

Survival and the Immune System

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In order to adapt and survive on a changing planet, every living organism has a primary function to defend itself from potentially harmful exposures. The human species has a highly evolved level of protection systems. The outer barrier of skin protects like a suit of armor from environmental and microbial invasion. Yet through this barrier there are many natural openings allowing material from the outside to enter and waste material from the inside to exit. These natural openings are the mouth, eyes, ears, and nose in the head allowing informational stimulus to enter as well as nutrients, air, and water necessary for the raw materials of life maintenance. There are also waste elimination openings through the anal and urinary pathway. The mouth and nasal passages play dual roles of intake and waste removal. These natural openings are defended by our first line defense system - the mucosal barrier immune system. This highly evolved defense system, aided by cellular immune function, produces massive amounts of secretory immunoglobulins necessary to instantly protect the organism from invasion by harmful elements.

Once the barriers of the skin or the mucosal immune system are breached, the humoral or blood based immune system is called on to protect and defend the organism. At this level of our immune defense systems, many microbial invaders may be so virulent that the ability of the host to adapt and fight might not be adequate. AIDS is a good example as it is well known that exposure at the level of the skin is not harmful. In fact the AIDS virus can be quite easily killed on the surface. Even exposure at the mucosal barrier level for most is not harmful, such as kissing or breathing in the virus. This is because the mucosal barrier system is so efficient at protection and defense that the AIDS virus will be killed. Yet if the AIDS virus breaches the barriers of the skin, or the mucosal systems, as in a needle exposure, the results can be deadly.

This demonstrates the vital importance of our first line of defense from our mucosal barrier immune system. With the threat of anthrax and bioterrorism, our mucosal barrier system is the single most important protection mechanism society has to defend itself and survive exposure. In a room of over one hundred postal workers exposed to Anthrax only a small percentage showed signs of the disease, and two died. The mucosal barrier immune system protected most, not antibiotics. The mouth, nose, and respiratory passages are the largest entry points for potential exposure. Of these the mouth is the largest through which all the food, water, much of the air, and environmental elements pass. At this stage of life on this planet it is vital that we do all that we can to protect, preserve, and increase the effectiveness of this mucosal barrier immune system. Yet it is also vital to know at what level of health this immune barrier is functioning. What is needed is an effective screen to assess the status of the mucosal barrier - to see who is at risk and who is not before a life threatening exposure occurs. Such tests are now available.

Through a mucosal barrier function test and an oral infection and immunity screen, a simple and cost effective way to assess the integrity and potential problems with the mucosal immune barrier could be provided. Through a single sample of saliva, an immunological assessment of barrier function is performed which can quantify the strength of our primary defense barrier and direct the logical sequence for further testing.

These tests can be easily performed by the patient under the direction of their doctor, dentist, or other health practitioner. Every patient concerned about their health should perform these tests as a starting point for health assessment. This mucosal immune barrier system is of such critical importance to the survival of the human organism that it may be a common link to nearly every illness or degenerative disease process. Anything that affects or harms this barrier could have a profound impact on a patient's health or ability to heal and recover from disease.

There are three major areas that greatly impact this mucosal barrier system.

- Probably the most important is the psycho-emotional stress that is placed on the patient.
- The gastrointestinal system heavily regulates the uptake and transport of antigens, distribution of immunoglobulins, and helps modulate and control the system through hormonally directed pathways.
- Mouth and dental interventions: Unfortunately, current dental practice does not address the importance of this mucosal barrier system. In fact many dental techniques, treatments, and materials frequently harm or place chronic stress on this system. In order for a dentist or hygienist to preserve and protect this barrier and do no harm, it is imperative that the status of this system be known.

It is for these reasons that we believe that the utilization of these tests is imperative to assess and protect our patient's health. Until the status of the mucosal barrier immune system is known, many therapies may not be effective. In addition beginning any invasive treatment procedures, especially dental, without first assessing this system may actually produce harm. The addition of these tests as an early screen for disease potential is absolutely vital for a comprehensive health program.

Weakened Mucosal Immunity Increases Your Chances for All Disease

- Special immune cells called immunocytes produce secretory immunoglobulin A (sIgA), an important antibody that attacks pathogens and foreign organisms that come in contact with the mucosal barrier.
- Our hormones direct the production of sIgA, which is a vital part of the healthy mucous that coats the cavities of the body for our first line immune defense.
- SigA attacks invading, infectious organisms such as parasites, harmful bacteria like Anthrax, unfriendly yeast, fungi, and viruses, making it an essential part of the physical barrier of defense in the linings of the body.
- Mental and emotional stress stimulates our sympathetic nervous system, creating the fight or flight response. Chronic overstimulation of the sympathetic nervous system can lead to an overload on the body resulting in suppressed immunity and hormone exhaustion.
- During suppressed immunity caused by response to stress, output of sIgA is reduced. Saliva is decreased, dry mouth occurs during stress, and all mucous secretions are diminished. Therefore your total immune defense suffers and cannot adequately protect the body. You become prey to pathogens and disease.

Compromised immunity can expose us to many pathogens and disease. A weakened immunity also accelerates chronic degenerative disease and early aging.