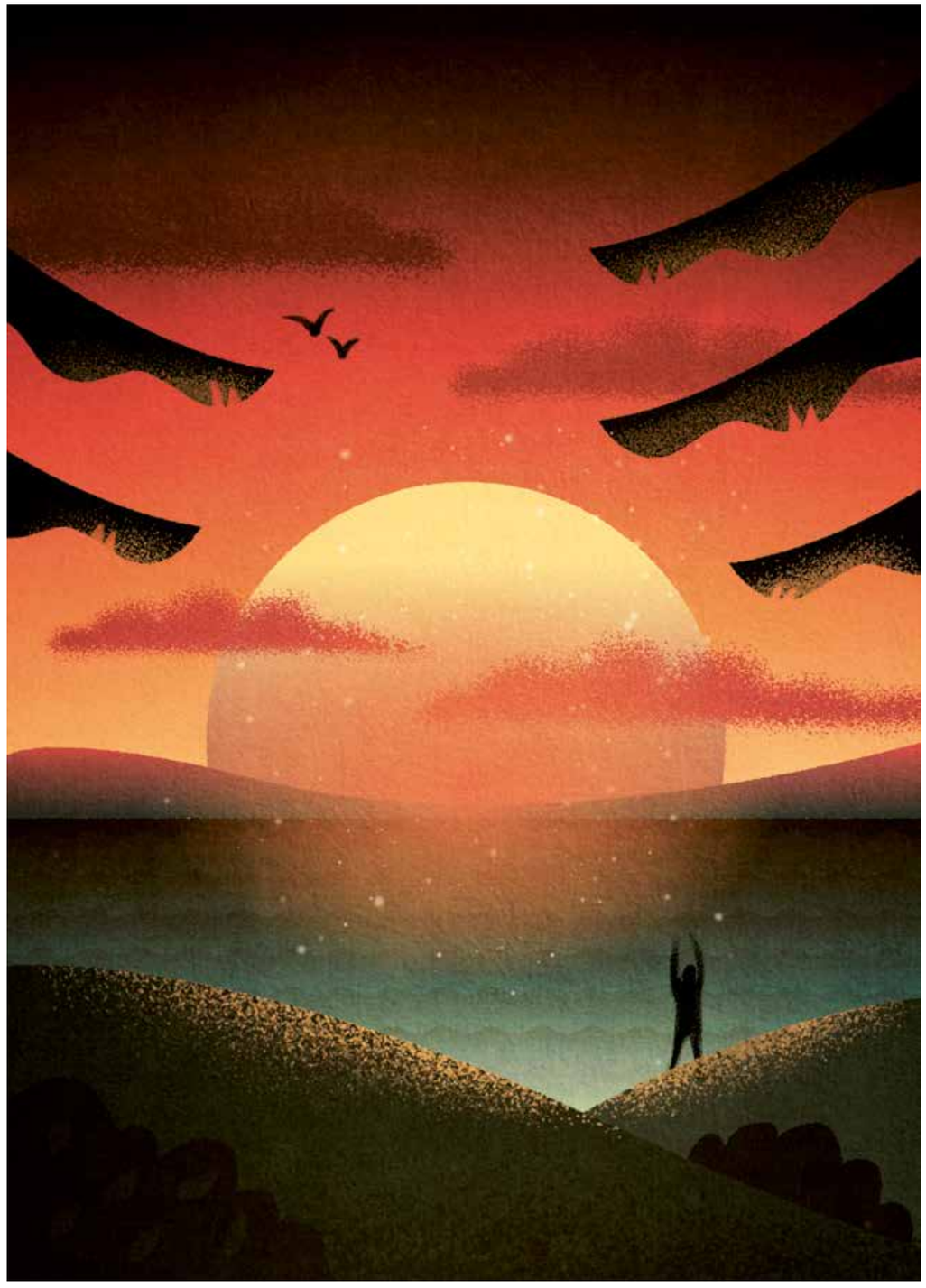


A new hope

Thanks to pioneering research and a new targeted approach to treatment, there is reason to be optimistic about the future of Alzheimer's disease. Functional Medicine practitioner, **Kate Garden**, brings us up to date with these encouraging and much-needed new developments

ILLUSTRATIONS: ANASTASIA ORSHANSKAYA

Few illnesses strike fear into the hearts of people like Alzheimer's disease. Statistically, if you are a woman living in England or Wales, you are more likely to die from Alzheimer's than any other illness. That fact alone is certainly alarming. The picture is pretty grim for men too, with Alzheimer's and dementia being the second most likely cause of death, preceded only by heart disease.

Dementia and Alzheimer's remain a huge and rising problem, both from a health and social care point of view. Despite hundreds of millions of pounds being spent on medical research worldwide, there is still no pharmaceutical approach that truly and effectively tackles the issue, in either halting or reversing the progression of the problem. What is also important to know is that Alzheimer's is not ever a normal part of ageing and although the disease generally gets worse over time and with age, the symptoms vary greatly between individuals.

WHAT IS IT?

This hideous disease essentially robs a person of their unique character, slowly destroying their memory and their ability to plan or solve problems independently. Gradual and detrimental changes in judgment and decision-making leave the person confused and often isolated, leading to a withdrawal from work or social activities as the illness prevails. For a close relative, watching a loved one deteriorate mentally - by losing clarity of mind, aspects of their personality and their own judgment is truly heartbreaking and it's one of the reasons why Alzheimer's remains such a dreaded illness.

Named after German psychiatrist Alois Alzheimer, it is characterized by an abundance of tangles and plaques in the brain. These cause atrophy or shrinkage in the hippocampus, the area associated with short-term memory, hence the common symptom of forgetfulness that people present with. A protein called beta-amyloid, now actually known to be a protective response, builds up in the gaps between nerve cells. Twisted fibres also accumulate inside the neurons that disrupt proper communication and normal brain metabolism and lead to cognitive impairment and decline.

THE DRUGS DON'T WORK

To date pharmaceutical approaches have been unsuccessful, largely because they fail to address the multiple root causes and the complexity of the disease. Treatments thus far have focused on simple mono-therapy or a magic bullet 'one size fits all' approach.

However, we know through genetic and biochemical research, that there are numerous mechanisms and distorted molecular processes involved in the pathophysiology of Alzheimer's. Unlike infectious disease that can be controlled through a singular targeted antibiotic treatment, chronic neurological disease is much more complicated, therefore intervention with an outdated medical treatment model has proved to be fruitless.

A NEWER WAY OF THINKING

Enter Dr. Dale Bredesen. An internationally recognized expert in neurodegenerative disease, >

Professor Bredesen had been studying the workings of neurodegenerative disease in a test tube for 25 years. His extensive and prized scientific career has been guided by the idea that treatment for Alzheimer's needed to target the network of underlying reasons that lead to declining cognitive function and not just focus on single tissue target drug therapy. He recognised that causes were different from case to case and as such the solutions needed to be personalised to the individual patient.

Dr. Bredesen likens Alzheimer's disease to a 'roof with 36 holes', in that there are many biological mechanisms or gaps that need to be optimised or filled in, in order to restore health. He believes that the disease is largely preventable and modifiable up until the latter stages, and his dedicated pursuit of finding the scientific rationale that makes this a reality has placed Dr. Bredesen at the helm of neurological research.

His initial study published in 2014 entitled 'Reversal of Cognitive Decline: a novel therapeutic programme' discussed the first 10 patients treated with his methods. By 2016 he had reversed the symptoms of Alzheimer's disease in more than 90% of the 140 patients he had worked with, putting most of his findings and research onto paper in his 2017 New York Times' best-seller, The End of Alzheimer's. Impressive stuff and a much-needed, different approach.

THE DETAILS

His signature programme, The Bredesen Protocol™ is the culmination of his life's work; a therapeutic, personalized intervention that identifies, targets, and treats the root cause of cognitive decline and Alzheimer's disease.

He has trained hundreds of doctors and nutritionists who are already practising functional and integrative medicine, and it is these professionals who are able to deliver the programme in order to make a difference to people's lives. The protocol simultaneously aims to address metabolic issues, inflammation, toxicity, nutritional deficiencies, hormone imbalance, gut health and lifestyle factors. Although this is a tall order, these are the very issues that underpin the neurological changes that he has studied at length.

THE SUBTYPES

Bredesen has identified 5-6 subtypes of the disease that have different attributes. Usually patients fall into one or two types.

1. Inflammatory

Otherwise known as 'hot', these subtypes tend to have high levels of inflammation and metabolic dysfunction, often alongside infectious agents or viruses.

1.5 Inflammatory and Atrophic

This type features both subtypes 1 and 2 and is usually characterised by people with insulin resistance and/or diabetes.

2. Atrophic

Sometimes referred to as 'cold' types, these are the people who have low trophic factors such as low hormone output and low nutrient levels.

3. Toxic

These types tend to present at a younger age and with disordered executive function. They tend to be toxic types with metal or mould issues.

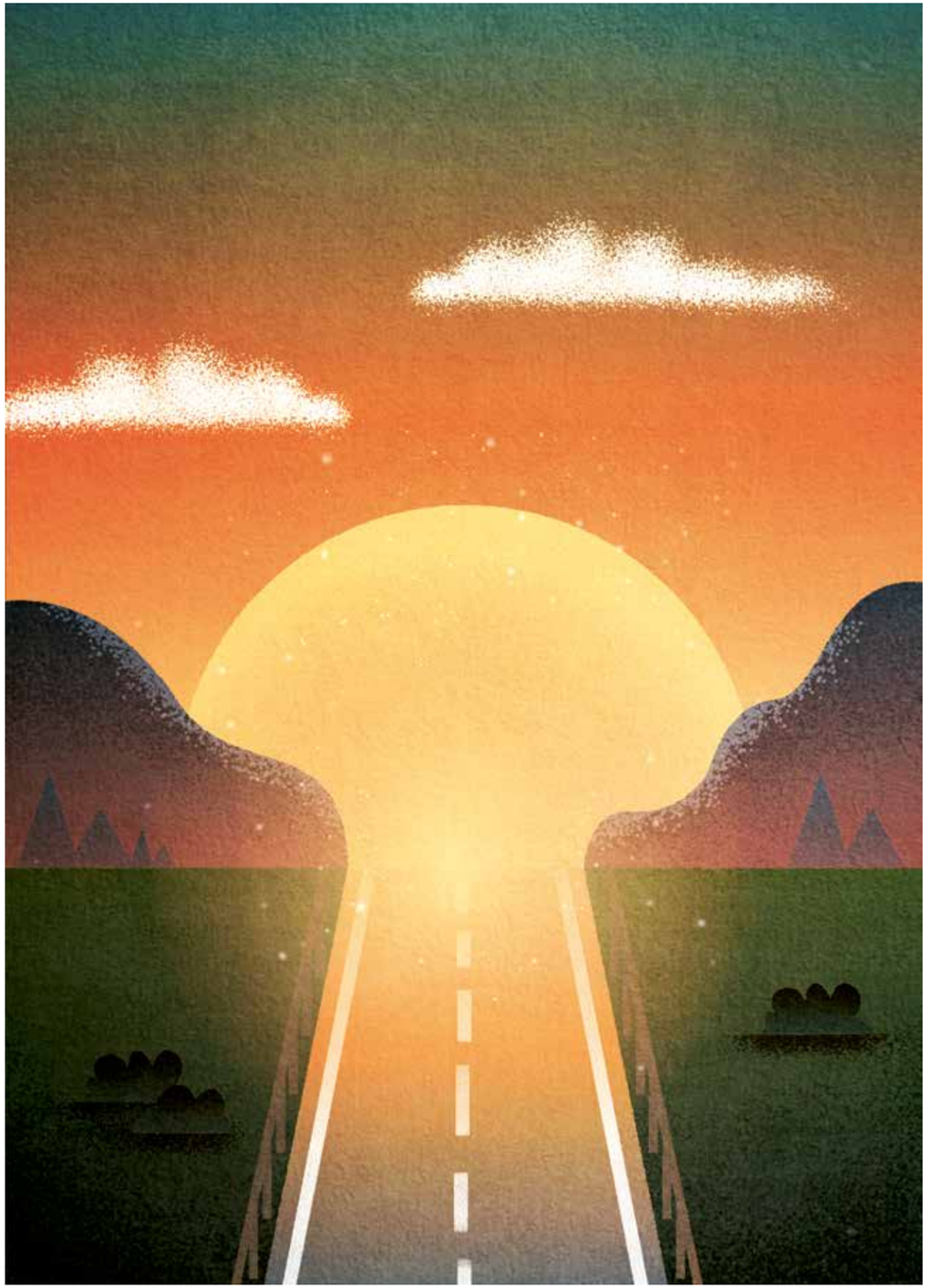
4. Vascular

Impaired or limited blood flow in the brain and issues with the cardiovascular system underlies this subtype.

5. Traumatic

Many cases of Alzheimer's may occur many years after a traumatic brain injury (TBI), meaning serious injury to the brain is also a risk factor for the disease. >

DR. BREDESEN LIKENS ALZHEIMER'S DISEASE TO A 'ROOF WITH 36 HOLES', IN THAT THERE ARE MANY BIOLOGICAL MECHANISMS OR GAPS THAT NEED TO BE OPTIMISED OR FILLED IN, IN ORDER TO RESTORE HEALTH



> TO DATE PHARMACEUTICAL APPROACHES HAVE BEEN UNSUCCESSFUL LARGELY BECAUSE THEY FAIL TO ADDRESS THE MULTIPLE ROOT CAUSES AND THE COMPLEXITY OF THE DISEASE

The foundations of the Bredesen Protocol rely on the skill of the practitioner to correctly assess the subtype and adjust an individual's metabolic health using a range of individualised therapies that primarily address the five areas below.

Nutrition and gut health are at the heart of the Bredesen Protocol. Patients presenting with neurological decline will always need to improve the communication pathways that have been studied between the gut and the brain. Specific nutritional gut programmes are given to the patient, that concentrate on supporting digestion, absorption, barrier function, immunity, detoxification and elimination whilst also strengthening the gut brain axis.

Nutritional deficiencies are corrected and optimisation of essential fatty acids, antioxidants, vitamins and minerals is the goal. There is a particular emphasis on glucose management and Mediterranean, ketogenic, fasting or paleo diets are prescribed, depending on the individual's specific nutritional needs.

Sleep is often an undervalued therapy but it's vitally important for robust brain health. We all feel better mentally after a good night's shut-eye due to a myriad of important metabolic processes that occur - from regular cellular repair and maintenance to the clearing of the tau proteins and beta-amyloid plaques that build up daily. It's important to correct sleep issues such as insomnia or apnoea that can interfere with the quality and quantity of sleep.

Physical Activity essentially increases blood flow to the brain allowing more oxygen and nutrients to be delivered. Research has shown that exercise reduces the plaque formation, inflammation and the hippocampal atrophy, as well as increasing important proteins such as BDNF that help to lay down new memories.

Stress is sadly ubiquitous for many in our society but persistent stress leads to elevated stress hormone levels. High cortisol levels that raise blood sugar and pressure long term are detrimental and cause neuronal death and brain shrinkage.

Brain Training or regular solving of problems such as crosswords has been associated with lower risk of cognitive decline as it challenges the brain to make new connections and therefore maintains processing speed and neural plasticity, which means the capacity of the brain for learning and for physical change.

HOW LONG DOES THE BREDESEN PROTOCOL™ TAKE?

Improvement or reversal of symptoms takes time and is uniquely variable from person to person, with some cases being more successful than others. The programme works best when used in individuals with the earliest stages of cognitive decline.

A HOPEFUL FUTURE

Professor Bredesen's compelling research and protocol has given hope and a much-needed positive outlook for what has historically been a much-feared neurological condition. A different lens and focus has shown us that essentially, Alzheimer's can be seen as a metabolic disease that could even be largely within our control, if caught early enough. With this knowledge and insight, we can look to other chronic diseases that share similarities in their origins and feel empowered to lead healthier lives, as prevention is always easier that cure.

Many of the chronic illnesses we see today are driven by a mismatch between our genetics and our modern lifestyles. If we hold the desire and the commitment to put in the necessary tailored dietary and lifestyle work we can hope to potentially change our future health for the better.

———

Kate Garden BSc (Hons) Dip ION IFMCP is a Certified Functional Medicine Practitioner, Bredesen Certified Practitioner and Registered Nutritionist (mBANT) with a special interest in mental health issues. www.kategarden.co.uk