



CCSVI, Autoimmunity and Nutrition

Ashton Embry

In mid-September it was apparent that MS researchers and MS societies were either unaware of, or were ignoring, Dr Paolo Zamboni's revolutionary concept that blocked veins and impaired blood flow from the brain (CCSVI) were a key part of the MS disease process and that relief of CCSVI was potentially a very useful therapy. Such a "head-in-the sand" reaction was not in the best interests of persons with MS and it was clear that something had to be done to change this unfortunate situation.

Nine years ago, I helped a health reporter, Avis Favaro, on a story on the relationship of vitamin D and MS. Following my wife's suggestion, I contacted Avis regarding Dr Zamboni's work and she soon became convinced of its great importance. She and her producer, Elizabeth St Philip, subsequently put together a terrific documentary that was aired in late November. The documentary "went viral" on the web and resulted in greatly increased awareness of CCSVI and of the significant potential of the "liberation" treatment to relieve it.

Such awareness translated into tremendous public pressure on national MS societies who were forced to publicly acknowledge Dr Zamboni's work and to hastily call for research proposals on CCSVI. Now that CCSVI can no longer be ignored, conventional medicine is demanding that two fundamental research studies be done before making treatment of CCSVI for MS routinely available.

The first one is incontrovertible proof that CCSVI is associated with MS. Luckily, a large, comprehensive study which will answer this question is already underway at the University of Buffalo and should be completed by 2011/2012. Once this is finished, a large, randomized, blinded trial of the efficacy of the relief of CCSVI through vascular procedures will have to be done. Treatment of CCSVI will become widely available only after a proper trial demonstrates clear benefits (2015 or later).

Before discussing what persons with MS can do in the next 5+ years when CCSVI treatment is not yet available, I want to address the question of whether or not autoimmunity is actually a part of the MS disease process. The

current scientific evidence leaves very little doubt that CCSVI is the main driver of the MS disease process. CCSVI causes reduced blood flow from the brain and this is called hypoperfusion. It is established that hypoperfusion can result in both the death of oligodendrocytes (cells that make myelin) and the breakdown of myelin. Notably, Bernie Juurlink described this in a prescient 1998 paper. A recent “smoking gun” paper by John Prineas and colleagues has provided the icing on the cake by demonstrating that oligodendrocyte death and myelin disintegration precede any immune action in the CNS. CCSVI-driven hypoperfusion provides the obvious cause for these critical observations that relegate the popular autoimmune model for MS to the proverbial scrap heap.

Hypoperfusion also leads to an upregulation of adhesion molecules on the blood-brain barrier (BBB) as well as to inflammation and damage of the BBB through iron deposition. These phenomena collectively allow myelin-sensitive immune cells access to the CNS. Subsequent autoimmune reactions in the CNS result in substantial damage to myelin and axons that, in turn, result in the clinical disabilities that characterize MS.

Thus, although it is R.I.P. for the autoimmune model, it is clear that secondary autoimmunity to myelin is an important part of MS. This is supported by the fact that persons with MS are far more likely to carry a specific gene that fosters myelin autoimmunity as well by other varied data.

So what to do until CCSVI treatment is standard? One option will be to have CCSVI treatment in a developing country such as India and this will appeal to those with money and a high tolerance for risk. However, most persons with MS will have to live with blocked veins and the potentially harmful consequences of such pathology. I suggest that during this time it is essential to use nutritional strategies that offset the effects of both CCSVI and autoimmunity and counter the factors that enhance these disease processes.

The nutritional strategies, which have been proposed by Direct-MS, were formulated on the basis that myelin autoimmunity and the breakdown of the blood-brain barrier were the key disease processes in MS. Thus, such strategies are still viable and I would stress the need to avoid dairy, gluten, legumes and allergenic foods and to use strategies to ensure the integrity of the intestinal barrier. These all reduce the production of myelin-sensitive immune cells and consequent autoimmune damage.

However, the published recommendations have to be supplemented by strategies that address the presence of CCSVI. Studies on the relationships between blood vessel health/blood flow and nutrition almost exclusively address the health of arteries in regards to preventing and treating cardiovascular disease. However, they are also applicable to the health of veins and enhanced venous blood flow and are important for offsetting the effects of CCSVI.

I was surprised to discover that almost all the published recommendations for vascular health and improved blood flow are already part of the recommended nutritional strategies. These include: 1) sufficient vitamin D, various B vitamins and omega 3 EFA intake, 2) use of monounsaturated fat such as olive oil as the main fat type, 3) plentiful antioxidants through fruits, vegetables and green tea as well as specific supplements such as grape seed extract and ginkgo, 4) adequate minerals such as calcium, magnesium and zinc, 5) substantially reduced consumption of saturated fat and high-glycemic carbohydrates (sugar, grains).

The changes that seem to be required to ensure CCSVI is addressed as best as possible are additions of a few new supplements and an increased intake of some of the already recommended supplements. In terms of new supplements, I agree with the recommendations of Joan Beal who has been a tireless promoter of the concept that CCSVI is the primary cause of MS and who has looked at ways to promote vascular health. She suggests that anti-thrombotic and anti-inflammatory supplements such as serrapeptase and nattokinase (proteolytic enzymes), curcumin, bromelain and iodine all be included in the supplement list. I would also add acetyl-L-carnitine to the list.

In terms of changes to the recommended supplement list on the Direct-MS website, I would now suggest using enough vitamin D to raise one's 25D level to 175-200 nmol (6000 – 8000 IU for most), increasing omega 3 EFA intake to 5 g of DHA+EPA, using all the listed basic antioxidant supplements (rather than 1 or 2) and transferring alpha lipoic acid and EGGC to this basic list from the designer list. I would also recommend an increased intake of B vitamins (a B-100 pill) as well as using 2g of no-flush niacin and 1-2 mg of B12. An updated supplement list which reflects all these changes is now on the Direct-MS website.

In summary, nutritional strategies are the best way to keep MS well controlled until CCSVI treatments are available.