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Cause of Disease : A New Perspective

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The nineteen nineties were known as the decade of the brain. During these ten years, more knowledge was gathered about the brain, and its function, than had been known in all the previous years. Now, in this decade, the focus is on “consciousness” and again the research shows the role the nervous system plays in our ability to be healthy has changed the concepts of health and disease.

Why don’t you know about this? The answer is simple it doesn’t involve the sale of drugs and has created a major dilemma for the medical profession. The medical profession has become so invested in drug based therapy that it is virtually impossible for them to shift to a new understanding.

This is not the case for most researchers as their attitude is the “The truth shall set you free”. Over the last 40 years there has been a group of PhDs working on bio and neuro feedback with fantastic results. These researchers have created a way to objectively measure changes in nervous system function and the resulting effects on people’s health.

When we look at both research groups (the neuroscience and the biofeedback) a completely new understanding of the cause of disease and illness takes shape.

In 1977 Dr. John Knowles, President of the Rockefeller Foundation, wrote in DAEDALUS, (Winter, 1977): *"80% of serious illnesses seem to develop when the individual feels helpless or hopeless" "over 99 percent of us are born healthy and made sick as a result of human misbehavior"*

In 2000 a paper produced by the National Institute of Health (NIH) stated:
“But in the last decade, scientists like Dr. Esther Sternberg, director of the Integrative Neural Immune Program at NIH’s National Institute of Mental Health (NIMH), have been rediscovering the links between the brain and the immune system.”

It has now become obvious that when it comes to disease, in either prevention of, or creation of, the relationship between the nervous system and the immune system is the key factor and not viruses and/or bacteria. The billions or trillions spent on disease research such as cancer has only produced limited results with the primary benefit being early detection.

It is time for this new perspective to become the foundations for not only further research but more importantly patient care! Over the last ten years there has been much talk about the need for evidence based care. This term has become the buzz word in all health professions and has taken on the power of becoming a method of evaluating the quality of patient care. While this is an important concept, what has been missed with evidence based care is the true need of “caused based care”.

Historical Foundation for Care

This begs the question of, “What is Cause?” When we look at traditional approaches in health care we find that they are based on signs and symptoms to form a diagnosis. Once a diagnosis (disease name) has been established then the treatment is applied. This approach is reflected in current medical practice. Patient complaints (symptoms), then various tests (signs)which leads to a drug or procedure indicated as the treatment for this pattern (disease). We have come to accept this as typical practice and over time have become the standard by which all care is measured. This is the foundation of the “evidence based care” mentioned earlier.

What we have is “symptom based care” not “cause” based. As the research continues to produce a greater and greater understanding in the role of the stress response related to the cause of disease, health professions around the world are being forced to revisit their approaches to patient care. We know that today we have research which connects the nervous system with the immune system but this is a relatively new discovery. It wasn’t until the 1980s that medical research finally found these two systems directly connected. Until then their position was that they were two completely different and separate systems. The importance of this point is that until we understood the relationship between the nervous system and the immune system there wasn’t any foundation to establish “cause” beyond signs and symptoms.

The Role of the Nervous system

An anatomy textbook, by Lockhart, Hamilton and Fyfe, describes the nervous system this way: “Even in the smallest community of men the activities of different individuals must be coordinated by some central authority for the common good – nature has solved the same problem by creating a controlling system.” This controlling system (the nervous system) receives information from the environment, both external and internal, sends it to the brain (the central organizing authority) and then the brain sends signals out to the systems of the body to create an appropriate response. We now know that this includes the immune system, whose responsibility it is to protect us from outside influences such as bacteria and viruses. The nervous system has several divisions. It has a sensory division whose job is to relay information into the brain and a motor division which carries action information to the muscles. There is another division which runs automatically and takes care of the subconscious needs such as heart rate, respiratory rate, temperature, skin moisture, muscle tone, digestion, excretion and many other factors. About 84% of brain activity is dedicated to just keeping the body running without us ever being aware of these activities. The immune system depends upon the nervous system information to keep us healthy. As the body is regarded as a closed loop system, meaning that all the systems have an influence on one another; it requires a level of balance or harmony to function correctly. Any factor that upsets the control division will create disturbances in the other systems. This includes the immune response.

The role of the Immune System

The immune system is our “On Guard 24/7” system. It never sleeps and responds to any injury. It doesn’t even have to wait for injury to happen and will even be “kicked” into action to a perceived threat. The nervous system creates special hormones such as adrenalin and cortisol to stimulate the immune and other systems into action. These threats are called “Stressors” and may be as serious as a severe wound all the way down to a perceived (may not be real) threat.
The first level of response to an injury (perceived or real) lies within the nervous system, and the immune response is the first to answer the call. There are several levels of activity effected including: Increases in heart rate, respiration rate, blood pressure, sweat gland activity, muscle

tone, platelet production, decreased hand and feet temperature, and changes in brain wave activity. In fact there are many other factors involved including the release of hormones such as Glucagons (Pancreas stimulating), Glucocorticoids (Steroids), and prolactin (Pituitary - reproduction suppression). The latest research and books being published on the effects of "stressors" and "stress response" clearly explain the connection between neurological function, immune system involvement and health patterns. I recommend "Why Zebras Don't Get Ulcers": an updated guide to stress, stress-related diseases and coping, by Robert M. Sapolsky, ISBN 0-7167-3210-6.

According to researchers at Duke University, because of the stress/inflammation link, stress hormones stimulate the release of inflammatory chemicals by the immune system. This stress response is now the primary factor in arteriole plaque formation - so neurological stress responses plays a much bigger factor in cardiovascular health than diet.

The reason for the plaquing is because of the release of sticky platelets (clotting factor) due to the perception of danger (possible bleed injury) during a stress response. Some very revealing work on this was released in an article titled: "Beyond Cholesterol" - by Judith Mandelbaum-Schmid in Body and Soul, July/August 2004

The Role of Stress Reponses

Stress is a fact of life! Stressors in moderation are, in reality, good for our systems! Even exercise is a stressor and yet without it muscle tone deceases and we lose power and mobility. Gravity helps our bones retain their strength. Our nervous system has developed a variety of responses to stressors that will provide a better ability to survive environmental challenges. These challenges can range from a perceived threat to an outright life threatening event. Even a subconscious concept of a threat will be registered and the neurophysiology will act accordingly. An example if an adult was attacked by a dog as a child and later on in life seeing a dog similar to the one who attacked, the subconscious mind will trigger a stressful fear response. This will happen even though the adult knows they are safe from an attack, the subconscious will remember the danger and there will be changes in the neurophysiology of the body.

Here is the catch – it isn't so much that stressors or the stress response are the culprits here but rather it's your ability to recover from the experience. The ideal goal is for your body to regain a normal balance within your neurological function. Blood pressure must return to ideal, hand temperature warms up, heart rate slows down, and respiration becomes slow and regular. Internally the stress response chemicals such as cortisol and adrenalin return to normal levels. Insulin and blood sugar levels return to normal. If this doesn't happen then we have a problem and systems will start to breakdown as they are not designed to maintain a constant stress response activity level. If the body remains in the stress response state (even if a low level) over time there is a price to be paid. Remember the role of the immune system and it relationship to the nervous system? Prolonged levels of the stress response state shuts down the immune response!

In the past 20 years, the field of psychoneuroimmunology has demonstrated major connections between the stress pathways and the immune system. They are interactive two way connections between the nervous system, the endocrine system and the immune system. These Stress Pathways include: the Hypothalmo-pituitary-medulla (HPA) Axis; the Sympathetic-Adrenal-Medulla (SNS) Axis and the Vagus Nerve (PNS).

These pathways have a direct and powerful effect on the immune system. The immune system has an innate or natural immune response (Genetic patterns) and an adaptive immune response (experienced).

Components of the Innate Immune system:

- Anatomical Barriers (mucous membrane)
- Lymphatic system
- Phagocytosis
- Inflammation (Mast cells)

Natural Killer Cells:

Neutraphils
Monocytes

Molecules:

Complement proteins
Acute phase proteins
Cytokines

The Immune Adaptive Group

The adaptive group involves the formation of immune cells produced by cytokines (interleukins, interferons), called T Helper cells named Th1 and Th2. Maintaining a Balance between Th1 and Th2 is optimal for good immune system function. The critical information about this balance is that in a time of stress there is a shift of cytokines away from the Th1 cells and toward the production of Th2 cells. Th1 cells involve cellular immunity while Th2 cells involve the humoral immunity (Antibody production). The stress response decrease Th1 and increase Th2 production as well as decreasing the production of the innate factors of the immune response.

What this means, is that our stress response recovery patterns are critical in understanding why our immune system is not functioning correctly. A decrease in cellar protection (Th1) leads to the formation of cellular breakdown and mutations (Cancer) while an increase of humoral immunity (Th2) lead to increased sensitivities to chemical agents.

As we now look at our high stress life style we can begin to understand the exponential increase in Cancers, hyper-sensitivities to nuts, other foods or chemicals and the growth of autoimmune system diseases.

The research on the brain and its function continues to reveal a new understanding of the cause of disease and illness.

As we now have an explanation of the role of the brain and the nervous system in relationship to the immune system activity, any brain injury will have serious direct effects on the state of health for the individual. Meisel et al., Nature Rev. Neurosci. 6:775-786, 2005
We tend to view the term “brain injury” as a massive trauma but with the above information we need to rethink the term. Any level of altered brain activity (abnormal pattern) is in fact a brain injury. The only difference is the low level abnormal pattern is covert (unnoticed) in nature but has the same outcome over time. It will interfere with the immune system and create the shift to the right in Cytokine production. When you add the misinformation that the abnormal brain function also is sending to the other body systems, we can begin to see how this new perspective on the cause of disease is rapidly gaining acceptance throughout the health professions.

We are now beginning to see articles and papers on the effects of stress on every aspect of heath concerns. Dentists are talking about the effects of stress on teeth and decay. Prestigious medical schools such as: Stanford, Yale, Harvard, Duke, Johns Hopkins and Northwestern have recently published research that is changing the way in which doctors will treat pain or dysfunction. Chronic

pain and dysfunction are now also seen as disorders of the brain and nerve system, not just the spine, joints or muscles. The research also states that the best treatments are the least invasive, and don't involve surgery, and address both the injured spine, joints, or muscles AND also address the painful or disruptive nerve signals in the brain

Missing the Rug

So now that the rug has been pulled out from under the germ theory as the cause of disease, where does this leave us in the health care field? All you have to do is go online and do a search for “stress and disease” and you will see that this field is ever expanding. The new understanding of the relationship between stress and disease is changing every form of health care. What we need now is a method of stress response measurement. With objective measurements of the neurophysiological response and recovery during and after a stressful experience we will have a great deal of valuable information regarding the state of a patient’s health. The challenge there in, is that we are dealing with a dynamic being always sensing and adapting. This means that any type of static examination such as x-ray, static para-spinal scanning including sEMG and thermal, postural, or even blood testing only presents information on that patient as a moment in time. It is rather like looking at a small part of a Salvador Dali painting and thinking that you have seen the entire picture. (If you have never done this you owe yourself the experience - The Dalí Museum - 1000 Third Street S., St. Petersburg, FL 33701)

Instrumentation such as the NeuroInfiniti ™ now have the ability to offer printed reports the providing cortical activity (EEG) neurophysiological responses to both stressors and recovery. It is now possible to see the abnormal cortical activity and the effect it has on the other base systems on the body before signs and symptoms appear. Heart Rate Variability (HRV) , an analysis program developed by the cardiologists of America and Europe, represents the application of this new approach and has the ability to reveal damaging heart activity even before the abnormal blood chemistries show up.

Knowledge has the power to change the world in which we live. Knowledge has lengthened our life span and reduced the level of sickness and disease. It has provided us with increased comfort and free time. Knowledge continues to create the opportunity to change and grow but is not always welcomed with open arms. This holds true within the health profession and yet we now stand on the greatest breakthrough in the knowledge of the cause of disease in the history of mankind. Many unanswered questions of the past including the great mystery of “spontaneous remission” of serious diseases can now be explained and understood, however, it requires letting go of concepts such as the “Germ theory” on the part of Medicine or the “nerve root compression theory” in Chiropractic.

Letting go of these does not detract from the profession while applying the newly revealed workings that the human body has the power to advance our ability to live healthier and a happier lives.

This information is not only a call to the health professionals to stop and consider the power of this new information on their practice, but it is also to the public, so that they can recognize that they too play a major role in the gathering of new knowledge to guide their health actions. With this in mind I leave you with this Quote.

Innovators are seldom received with joy. For every crossroads of the future there are a thousand self- appointed guardians of the past.

- ***Dr. Allan Beer M.D. Fertility Expert***

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