types of Alzheimer's. One they called inflammatory; it was often related to the ApoE4 gene and responded well to the protocol. The second was called atrophic; it was again often related to the ApoE4 gene and was caused by lack of essential brain nutrients and hormones (which decrease with age). This again responded to the protocol but took longer. The third was called toxic and was unrelated to the ApoE4 gene and was caused by environmental threats and biotoxins. It was the hardest type to treat. Since then he has added two further types.

How does the Protocol work?

The first step involves measuring all 36 of the factors which affect Alzheimer's risk, usually with blood tests. He found that typically 25 are low or subnormal and need to be corrected. (Unfortunately, many of these tests are not available on the NHS). The second step involves returning all these factors to optimal levels. To do this requires lifestyle changes and specific nutrients, hormones etc.

To give one example: in the inflammatory type of Alzheimer's there is nearly always a condition called metabolic syndrome which causes an excess of insulin. In this condition the enzyme that breaks down insulin is so overworked that none is left for the breakdown of amyloid in the brain, making nerve destruction more likely. The answer to this is to change the diet away from sugar and refined carbohydrates and have a 12 hr gap or more between eating at night and breakfast. However, this is just one of the 36 factors.

What should I do if I want to try the protocol?

There are a number of doctors in the country who use this protocol and have been trained by Dr Bredesen. Unfortunately, this programme is not available on the NHS (even though it could save the NHS a lot of money). It will not work in severe Alzheimer's because by then nerve destruction is thought to be irreversible.

It is important to mention there are scams. There have been imitations of the Bredesen protocol so it is important to check it is the real thing.

How quickly does it work?

It typically takes 3 to 6 months for these brain changes to reverse. The disease can relapse within a few weeks if the protocol is stopped.

Other Information

Dr Bredesen has written a book called *The End of Alzheimer's: the First Programme to Prevent and Reverse the Cognitive Decline of Dementia* which describes his protocol in much more detail. There is also a website called ApoE4.info for people with this gene or with Alzheimer's. In the UK visit Apollo Health at www.apollohealthco.com for more information on the Bredesen protocol. Also be aware that there are scams from imitations of the ReCODE.