

MS and Vitamin D Deficiency

Recently a team of researchers from Canada and Britain led by Dr George Ebers of Oxford University published an important paper which provided evidence that persons born in the spring and early summer (April to July) were more likely to contract MS than those born in late fall and early winter (October to January). The authors suggested that this result may well be due to the supply of vitamin D the unborn child receives from their mother during the second and/or third trimester of pregnancy. In relatively high latitude areas such as Canada and Britain, most people's circulating vitamin D is at a relatively low level in winter and thus the unborn child can potentially receive less vitamin D than is required for proper development. This deficiency does not happen when the latter stages of pregnancy occur in the summer and early fall when most people's circulating vitamin D level is substantially higher.

This research has added further evidence that vitamin D supply plays a critical role in the onset and progression of MS. Such a relationship between MS and vitamin D was proposed 30 years ago but was completely ignored for almost 20 years. Recently a great deal of diverse evidence that links vitamin D supply to MS has accumulated and it now seems reasonable to classify MS as a long latency vitamin D deficiency disease. The most convincing evidence for this comes from the large variations in the rate of MS in Australia. Only 11 persons per 100,000 have MS in tropical Australia whereas MS is seven times more common (75/100,000) in temperate Australia. Intermediate values occur between these two extremes. It was shown that the varying rate of MS in Australia correlates very closely with the changing supply of vitamin D derived from ultraviolet radiation. Notably MS was more closely related to changing amounts of ultraviolet radiation than was melanoma skin cancer – a disease which is widely accepted to be mainly caused by exposure to ultraviolet radiation.

The Australian data indicate that 85% of persons in tropical Australia who would have otherwise contracted MS if they had resided in higher latitude, temperate areas escaped MS simply because they had an adequate vitamin D supply all year around. Thus, although there are other causal factors of MS such as various infectious agents and food proteins, adequate vitamin D throughout childhood prevents MS from developing in most cases regardless of exposure to these other factors. No vitamin D deficiency – no MS. This is why MS is best regarded as a long latency vitamin D deficiency disease.

Rickets is another vitamin D deficiency disease and it is characterized by poor bone development in children. Over much of the nineteenth century and the first two decades of the 20th century, many people ensured their children got adequate exposure to sunshine or got a daily dose of cod liver oil to prevent rickets. Such "folk remedies" were dismissed by conventional medicine throughout this 100 year period despite the existence of a number of scientific studies which strongly linked rickets to sunlight supply. Eventually the evidence became so overwhelming that rickets was finally "officially" recognized as a vitamin D deficiency disease in the 1920s. Before this long overdue designation of rickets as a vitamin D deficiency disease, tens of thousands of children needlessly experienced great suffering. Will MS share the same fate as rickets by having the obvious relationship between vitamin D and MS ignored by medical doctors for the next 20 to 50 years? Such a scenario is not impossible and I expect it will be a many years before conventional medicine and associated organizations such as national MS societies refer to MS as a vitamin D deficiency disease. For some reason conventional medicine has a very hard time seeing the forest and taking appropriate action. I suspect it is a result of their basic philosophical approach to disease, which is to treat symptoms rather than determine cause.

The most important result of the realization that MS is a vitamin D deficiency disease is that an adequate intake of vitamin D by children can prevent MS. Thus just as modest vitamin D supplementation which is promoted by public health programs has made rickets an extremely rare disease, optimal vitamin D supplementation has the potential to essentially make MS a disease of the past. Between now and the time when such a vitamin D supplementation program is implemented, we will have the same situation that existed in the 1800s and early 1900s. Some people will have the wisdom to ignore official recommendations for vitamin D intake and use a common sense supplementation level just like the families who used folk remedies to prevent rickets 100 years ago. Many others will unfortunately blindly accept recommendations of woefully inadequate supplementation and some will pay a substantial price for choosing this thoughtless path.

In my column in the next issue of *New Pathways* I will discuss what constitutes an optimal vitamin D status and how one may best achieve it. I will also look at why vitamin D supplementation is important not only for preventing MS but also for people who already have MS.

Carpe D (Seize the Vitamin D).