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Applied BioLogics and Inflammation

Attached to this letter is an informative cover article from Time Magazine that refers to chronic inflammation as the silent killer. Chronic inflammation is essentially the inflammatory response of the human immune system left unchecked by normal biofeedback mechanisms. The immune system is stuck in the “on” position. The Stowe Foundation uses immune therapy to modulate or repair the immune system and turn off chronic inflammation.

In a unique approach to chronic inflammation, the Stowe Foundation utilizes a rationale application of biological medicine and human cell therapy to supply clients a science based method to achieve comprehensive immune therapy. Immune therapy is the science of managing or controlling the immune system and returning the immune system to normal physiological function. The Stowe Foundation refers to comprehensive immune therapy as Applied BioLogics. You can further investigate Applied BioLogics on The Stowe Foundation’s website, www.thestowefoundation.org. Applied BioLogics is a major piece of the puzzle to resolve the attack of chronic inflammation, the Silent Killer.

How to Stop Chronic Inflammation

Biological Medicines are plant extracts, herbs and other natural compounds that work on the structure and function of the immune system. For example, Albarin, a medical grade extract of the Aloe Vera plant can be given as an IV to control cytokine production from macrophages and dendritic cells of the immune system. Cytokines can be either inflammatory or anti-inflammatory; hence cytokine therapy is critical to eliminating chronic inflammation.

Adaptagenic herbs can be custom compounded as tinctures or powders to control endocrine glands and hormone production and medicinal grade mushrooms compounded as powders to activate the immune system against infections. Biological response modifiers such as antigen infused colostrum extracts, better known as transfer factors, fight infections through activation and targeting of T-Cell and Natural Killer Cells. Treating infections eliminates the trigger mechanism for inflammation.

Applied BioLogics uses natural chelating compounds, such as humic and fulvic acids, to detoxify the body from heavy metals and chemical toxins that promote free radical damage. The Foundation recommends medical procedures such as IV Chelation Therapy when the situation is severe, such as lead or mercury poisoning. The products and procedures are all well understood and applied in a clinical setting under the protocols of Applied BioLogics. The EPA and the CDC (see the attached, Third Report) has recognized for years the threat of heavy metals and environmental toxins to the human body, but the medical community has been slow to respond to the threat.



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Until the creation of the Center for Biologics Evaluation and Review (CBER) by the FDA in 1998, Applied BioLogics stood outside the regulatory mandates and testing procedures of the FDA. It is slowly being recognized that biological medicines and medically supervised detoxification procedures are strong enough to require regulation and CBER is the lead regulatory agency. With a fully functional CBER, The Stowe Foundation is using outcome based clinical trials to correct the information deficit about human cell therapy and comprehensive immune therapy that exists within the FDA. This will allow therapeutic claims to be established for Applied BioLogics. The use of biological medicines to control inflammation is a central theme of immune therapy. The Time Article is a good summary of why this is critical to human health. Every chronic illness has been related to chronic inflammation. Immune therapy is the way to restore health.

What the Time Article does not describe is the source of chronic inflammation. The Stowe Foundation describes the trigger and source of chronic inflammation as the PITTS Syndrome, the five human conditions that regulate the immune system and the inflammatory response. Each letter of the PITTS Syndrome has a meaning and each can be treated.

P - Physical performance. The P refers to how well the “systems” of the body are working. Two of the most important systems are the digestive system and the endocrine system. The digestive system controls the nutritional status of the body and poor nutrition is probably the most important part of the “P”.

Without the proper digestion of protein, fats, carbohydrates and sugars the immune system fails. Amino acids, essential fatty acids, complex carbohydrates and plant sugars are the macronutrients of the body. Without a full compliment of the macronutrients, which must come from the diet, the body is malnourished.

But, you can eat the perfect diet and still be malnourished. Diet is actually less important then how well we are absorbing and metabolizing the nutrients we do eat and that depends on the GI tract. The GI tract is a very complex system of digestive enzymes, beneficial bacteria, cellular hydration, pH control, stomach acid for fat and protein metabolism, bile for emulsification processes, membrane permeability of the intestinal wall for mass transfer, insulin levels for blood sugar control, cortisol for glycolysis, neurotransmitters for information to the brain about nutritional status and cytokines from lymphatic tissue for information to the immune system about pathogenic bacteria and yeast colonies that exist in the gut.

Conventional medicine pays very little attention to the functional status of the gut. Instead, the standard of care is to bring symptomatic relief to digestive problems by using medications for acid reflux, gas and bloating, anti-inflammatory (both steroids and non-steroids), stool softeners, laxatives, nausea relief, etc. Control medications do not restore a functional healthy gut. Control medications bring symptomatic relief.



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The immune system and chronic inflammation is highly influenced by Gut Associated Lymphatic Tissue (GALT). It is in the gut where inflammatory cytokines can be released on a daily basis. Should the membrane walls of the GI tract be infected by a virus, bacteria or other pathogenic agent, the GALT tissue will launch an immune response. The inflammatory response quickly becomes systemic to the whole body as cytokines are placed into the blood and circulatory system. Under the influence of inflammation, the membrane walls of the GI tract become particularly permeable to protein particles and the larger protein sequences will, as they circulate in the blood, trigger the production of antibodies. When enough antibodies accumulate, the protein particle itself or a similar looking protein can trigger inflammation. Circulating antibodies that encounter the antigen (the food molecule) trigger a second cascade of cytokines, the result is systemic inflammation. Only removing the offending food will eventually drop antibodies to a level that does not unleash chronic and systemic inflammation.

Severe and chronic inflammation of the GI tract carries many names, including Crohns Disease, Irritable Bowel and Ulcerative Colitis. Once anti-inflammatory steroids have run their course, the usual treatment is to surgically remove portions of the colon. The Stowe Foundation believes that treating the underlying infections is critical to gaining control of Crohns as is removing all offending food toxins.

The relationship of the GI tract to human health is vastly overlooked by conventional medicine. But the gut is probably the source of the constant activation of the immune system that leads to chronic inflammation. GALT tissue can no longer be ignored as a source of inflammatory cytokines. Applied BioLogics can be used to restore the integrity of the gut. A healthy gut combined with diet is what resolves the P of the PITTS Syndrome. It takes both.

I- Infections. We all know that infections play a major role in the immune system. Only the immune system can handle a viral infection that is the basis of vaccines. The Stowe Foundation can create autologous vaccines, (vaccines made for each individual patient) to control whatever viral infection might be initiating an immune response and hence producing chronic inflammation. For example, hepatitis C invades the liver and causes chronic inflammation to the liver. This ultimately leads to cirrhosis and liver cancer.

We can create an autologous vaccine to identify the patient's specific strain of Hep C virus and instruct the immune system to destroy that specific viral infection. The trigger to chronic inflammation is removed and the liver can begin to heal. This example is the essence of immune therapy. Providing the liver with adult stem cells derived from the patient's bone marrow will greatly accelerate the tissue repair. Stem cell technology for tissue repair will not be effective until the root cause of the chronic inflammation is treated. That takes comprehensive immune therapy.



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Many cancers, such as cervical cancer in women have a viral trigger. In women, the HPV virus causes cervical cancer. It is now very apparent that many chronic illnesses have an infectious microorganism that triggers the inflammatory response. Not long ago it was discovered that ulcers were caused by the H-Pylori Bacteria. How long will it take conventional medicine to recognize that all chronic illness is related to infection of some sort? Applied BioLogics helps the body deal with infections. Cell Therapy then repairs the damaged tissue. The end result is a natural healing.

T- Toxins. Heavy metals such as mercury, cadmium, arsenic, lead, aluminum, nickel, etc are toxic to the human body. They primarily shut down certain enzymatic pathways. A primary target for toxins is the enzyme glutathione. Glutathione is a major enzyme of detoxification in the liver. When glutathione is diminished, the cells of the body accumulate toxins.

The toxins accelerate the generation of free radicals. Anti-oxidants are the body's natural defense against free radicals. The most potent source of anti-oxidants comes from phyto-nutrients found in fruits, vegetables, berries, herbs and plants. These are very important to fighting free radicals.

But the presence of most toxins can overwhelm the natural anti-oxidant cascade of the immune system. The only way out of chronic inflammation is to detoxify the body and this requires intervention by a trained healthcare professional. Chelation therapy is one method to detoxify the body from heavy metal toxins. Heavy Metals promote the generation of free radicals. Free radicals sustain the inflammation triggered by an infection. Heart disease is now being viewed as an infection that triggers inflammation and then the inflammation is sustained by free radicals. It is the toxins that put the fuel to the fire. The fire of free radicals will only be brought under control by removing the toxins.

The endocrine system controls the regulatory hormones and steroids of the body. We all know how complex this system can be. Hormone imbalances throw the entire body out of balance. Hormones and steroids contribute a great deal to chronic inflammation. This is easily understood in that the most powerful anti-inflammatory medications offered by pharmaceutical companies are steroids. However, the body has natural biofeedback loops that are perfectly capable of regulating the endocrine system of the body. Hence hormones and steroids can be regulated provided the endocrine system is functioning as designed.

The major factor that inhibits the endocrine system is toxins. Toxins accumulate in the fatty tissue of the body and all of the glands of the body that produce hormones and steroids are fatty tissue. The accumulation of toxins in the endocrine glands inhibits the physical performance of the endocrine system. Conventional medicine does not recognize the essential need to detoxify the body to improve physical performance of the endocrine system. The detoxification step can lead to a major control mechanism being available to control the inflammation response of the immune system. Detoxification can reduce inflammation by allowing the endocrine system to



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properly control hormones and steroids. If the endocrine system can not regulate itself due to the presence of toxins, inflammation is the natural result.

T- Trauma. The surgical removal of any gland or organ of the body brings physical trauma to the body. While the body can live without the gallbladder, the immune system is compromised. It is very simple logic. The main purpose of the gall bladder is to store bile from the liver. Bile is a surfactant that must be present in the digestive tract to emulsify fats and oils so that the fats can be absorbed through the intestinal tract. Without bile, fat can not be digested. The gallbladder stores bile from the liver so that the bile can be released into the digestive tract at the proper time to contact the fat.

The release of bile from the gallbladder is timed to the digestion of food from a meal. Without the storage capacity of the gallbladder, the bile goes directly from the liver to the intestinal tract. It may or may not still be there when the fat enters the digestive tract. Fats and the essential fatty acids they contain are critical to the body. Plant oils and the sterols and sterolins they contain are critical to the body. These are critical nutrients that can only be obtained from foods.

The foods are only valuable to the body if they can be absorbed through the intestinal tract. Sterolins and Essential fatty acids are critical to the body's ability to produce hormones, prostaglandins and cytokines. The stability of the cell membrane walls is totally dependent on phospholipid chemistry. Lipid referring to fat.

Prostaglandins are hormone like substances that exist inside the cells of the body and their purpose is to translate the information provided by hormones into action by the cells. Hormones and prostaglandins are communication molecules. Without the proper fats and oils in the diet, the body can not make the proper hormones and prostaglandins. The biochemistry of the body is totally short circuited without the proper level of hormones, steroids and prostaglandins.

Prostaglandins, steroids and hormones have a very important role in the control of inflammation. Hence fish oil has been highly studied in heart disease and evening primrose oil in many autoimmune disorders. Sterols are used to control cholesterol. These products are all from the fat family. The absorption of fats is optimized by the bile from the liver.

The flow of bile to the GI tract is optimized by the gall bladder. Remove the gallbladder through surgery (physical trauma) and you have just lost another factor that helps control inflammation. Prostaglandins and hormones are essential to the body. They are made from fats and oils. The GI tract is where they enter the body. Any physical trauma that disturbs the GI tract will lead to a dysfunctional immune system and chronic inflammation will result. It is that simple.

I can trace the same type of dysregulation to the removal of the uterus and the ovaries because those organs also play a critical role in regulating biofeedback loops throughout the body. The



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body was designed to operate in a certain fashion. Removing any organ causes physical trauma to the body and has the potential to contribute to uncontrolled inflammation.

When the gall bladder is the missing organ, then alternative mechanisms must be provided to help the body digest and absorb fat. Without the proper fats and oils the body loses the communication molecules that naturally control inflammation. But it is not just providing a fish oil supplement, the oil must be absorbed. That requires bile. OX-Bile can be an effective supplement along with specific digestive enzymes. This is all incorporated in the theory of Applied BioLogics. These concepts must be applied to control inflammation.

Emotional trauma also plays a significant role in the performance of the endocrine system. The endocrine system interacts with the brain and its neurotransmitters. The emotions appear to physically change brain chemistry. Anger puts the autonomic nervous system into the flight or fight syndrome. The anger message is communicated from the brain in the region of the hippocampus via neurotransmitters to the hypothalamus of the endocrine system.

The hypothalamus sends hormones to the pituitary to elicit a specific response from the body. The pituitary sends hormone signals to the thyroid, adrenals and gonads. This prepares the body to gear up for the fight. All energy is diverted to that one cause. Fight or flee. It is known to MD's as Seyle's alarm response.

The immune system is temporarily suspended. The immune system can only repair the body when it is in the rest or relaxed mode, not the fight or flight mode. The Autonomic nervous system is vastly controlled by the emotions. Hence the immune system is dependent on the emotional state of the person. The emotions control the relationship between the brain and the endocrine system. I have found that the emotions can be vastly influenced by our spiritual relationship to God, no matter what religion. True health emanates from bringing the mind (brain), body (physical systems), spirit (faith) and emotions (feelings) into balance. It is a very scientific understanding of how we were created.

S - Stress. We bring stress into our lives on a daily basis. In the Aramaic language, sin means to miss the mark. Jesus spoke Aramaic. All faith based religions have guidelines on sin. Accepting the concept that sin means to miss the mark, then our day to day activities that cause us to miss the mark will bring stress into our lives. If you are a married man and you have an affair, you will have missed the mark of fidelity and you will have brought stress into your life. There will always be the emotional fear that your wife will find out. Even if you are not particularly religious or faithful you will worry about the financial ramifications of divorce.

If you are a wife that worries that your kids are not wearing designer jeans, then you will put pressure on your husband to make more money and if he can not deliver more money you will use easily available credit. Families that use credit to keep up with the Jones's bring stress into



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their life. That is one reason the bible has 400 passages on faith, 400 passages on prayer, but over 2,000 passages on money and possessions. Money causes us to miss the mark. It is not the jeans the child is wearing that make us happy; it is the kid inside the jeans. It is not the car in the garage; it is the family that gets in the car. Stress is nothing more than how we handle our interpersonal relationships.

If you are Christian, the Bible will help you figure out how to hit the mark, not miss the mark. All faiths and religions have this concept as part of their fundamental structure. Faith helps you hit the mark. Stress results from living outside your faith. You can be a type A super competitive person at work and in the business environment and that is ok. But if you bring that into the home at night and you can not rest and relax and enjoy your family and kids, they will resent you, because all kids want is your time. Taking work home with you means you can not give them your time. That creates stress for everyone.

Anxiety over finances is probably the biggest stress factor in America. Learning to live within your means has been destroyed by easy credit. Marketing people now define our happiness. Why you are not part of modern America if you do not use this time saving product or a specific designer label set of clothes. Even the pharmaceutical companies want every American on a lifetime prescriptions of drugs and they advertise to make sure you know what you need. Antidepressants, Anti-inflammatory medications, Steroids, Pain Medications, and Hypertensive drugs, Channel blockers, Diuretics are all drugs that control the symptoms of the PITTS Syndrome. There is not a single curative drug in that whole list. Not one curative drug, they are all control medications. That brings stress into our elderly. Just look at the AARP commercials, they are the elderly saying; how am I going to afford my drugs? It is time to change medicine.

So in simple terms, Applied BioLogics is the method to supply immune therapy to the body in the most safe and effective manner possible. It is based on the extensive use of biological medicines. However pharmaceutical medications are not excluded when properly applied to rescue the body. If the body has a bacterial infection that can be treated with an anti-biotic it should be used. But many bacteria have become resistant to anti-biotic therapy and therefore Applied BioLogics will recommend the use of advanced colloidal silver and colloidal copper or transfer factors. There is a large and expanding scientific data base which clearly demonstrates the safety and efficacy of colloidal metals in treating viral and bacterial infections. Transfer factors can be custom compounded from blood or tissue samples that contain the pathogenic agent to create custom compounded oral vaccines.

Applied BioLogics understands which plant extracts can be used to help modulate the immune response through biological response modifiers to control the release of cytokines, both inflammatory and anti-inflammatory. Applied BioLogics outlines which compounds can be used to detoxify the body and which herbs can be used to control emotions. Applied BioLogics uses advanced physical and psychological techniques to relieve stress and incorporates faith and its



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teachings to promote healing and emotional freedom. Applied BioLogics is the science behind immune therapy.

The points that Applied BioLogics must address is understood through the PITTS Syndrome, which is really just a scientific understanding of what suppresses the immune system. Chronic inflammation is just a systemic (whole body) expression of the PITTS Syndrome. The PITTS Syndrome is behind every chronic illness that has a basis in inflammation. This is what the Time Article is trying to point out. Applied BioLogics is the ladder out of the PITTS. This is the way to eliminate inflammation and to reverse the chronic disease. Applied BioLogics is the Foundation's signature concept and philosophy to achieve comprehensive immune therapy.

The discovery of pluripotent adult stem cells in the bone marrow now has given us a tremendous opportunity to advance the concept of immune therapy and Applied BioLogics. Adult stem cells can repair the tissue damage brought on by chronic inflammation. The goal of adult stem cells is to grow healthy new tissue to replace the tissue damaged by inflammation. There is much to learn about the timing and application of the adult stem cells. But many answers will flow from the clinical studies that are being conducted in Mexico. The fact is adult stem cells are the most advanced form of immune therapy. The entire ability for the body to heal itself comes from stem cells.

We can use Applied BioLogics to control the inflammatory process. Then we can use adult stem cells and the proprietary technology controlled by The Stowe Foundation to repair the tissue damage. It is a complete system.

This offers hope to everyone who suffers from a chronic illness. But it also can change trauma surgery as well. We can now envision vastly accelerated recovery and more complete recovery from surgery. The possibility in sports medicine is enormous. Grow new tendons and cartilage in damaged knees to extend careers. Recover from ACL surgery and Tommy John Surgery in months not years. The road to this progress goes through the FDA. The Stowe Foundation is conducting a phase I clinical study in Mexico of adult stem cell transplants to the heart. This study will conform to FDA standards and all results will be submitted to the FDA to support the eventual approval of cell therapy in the United States.

Cell therapy combined with Applied BioLogics will change the face of medicine. The Stowe Foundation is the driving force behind this effort. I thought this memo might help clarify the progress that has been made.

Regards,
Dr. Larry Stowe
Managing Director