Proceeding of the NAVC
North American Veterinary Conference
Jan. 8-12, 2005, Orlando, Florida

Reprinted in the IVIS website with the permission of the NAVC
http://www.ivis.org/
Leaky Gut occurs due to disruption of the tight junctions of the gastrointestinal epithelium. This disruption, in turn, then adds stressors to the liver in the form of added homotoxins, as the liver is the next organ in line, once the mucosal barrier has been breached. Toxins not removed by the MALT (mucosal associated lymphoid tissue) force the liver to increase the Phase 1 mixed function oxidases, and deplete critical cofactors such as iron, zinc, copper, manganese and B-vitamins. Phase 2 sulfur containing amino acids e.g. cysteine, glycine, and glutathione, are not regenerated during detoxification, and are thereby depleted as well, leaving the body with an excess of oxygen-derived free radicals. This leads the way for an increase in destructive substances, such as acetaldehyde, which may be shunted into the circulation. Because of the lipophilic nature of the brain, it becomes a major target for these by-products, and fatigue and cognitive dysfunction may result. Destruction of tissue proteins and membranes leads to potential hyper- and auto-aggressive immune states. By logical extension, then, you could relate asthma, allergies, sinusitis, eczema, et.al. to this phenomena.

Intestinal Dysbiosis - an alteration in the normal gut microflora, which also serve to maintain the gut integrity. This phenomenon has been implicated in such diverse conditions as Crohn’s Disease, spondylarthropathies, and Rheumatoid Arthritis. To summarize leaky gut manifestations:

- Allergy and Inflammation
- Malnutrition
- Bacterial Dysbiosis
- Hepatic Overload

A brief consideration must be given to delayed Healing with NON-STEROIDALS

Many studies have shown that although the pain relief may be dramatic, there is significant decrease in healing capacity. A few references to support this:

In terms of physiology, the mesenchyme alternates between gelation and liquefaction, occurring in the normal course of the acid-base tide. During acid phase, in inflammation, there is activation of hyaluronidase, which dissolves the basal ground substance. It is also supplied by bacteria which helps to liquefy the ground substance. This functional clearing allows for the exchange of substances which clear the terrain of toxins. The acid valences are provided by the gastric mucous membranes. Sodium bicarb enters the blood stream and then the liver, then the tissues, and creates an alkaline tide, with its parasympathetic effects causing the characteristic post prandial lethargy and inactivity. Two to three hours after meals, the HCL absorbed later with the food mass, elicits an acid phase by transferring acid to the connective tissue. In this phase, the collagenic fibers bind acids.

Normally, once local intoxication increases beyond a setpoint, hormonal feedback occurs. Increased local defense calls in STH and ACTH from the hypothalamus. STH increases the local response. Increased acidity will damage the connective tissue. ACTH transported via the blood stimulates the suprarenal cortex, resulting in the release of desoxycurtonine that further stimulates inflammation, and cortisol which inhibits local inflammation, and by biofeedback, restrains the release of ACTH. This is a self-regulating system. The therapy with synthetic corticoids retards the bioregulation by normal desoxycurtosinone, and if used long term, reduces the body response from the adrenal cortex, resulting in atrophy. If the number of local toxins becomes too great, the connective tissue responds with an inflammatory response, in order to purify the ground substance. This has been referred to as “mesenchymal rebellion.” The basal membrane is liquefied, or digested.

Unfortunately, the picture is even more dismal with steroidal therapeutics. Side effects in humans include:
- Osteoporosis
- Cushing’s Syndrome
- Diabetes mellitus
- Glaucoma, et.al. For example, Prolonged therapy with as little as 5 mg of Prednisolone per day, is associated with a 50% risk of fractures of the neck of the femur, and a 5X greater incidence of vertebral body fractures!

In diseases of the mesencyme, the collagenic fibers fail to bind acids, which results in overall tissue hyperacidity. In inflammatory states, the normal diurnal rhythm of acid-base is disrupted, and there may be a permanent acid residual in the matrix. If there is interference with the normal bacterial and tissue release of hyaluronidase - e.g. due to sympathicolytics, antipyretics, antibiotics or sulfas, etc., then the body does not reach the rebuilding seen in the alkaline phase. Moreover, the medications may result in the formation of free radicals or wild polypeptides, which constitute a further source of toxins, and the body may find itself with another source of highly antigenic compounds. The antibodies that are stimulated may then may begin autoaggressive activity, as the peptides are deposited in the connective tissue - which we might see as nephrotic syndromes, e.g. post-infectious albuminuria, hepatic damage, myocardial disease, and latent tissue hyperacidity, amongst others.

Bystander Reaction

![Diagram of Bystander Reaction](image-url)
Homotoxicology seeks to regulate inflammatory responses by augmenting the healing phases of the inflammation cycle. We could view this process as a wave form, with alternating cycles of inflammation followed by a reverse trough of healing, then another peak of inflammation at a lower crest, and a correspondingly smaller healing phase. In this manner, like a wave coming in to shore, the body follows an ebb and flow of repair. In the active inflamed phase, we see increased acidity, an influx of fluids, an abundance of proinflammatory chemicals, and correspondingly - generation of heat, redness, pain and swelling, and loss of function. In the case of an allergic inflammatory phase, for example, in hay fever, pollen triggers the degranulation of the mast cell, releasing histamin and heparin, which causes vasodilation and permeability of the vascular wall, along with dilution of the blood, and thereby results in swelling and increased fluid secretion as the body attempts to liquefy and eliminate the invading antigens. Both local and central control mechanisms come to play in the body's attempt to regulate this cycle of activity and promote the reparatory processes. In this regard, we must look upon the process of inflammation as a correct, though admittedly uncomfortable, physiological response. It is important that we recognize it as such, and attempt to moderate the response, not to interfere with it completely or we run the risk of entrapping the viruses, toxins, allergens, etc, that will then remain to litter the matrix and cause further damage in the future. It is best to approach this response system from the causal aspect, so as to aid the body in elimination of the causative factors.

Toward this end, a practitioner may utilize the combination remedies developed by Dr. Reckeweg, and studied intensively for over 6 decades. These remedies were specifically designed to follow the progress of a typical pattern of disease, for example, in Tonsillitis: Belladonna in the early stages, then often Ferrum and or Hepar sulfuris, combined with drainage formulas and perhaps a remedy like Arnica that improves the blood flow. These combinations were designed to complement one another in commonly encountered clinical cases, and simplify the diagnostics and prescribing.

MODE OF ACTION OF HOMOTOXICOLOGICAL MEDICINE

Immunological bystander reaction: Low and middle potency dilutions (D1-D14) work well as anti-inflammatory, as they activate regulatory lymphocytes. The potentized substances of plant or animal substances have a stimulant effect on the ground regulation system, (so long as there is no “regulation rigidity” which is a failure of the system to respond to stimulus), when these are administered either orally or by injection, and they come into contact with patrolling macrophages/monocytes or lymphocytes patrolling the mucosal epithelia. After phagocytosis, the macrophages return an amino acid motif to the cell surface which are bound to the Histo compatibility complex as antigens. These, in turn, attract undifferentiated lymphocytes (T0) cells, thereby changing them into Th3 regulatory lymphocytes. These Th3 home in to the nearest lymph node, where they clone, and are released back into circulation. In dysregulatory areas/inflammation regions, the Th3 cells are chemotactically attracted by complement factors, chemokines, etc. Depending on their motives, they can recognize inflammatory lymphocytes (T4 and subpopulations Th1 and Th2s). The Th3 cells then secrete anti-inflammatory cytokines, TGF-b tissue growth factor beta) and to a lesser degree Interleukin 4 and 10. TGF-b is the most potent anti-inflammatory cytokine in the body. The T4 cells are suppressed along with its helper cells, and the Th2 stimulates its own inactivation by increasing secretion of IL 4 and 10. Simultaneously the B-lymphocytes are stimulated to synthesize immunoglobulins.

A few salient points (borrowed rather freely from the Biotherapeutic Index or “Orange Bible”):

- it is not necessary to know the specific antigen in order to treat an illness of specific organ, as similarity is sufficient
- an adequate combination of low dose antigens must exist (D1-D14) to attain a corresponding bystander reaction
- a circulating antigen blood level need not be provable individual differences occur in the reaction to various epitopes of the regulatory lymphocytes
- the bystander reaction can obviously also be triggered regardless of the method of application
- the bystander reaction regulates dysfunctions and does not block them
- a function cycle of anti-homotoxic therapy exists, which acts in a regulatory manner in the ground system.

Recent support for the concept of the Immunological Bystander reaction has been contributed by a study on its usefulness in Rheumatoid arthritis. Oral administration of a low dose antigen associated with inflamed tissue (collagen), proved that regulatory inhibition of inflammation can be achieved. The study was done by Weiner, H.L, et. Al, and reported in the Ann New York Acad Sci 1996. I recently ran across a study which nicely illustrates the incredible importance of the ground substance, The Hayward Study on Vaccinations:

Quote: “The vaccinated group developed significant levels of autoantibodies against: fibronectin, laminin, DNA, albumin, Cytochrome C, transferrin, cardioliipin, collagen. The responses varied among individual animals, probably reflecting genetic differences. The clinical significance of those autoantibodies remains to be determined, but speculation must be that something in the vaccines is one of the etiologies (in the genetically susceptible dog) of such diseases as Cardiomyopathy, Lupus Erythematosus, Glomerulonephritis, etc.” Recognize any of these components? It is virtually a “who’s who” of the matrix. From just the most cursory exam of the basic components of the ground substance, we can deduce that this autoaggressive activity of the immune system is creating chaos in the matrix, leading to what is rather imaginatively described as “mesenchymal rebellion,” or an overt inflammatory response. Fibromyalgia is an example from the human pathological patterns, that can illustrate the issue of toxin trapping, as the “trash” can be seen on electron microscopy trapped in the matrix. We have been so oblivious to the role of the mesenchyme in health and disease that we don’t really have a name to put on the pathology. Perhaps we need one-mesenchymitis or -osis? In the same vein, we fail to recognize the critical role the matrix plays in so many of our forefront chronic medical maladies- high cholesterol, hypertension, diabetes, and a myriad of others, great and small. What affects the matrix, affects the body overall, and the “gel between the cells” than takes on greater import, as we analyze its myriad functions.
We have the possibility of affecting these chronic diseases, whether environmentally induced, due to autointoxication, or iatrogenic, with remedies that affect the mobilization and disbursement of such poisons. For this reason alone, it is well worth a concerted study of the bio-effects of homotoxicology. At a time in history where fully 1/3 of human patients have sought alternative therapeutics, according to a report in the New England Journal of Medicine, Jan. 28, 1993, entitled “Unconventional Medicine in the United States” by Eisenberg, et.al., it behooves us as practitioners, to keep our fingers on the pulse of our clients, so that we can more effectively partner with owners on the care of their pets. As more of them seek out other answers, we as practitioners would prefer to remain their best resource for care. I invite you to look at this very valuable resource for guiding the regulatory mechanisms back toward homeostasis.

REFERENCES/SUGGESTED READING
1. Beyond Antibiotics Schmidt, Smith, Sehnert
2. Homotoxicology and Ground Substance Regulation, Hartmut Heine
3. The Fundamentals of Homotoxicology, Gabriele Herzberger
4. Inflammation Means Healing, Bruno Van Brandt
5. The Emerging Science of Homeopathy, Signorini and Bellavite
6. The Practitioners’ Handbook of Homotoxicology
7. Biotherapeutic Index (Available from Heel/BHI)

Other Resources/References available from the author.

RESOURCES
- Heel-BHI 11600 Cochiti SE Albuquerque, NM 87123 1-800-621-7644 www.HeelUSA.com
- DR. RECKEWEG AMERICA INC. 132 Lindsay Avenue, Dorval, QC, Canada H9P2T8, ph 1-800-361-7872 www.reckeweg.com
- U.S. distributor: Progressive Laboratories, Inc. 1701 W. Walnut Hill Lane Irving, TX 75038-7962, ph 1-800-527-9512 www.progressivelabs.com