

Chapter 8

My Allergy and Macula Degeneration

Allergy and macula degeneration are what I personally have suffered over the years, and my disease management of improving the health may be of use to others with similar symptoms.

Immune and Allergy

Of the 25,000 genes in our gene pool, mostly are inherited from our parents except for a few hundred immuno genes responsible for dealing with various foreign pathogens, typically viruses against which immuno genes were developed by us throughout our life. Our immune system includes thymus to produce the T-cells, bone marrow to produce the B-cells, etc. and these cells in turn produce a variety of antibodies (γ -globulins; while α and β -globulins are responsible for the transport of a variety of compounds in the plasma such as bilirubins, lipids, steroids, etc.).

Antibodies are produced to neutralize the pathogens, and before we could develop our portfolio of a basic set of antibodies to neutralize against the daily assaults of pathogens, our infant body relies upon the mother's milk carrying mother's antibodies. We then develop antibodies against, for example, the air-borne pathogens such as the cold virus etc. Vaccines for certain deadly viral diseases would give us a head start to prepare our antibody portfolio. Avoiding all pathogens and keeping clean in the early days may pay a price of developing a reduced immune ability necessary to sustain what is considered as routine concern by others. Note that while antibodies are effective against virus, which typically have only 4 genes, the antibodies are not nearly as effective against bacterium, which can have hundreds or thousands of genes and with organelles to sustain a relatively independent existence. They can be killed with antibiotics, some effectively, some less effective. There are also vectors called plasmid that produces random proteins that may neutralize the antibiotics and would hop form bacteria to bacteria. If the antibiotic happens to be neutralized by what the plasmids produce, the bacteria containing them would survive and become

resistant to this antibiotic. The story goes on to having animal feed mixing with common antibiotics etc. and render them almost useless for human use.

For allergy, we need to note the functions of antibody IgE (immuno globulin E), which is meant to fight parasites with a raised level of histamine that dilates capillaries. Much of the allergy drugs and their side effects have been related to the anti-histamine functions. Allergens that trigger antibody reactions can be the food elements, air-borne particles, or insect induced such as a bee sting. They all relate to a raised level of IgE, a raised level of histamine, and swelling of lips, throat, windpipe, tear glands, or the place of the insect bite. Since IgE is no longer a necessary antibody for most populations, as parasites have become rare in modern society, it is possible to simply delete IgE all together as well as the IgE-producing cells.

Allergy Management

An immuno method to reduce the allergy of air-borne allergens is to raise drastically the related IgG in order to competitively relax the IgE functions. This method starts with a skin test by exposing the skin with a great variety of possible allergens, find out the specific offensive allergens, and from them organize the vaccine-like solutions containing the specific allergens for subcutaneous dose. The injections are done weekly by the patient him/herself and with an ten fold increase in dose in each week so that the IgG levels of the targeted allergens become million to billion fold enhanced. As a result, this high level of specific IgGs would function in the body before the IgEs have a chance to be triggered. Such a rationale would work for a large fraction of the patients as long as they could keep on doing the injection of allergens to maintain the very high level of these specific IgGs. As soon as the injection is stopped, however, their IgGs for these allergens will drop to the pre-injection level and will again require a couple of months of dose-enhanced injections in order to reach to the useful level to compete over the IgE again.

As the anti-histamine medicines have developed to become more specific from those a few decades ago, their side effects such as including drowsiness have largely been eliminated, and the drugs can be obtained over-the-counter. The injection of allergens for IgG enhancement etc. is no longer popular.

Preventing IgE from reaching to certain specific allergens by a very high level of IgGs is just one of the many possible approaches. If indeed IgEs were developed specifically to deal with parasites, for which they are not necessary for many societies, then perhaps one can simply eliminate the IgE from our system

together. There are some biotech concerns to do exactly that by creating an “auto-immune-like” reaction in the body to purge the presence of IgE, with somewhat mixed success with clinical trials. Dr. Nancy Chan of Tanox Pharmaceuticals tried successfully with clinical trials in this approach. But the costs of carrying out drug development, and the subsequent legal battle with major sponsors who supported the clinical trials rendered a decade long struggle of raising money while developing the drug as a situation to avoid in the pharmaceutical business. There are also drugs that would interfere with certain liver functions related to histamine production, but they may harm the liver and are not routinely prescribed.

To reduce the air-borne allergens, particularly the in-house allergens, one simple way is to filter them out with a special vacuum cleaner. As many allergens are sub-micron in size, the usual household vacuum cleaner cannot do the job. The use of electrostatic purging that avoids the use of a mechanical filter is very effective, because they can charged up the air-borne particles and allow them to attach to any wall surface regardless of particle size, and for those particles sticking to the wall, they can easily be wiped off with a wet sponge.

The electrostatic purging of air-borne particles in the house is indeed effective, but in a typical house, every window and door can be a potential port of entry of the house, and to place an electronic device in each and every possible crack in the house is simply not practical. After all, the house would “breathe” under wind or change of temperatures, both “inhale” and “exhale”. One way to deal with the house-breathing is to pressurize the house to make it only exhale, while at the air intake port, such as having a hole in the garage door leading to the house, a small fan through the hole (a 4” computer fan will do the job over a 4” hole) can be installed, and place the air cleaner/purger at the air-intake region outside the slightly pressurized house.

While I was suffering terribly from the seasonal pollen allergy, the body’s reaction became exponentially severe day-by-day. But with a pollen-free house to rest, I could relax the body’s immune reactions at least during the night without allergen so that during the daytime the anti-histamine dose necessary to deal with the allergy can be maintained at a relatively low level in order to avoid the exponential dose increase otherwise. For my pollen-allergy, the throat and the eye suffered the most. I did use a great deal of eye-drops to reduce the itchy symptoms, and in the process, I believe that it altered the metabolic balance between transport and deposition of the macula structure that led to my macula degeneration.

Macula Degeneration

As my vision of one eye began to have trouble, I consulted many medical specialists. An oncologist friend thought that there maybe a brain tumor depressing the optical nerve, followed by an optical neuro-specialist who measured the nerve trans-conductance to the uptake of optical receptor at the back of the skull from signals of flashing light triggering to the eyes. He concluded that neither of my eyes were transmitting proper neuro-signal strength, with my bad eye transmitting worse than my good eye, implying that the trouble was unlikely to be a brain tumor as they would not grow symmetrically. His conclusion was that I had leaky neuro passages and most likely it was multiple sclerosis. It was a little scary to read up these sclerosis symptoms. Then another specialist, a head radiologist did a MRI to my brain and found no tumor, could not rule out leaky nerves, but did find an enlarged nasal passage from my years of sinus problems from pollen allergy. Next, I visited several leading clinicians at teaching hospitals and they concluded that I had glaucoma. But my eyeball has a below normal pressure, so I now had a “low-tension glaucoma”. When I asked whether they just made up these names to fit whatever the phenomena was at hand, they said that there are truly a great many cases of low-tension glaucoma, and I must use eye drops to further reduce my ocular tension. What for? “To increase the metabolic transport to the macula.” This was the first time I heard some reasoning behind a treatment, albeit a wrong diagnosis. I am still wondering how many low-tension glaucoma patients may have no glaucoma whatsoever.

As the macula vision of one eye determinates, it retains the peripheral vision. During that time, signals of the two eyes transmitting to the brain were very confusing. One eye would sense a on-coming car would properly pass by, while the other eye would sense the on-coming car going to hit me head-on. Apparently the brain synthesizes signals from the two macula, and when one of them stopped providing the signal, the image forms into un-coordinated dual. The situation improved only when macula of the second eye became also blurred, then the brain synthesizes the image completely from the two peripheral visions without complication.

Without the macula vision, I must rely upon the remaining peripheral vision to get around and function. My wife and I at that time commuted to the New York City with a train ride that terminates at the Grand Central Station, which is an extremely busy train station, particularly during the rush hours. Since I could not drive, I must meet my wife for the same train to drive home from the local train station. Like many train commuters, I was often late and must run to the

gate to catch the train at the last minute, and in the process, often bumped into people because of my impaired vision. In order to avoid the hurtful collisions at Grand Central, I simply looked straight up in order to use my remaining peripheral visions to sense people around me. The picture for several years was that I would look straight up and dash to the gates at Grand Central almost every day, until I figured out how to repair my macula and improved on my vision.

I did visit as many optoneurology specialists as I could find. They included the diagnosis of brain tumor, multiple sclerosis, and glaucoma. As a result, over a period of almost ten years was wasted, while my vision continued to deteriorate. No one could tell what was wrong with my eyes. I did suspect that the eye drop for allergy might have interfered with the metabolic transport to the macula. As one gets older, the T-cell activities are greatly reduced, and my allergy reaction from pollens in the spring season reduces by an order of magnitude so that I could tolerate the season without using eye drops etc. In addition, I took some well known herbs, the bilberry leaf (*vaccinium myrtillus*), that are sold as one of the elements in the multi-vitamin for the eye that are easily available over-the-counter. After taking the bilberry for one year, my second bad eye recovered approximately 80% to normal, but my first bad eye without the macula function for more than 15 years, is probably beyond repair, and I have been taking this bilberry mixed vitamin ever since.

In addition to the herbal vitamin, I tried acupuncture, electric stimulation, mechanical stimulation, beamed RF (radio frequency) stimulation while measuring my macular functions, and the only thing that helps to remove the macula deposition, for me at least, seems to be the bilberry leaf. I am grateful for the rationale of using the eye-drop to improve the metabolic transport by reducing the ocular tension. Since I have no problem in ocular pressure, so I focused on improving the transport with other means and it worked. I have heard that so many seniors have trouble for eyesight that become worse as the age advances. I am perhaps one of the few with greatly improved eye-sight over aging simply because none of the conventional diagnosis, by the specialist or otherwise, made any sense.

This Chapter started with an outline of immunogenes that are not inherited and I want to close it with a market opportunity utilizing the species-specific genes that is inherited and can potentially be manipulated. That is, for pigs, particularly certain small pigs having organs similar in size to human organs, if their embryo can be added with human-specific major immunogenes, then their organs will not be rejected by our immune system and can be transplanted to function in human bodies. To place the major human-specific genes in the pig

embryo is a Simple Tech, but to harvest the pig organs for human transplant will be a Messy Tech of giant proportion.

In reviewing my story of macula degeneration of the dry kind, which differs from the wet kind that involves the growth of neovasculature over the retina, I need to say a few words about the therapies of the wet kind. The new blood vessels that block the vision can be burned off by laser, be stopped by the injection of anti-growth agents into the mucus fluid of the eyes, or more simply by treating the cause of neovascular growth, namely the starvation of glucose by the retina. One of the effective treatments is to recover the proper liver functions of its use of glucose metabolism with insulin produced by the islet cells of the pancreas. While liver is a major use of glucose and insulin, it will not respond to the background insulin level and initiate glucose metabolism, only to those insulin generated by the islet cells that have a pulsed output every six minutes or so. By using a pulsed insulin injection intravenously every six minute over several hours to simulate the islet function only once a week, it will suffice to have the liver delivering sufficient enzymes for glucose metabolism for the retina and other organs to function properly and reduce or diminish the type II diabetic symptoms such as the neovasculature growth over the retina.