

The Need for Proper Regulation

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As economic conditions worsen, it is natural to ask what went wrong. How did we get into this mess? Those diagnosed with MS ask similar questions regarding what went wrong such they ended up with a very frustrating and often very problematic disease. To me, one of the most important factors that contributes to the sudden and unexpected appearance of a bad situation, be it a disease like MS or a deep economic downturn, is the lack of proper regulation.

In terms of the economy, the substantial relaxation of regulation of the banking industry is undoubtedly at the core of current major economic mess. Various levels of built-in regulation failed, including those ensuring that bank loans went only to credit-worthy borrowers, those that ensured that loan-backed securities were given realistic risk ratings (AAA, junk etc), and those that ensured the all the private companies such as banks, hedge funds and rating agencies acted in a responsible and legal manner.

With removal of most regulation, the banks made hundreds of billions of dollars of “ninja” loans which means they went to people with no income, no jobs and no assets. They then sliced and diced and combined these loans into packages which were given “very low risk” labels by the rating agencies and sold around the world. Worse yet, these securities were used as collateral for more borrowing and investment and were leveraged up to 30 times their value. This ensured these securities became weapons of mass financial destruction. And all the time the government regulators chose to look the other way. When the ninja loans started to fail, everything came down like a house of cards.

Amazingly, this failure of regulation was almost global such that Iceland is now insolvent, eastern Europe is teetering on the edge of collapse and the all the G-7 economies are rapidly shrinking. One might say much of the world has come down with an economic autoimmune disease which was caused by aggressive greed which was not adequately controlled or regulated. If the initial loans had been properly scrutinized by regulators, the current financial crisis would not have happened. If the rating agencies had given the investment vehicles secured by the bad loans a very high risk rating, there would no crisis. Finally, if the government regulators had been doing their job of ensuring the banks and rating agencies were acting responsibly, there would be no crisis. All levels of regulation of “human greed” failed miserably and the global economy is now very sick.

I see the sudden onset of MS as having same broad causal factors as I have described above for the current economic collapse. Instead of greed being the “bad guy”, it is the attack side of the immune system. And there is no doubt that a big part of MS is a lack of adequate immune regulation which allows the attack side of the immune system to inflict substantial damage on the myelin in the central nervous system.

The immune system's primary role is to protect us against a myriad of micro-organisms and millions of years of evolution and natural selection have given us a variety of immune cells that are very effective in destroying foreign invaders such as bacteria, viruses and parasites. One problem is that the chemicals these cells produce to kill the invaders also damage a person's tissues. To counter this "friendly fire" destruction, the immune system developed a regulatory side which was responsible for dampening down the attack side after its job was completed. Interestingly, the existence of such immune cells was first proposed in the 1970s and they were referred to as "suppressor" immune cells because they were thought to suppress the action of the attack immune cells.

Unfortunately, in the early 1980s, some rather suspect but very influential science claimed that such cells did not exist and that poorly supported pronouncement became the gospel. Immunologists did not even dare to mention "suppressor cells" lest they be labeled as heretics and have their careers burned at the stake. In the 1990s the evidence for the existence of cells whose role was to keep the immune system in check became too great to ignore. At this time they were given the label of "regulatory" cells because of the pejorative nature of the term suppressor. It took another decade for the concept of regulatory immune cells to be widely accepted. Well supported and important concepts are adopted extremely slowly in the medical world, the bacterial cause of ulcers being perhaps the finest example of this dictum.

The acceptance of the existence of the regulatory side of the immune system was very important for the understanding of the onset and development of the autoimmune diseases such as MS and rheumatoid arthritis. Previous to this, MS was simply seen as a disease caused by an overly aggressive attack side which was sensitized to a specific part of the body such as myelin in the CNS. The only answer to countering MS was to smash the immune system with a drug such as steroids and this tended not to work very well because of the major side effects of such a potent drug. Once it was realized that MS was just as much a failure of the regulatory side of the immune system as it was a success of the attack side, other options for treating MS opened up.

One of the most important contributors to ensuring proper immune regulation is adequate vitamin D. That is why adequate vitamin D from birth onward will ensure that MS will never develop. With adequate regulation as ensured by vitamin D, the attack side of the immune system is kept in check and any autoimmune activity which may occur is minor and quickly shut down. It was gratifying to see the recent research on the interaction of vitamin D and a key immune gene which is a big player in MS. This simply provided some insight into the details of how vitamin D helps to ensure autoimmunity does not develop.

Another part of the regulation story happens in the gut where regulation of both gut wall integrity and immune reactions are intimately associated and are another key part of the MS disease process. I'll discuss this regulatory story in the next issue. Until then, I hope everyone is taking adequate vitamin D and is being very cautious in financial matters.