MS and First Do No Harm

First of all I would like to thank Judy Graham for inviting me to write a column entitled “MS and” in New Pathways, which is undoubtedly the best publication available for persons with MS. I am planning to write mainly about various issues including the science behind different types of therapies and specific scientific phenomenon involved in MS. I am also going to take this opportunity to air a few of my pet peeves that I lump together as the crippling politics of MS. I decided to start with one of these topics and this column is on the obvious but never-mentioned problem of a lack of consistency between the well-known dictum “First Do No Harm” and the current actions of MS researchers.

Most MS researchers are doctors (MDs) rather than formally trained scientists (PhDs). Doctors claim to follow the laudatory and common sense goal of “First Do No Harm”. For the MS researchers this oath translates to “First Do Research that Leads to Therapies that Do No Harm” and our main question is whether or not MS researchers come remotely close to following this maxim.

The widely accepted autoimmune model of MS disease process guides the MS research effort. In brief, this model appeals to foreign proteins to activate myelin-sensitive T cells that then cross the blood-brain barrier and initiate an immune attack on myelin proteins in the central nervous system. A failure of the regulatory portion of the immune system to contain the autoimmune attack is also an important facet of the model The consequent immune destruction of myelin and underlying axons is the cause of the various symptoms that characterize MS.

There is a large body of scientific evidence that supports this model and it is reasonable that it is used as the key foundation of the MS research effort. Given this model and the desire to First Do No Harm one might expect the researchers to be concentrating on elements of the interpreted disease process that can lead to therapies that cause no harmful side effects rather than on elements that would lead to therapies involving substances that have substantial toxicity.

The autoimmune model for MS directly leads to the deduction that both infectious agents and foods can contribute proteins that can activate the myelin-sensitive T cells and abundant research supports this. It also leads to the interpretation that nutritional deficiencies that result in reduced immune regulation may well be involved in MS. Given that if certain foods could be identified as being activators of autoimmune reactions in MS, then the avoidance of such foods would be a potential “no-harm” therapy. Unfortunately extremely little research is being done on the potential involvement of various food proteins in MS and the potential for diet modification to be an effective therapy. Another obvious area of research for the development of no-harm therapies would be examining whether or not deficiencies in vitamin D and omega 3 essential fatty acids, both established immune regulators, are involved in MS. Once again very little research is being done on these nutrients in regards to MS.

Almost all the MS research effort goes towards the identification of specific molecular interactions that are involved in the MS disease process. The goal here is to identify a drug therapy that counters one or more of these molecular interactions. An inherent problem with such an approach is that the derailing of a putative harmful molecular interaction, which in almost all cases has beneficial purposes as well, results in harmful side effects. The recent Vioxx debacle is a fine example of this problem. Thus such drug development research is anything but an attempt to “First Do No Harm”.

It is clear that the MS researchers have not made the investigation of nutritional factors that are plausibly involved in MS as their priority as would be expected if they wanted to First Do No Harm. Their overwhelming priority is the development of semi-toxic drugs to treat MS. This complete lack of balance in research effort cannot be justified on scientific grounds because both research paths have the potential to yield an effective therapy. The main reasons for the priority of drug development research are generous grants from drug companies, possible large financial rewards from patents and potential fame and prestige in the research community and beyond. Nutritional research does not offer these researcher-centred benefits to the researchers.

It is perfectly understandable that the MS researchers have chosen potential fame and fortune through research that leads to harmful therapies and have avoided doing research that would lead to "no harm" therapies. Such actions are readily understood when viewed in an evolutionary perspective in which the researchers are trying to improve their fitness and chance of survival through the attainment of wealth and higher status.

The only nagging problem is that the MS research community is not acting in the best interests of those with MS by not researching therapies that "Do No Harm". There are a number of obvious "no-harm" therapies such as vitamin D supplementation that are begging for laboratory and clinical research. Such "no harm" therapies won't make much money for anyone but they might well make a huge difference in the lives of persons with MS. I wonder what it will take to persuade the MS research community to "do the right thing" and pay more than lip service to their favourite motto of First Do No Harm.