

## HOW TO AVOID DEMENTIA

We are in the grip of a galloping epidemic. More people in the UK now die of dementia than any other ailment, including cancer and heart disease. About one in three people in the UK will be diagnosed with dementia and that is rising. The mortality rate from dementia has more than doubled in the past five years. Dementia comes in 200 forms of which Alzheimer's Disease accounts for 70% of cases. In the USA in 2015 the death rate from Alzheimer's rose by 15.9%; such a rate of increase indicates a galloping plague. Although there is something in the argument that people have to die of something and if advances in cancer treatment and heart disease treatment result in fewer deaths from those two ailments then the proportion from dementia will increase. There is also something in the argument that better detection of dementia affects the statistics. There is evidence that atmospheric pollution plays a part for people who live very close to busy roads. However, the scale of the increase in dementia deaths is so massive that other factors may be at work. 850,000 families in the UK are now coping with dementia – a massive burden. Once diagnosed, a patient lives for 10 to 14 years on average, causing increasing misery to the patient and increasing misery to the family. Dementia always results in the death of the patient (unless the patient dies of something else first). With the incidence of dementia rising to one person in three the prospects are very grim indeed.

This rapid rise in the number of cases of dementia is against a background of a rapid decline in trace elements which people obtain from their food. The Ministry of Agriculture tested vegetables grown in British soil in 1940 and again in 1991. They measured the presence of eight vital trace elements and found there had been a deterioration of 40% between those dates. The reason was the “Green Revolution”. Farmers used to practise mixed farming, spreading animal manures on the land (which thus replenished vital trace elements taken away with the crops), but the use of just the new artificial fertilisers nitrogen, potassium and phosphorus changed farming forever. Farmers found they could double their crops but were blind to the fact that they were no longer replacing vital trace elements. The impoverishment of the soil can be shown with the extreme example of copper; one needed to eat 10 tomatoes in 1991 to obtain the same amount of copper there was in one tomato in 1940. The deterioration of the soil must have continued at the same rate or worse since 1991 so supermarket fruit and vegetables (whether home-grown or imported) will probably be very low in the vital trace elements. Disaster approaches: it has been estimated that East Anglia, a very rich farming area, has only 40 seasons left because of soil depletion, and farmland generally is losing 1 to 3 cm of topsoil a year.

So, on the one hand we have galloping dementia and on the other hand the rapid depletion of vital trace elements in food. Are the two linked? Why not? I have been thinking for some time that a link is likely. Nutritionists tell us that if we do not eat the Recommended Daily Amount (RDA) of a trace element then we are more likely to go down with one ailment or another. For example, in the UK we eat about 25% of the RDA for selenium, and the nutritionists tell us that if we do not eat the RDA for selenium we are more likely to suffer from cancer, heart problems and diabetes. The other 16 vital trace elements have their own lists of ailments we are more likely to go down with if we do not eat their RDA. So, if a deficiency of the vital trace elements causes us to be more likely to get many ailments, it seems logical that the same deficiency makes us more likely to get dementia. There are some straws in the wind. The nutritionists have identified the vital trace elements iron, iodine, magnesium, selenium and zinc as essential for peak brain function. That does not mean, of course, that a shortage of those five trace elements will cause dementia, but since they affect peak brain function it seems logical that there will be problems when the brain is short of them. Another straw in the wind is that mild iron deficiency can contribute to reduced cognition. And what are the effects of deficiencies of the other 12 vital trace elements copper, calcium, manganese, chromium, molybdenum, boron, sodium, chloride, nickel, cobalt, vanadium and fluoride on the brain?

So what can **we** do to avoid dementia if indeed deficiencies in our diet result in low levels of vital trace elements and that is a contributory cause of dementia? The obvious answer is to pop, say, a selenium pill along with other such pills. However, there is **a very great danger** here. Too much of a trace element can lead to very serious health problems - whereas a small amount is essential (150

micrograms a day in the case of selenium). Taking such supplements should only be done under the close supervision of a doctor. Pills for some of the trace elements are already on the market (but only for the most popular trace elements; there are no pills for many of them). One of the reasons why too much of a trace element is bad for you is that too much can affect the take-up by the body of other trace elements. A gardening analogy is my applying lots of bonfire ash to tomatoes growing in the greenhouse since potash is good for fruiting crops. I once found that in one area of the soil in my greenhouse the tomato plants were very small in comparison with others and yellowing. They were suffering from magnesium deficiency since the abundance of potash inhibited the plants' take-up of magnesium. I corrected the situation by applying Epsom Salts which contain magnesium sulphate and the plants recovered. No, you must not take trace element pills blindly, the best way is Nature's way – eat crops grown in healthy soil which has adequate amounts of trace elements. The plants will take up small amounts which are most unlikely to lead to an overdose of a particular trace element. There is another, hidden, advantage of obtaining the trace elements Nature's way by eating nutritious crops. The nutritionists have identified 18 trace elements which are absolutely vital for us to eat. However, there is a total of 92 naturally-occurring elements so there are another 74 elements, some of which may be vital for our health but the nutritionists have not listed them yet. Eating food naturally rather than taking pills should enable us to have adequate amounts of the other trace elements. We have, after all, been around for millions of years eating Nature's way, so we should try to continue eating Nature's way.

The pharmaceutical companies are spending fortunes trying to find a cure for dementia. Sometimes a new drug can complete its clinical trials after billions of pounds have been spent only for the drug to be found to be no better than a placebo. Much of the effort has gone into drugs which can remove amyloid plaques in the brain on the assumption that since they are found in the brains of patients with dementia they must be a cause of dementia – when the dementia and the amyloid plaques could have the same cause.

So, what can **you** do today to avoid dementia? Since dementia affects mainly older people whose appetites have changed with ageing, it is important to eat enough. Secondly, there is one food that has not been affected by the deterioration of farmland – salt-water fish and shellfish, so eat plenty of them. Thirdly, taking plenty of exercise and not smoking help a lot. Fourthly, eating the RDA of the 18 vital trace elements is essential. Since supermarket food is most unlikely to contain adequate amounts of trace elements (and most of them don't appear on labels anyway) you have to grow your own in your garden or on your allotment. Since most people would not want to make the effort to grow their own, that means that the small number of allotments can be taken up by those keen enthusiasts who like fresh, wholesome food of known provenance and who are willing and able to apply copious quantities of farmyard manure to restore vital trace elements to the soil. And as for the rest of the population, the government should initiate a national programme of research, rather than leave it to commercial organisations which are only interested in new drugs they can patent and make a fortune. A Trace Element Pill (TEP) containing the relevant proportions of the RDAs of all the 18 vital trace elements should be produced for a trial. (By the relevant proportions is meant that, in say the case of selenium, the TEP should contain only 75% of the RDA to add to the usual 25% which people obtain from their diet so that overdosing would be avoided.) Thousands of people should be invited to take part in the trial, with one half receiving the TEP and the other half receiving a placebo. Those taking part in the trial should be free from any symptoms of dementia at the outset and there should be groups aged 50, 60, 70 and 80, male and female. Then the groups should be monitored for the onset of dementia. Some results may be available in the first year and, as the years go on, the evidence should become firmer. With so much at stake, surely such a trial should receive government backing? In the UK Alzheimer's alone is costing society £26 billion per year, so it would be worth spending a few millions on a trial into prevention.

Good gardening!

MIKE MASON