CENTER FOR NUTRITIONAL RESEARCH
VITAL HEALTH NEWS

Bovine Colostrum & Allergies

Managing the Immune Response

Douglas A. Wyatt, Director of Research
Center for Nutritional Research
www.centerfornutritionalresearch.org

What are allergies?

Allergies are considered to be an autoimmune condition because they are caused by an over¬reaction of the immune system, whereby the body produces too many antibodies to neutralize an antigen. In individuals with allergies, their immune system mistakenly identifies a normally harmless substance as a threat. It subsequently releases histamine, a chemical to attack the substance. Histamine produces many of the symptoms associated with allergies.

With seasonal allergies, an individual has a hypersensitive immune response to environmental antigens such as ragweed, grasses or trees, triggering the release of histamine which results in the bothersome allergic symptoms of sneezing, wheezing, nasal congestion, eye irritation, inflammation and hives or other skin irritations. A food allergy is a similar immune system response that can affect the skin (i.e., eczema and hives), respiratory system (i.e. asthma and mucus production), gastrointestinal system (i.e. cramps, bloating and gas), or cardiovascular system. Often an individual does not attribute these bothersome symptoms to a specific food.

Are holes in your gut causing your allergies?

Do you regularly drink soda pop, coffee or alcoholic beverages? Or have you taken an oral antibiotic, pain reliever (i.e. aspirin or ibuprofen), prescription pain medications (i.e. opiates), birth control pills or corticosteroids recently? If you answered 'yes' to any of these, you are promoting a serious health condition called Leaky Gut Syndrome (LGS). Studies reveal that LGS, which most people have to some extent, is a primary cause for developing allergies, along with many more serious health conditions or diseases.

Before you think "Oh, I don't have that," consider how very common LGS is.

Approximately 70-80% of the population has it. LGS, also known as intestinal permeability, is a condition in which the intestinal lining is more permeable than normal. The small intestines develop larger than normal "holes" (which are still on the microscopic level, by the way) which allow allergens, undigested food particles, and infectious pathogens to easily enter the body via the bloodstream.

"The leaky gut can cause food allergy, and food allergy can cause the leaky gut," says Dr. Sherry Rogers, MD., in her book Wellness Against All Odds. The relationship between food sensitivities and the leaky gut is both complex and circular. According to Dr. Leo Galland, M.D., intestinal permeability sharply increases following exposure to allergenic foods. The release of atopic mediators (such as histamine and serotonin) from the mast cells is responsible for the increase in permeability.[1]

"Colostrum is the ideal solution for Leaky Gut Syndrome," states highly-respected gastroenterologist, Dr. Donald Henderson.[2] "Because colostrum reaches the gut while its components are still viable, its immunoglobulins and other factors can attack the offending pathogens in the intestines and prevent them from causing damage. The growth factors have anti-inflammatory action and also help repair damaged cells in the lining, decreasing cellular spacing, and thus preventing further leakage." Researchers have shown that colostrum contains not only antibodies and viable leukocytes, but also many other substances that can interfere with bacterial colonization and prevent antigen penetration in the gastrointestinal tract.[3]

Colostrum to the Rescue

Mother Nature provides colostrum for the newborn to prepare a healthy intestinal environment; after the newborn receives the necessary immune factors, other components in colostrum reduce the intestinal permeability to protect against allergens and pathogens from gaining access to the body. Regardless of whether one's allergies make one vulnerable for LGS, or whether LGS is causing one's allergies, there is no better time than the present to begin the healing process with a combination of colostrum and better lifestyle and nutritional choices, primarily avoiding substances that promote LGS.

Research also shows how specific components within colostrum may benefit individuals with allergies. Colostral components are important in the process of cell-mediated immunity. Allergies occur when one is hypersensitive to potential allergens in one's everyday surroundings, either the physical environment or food sources; colostrum passively transfers components to delay and reduce hypersensitivity.[4] Colostrum contains proline-rich polypeptides (PRPs), also known as colostrinin, which is a powerful immune modulator that can help tone down the overactive immune response associated with allergies. Colostrum also contains a variety of antibodies directed against allergens that commonly affect humans. The female cow builds up antibodies to these allergens, which are then expressed in her colostrum shortly after giving birth to a calf. An individual supplementing with colostrum, in turn, receives the benefit of a minimized allergic response when coming in contact with the allergen itself.

In an effort to improve symptoms naturally, many allergy and asthma sufferers are medicating their symptoms with herbal supplements. This is cause for concern, as some people have allergies to inhalants such as grasses and weeds, the very same substances that their herbal remedy is providing them. For example, the popular herbal supplement Echinacea comes from a plant that is closely related to ragweed, a common allergy trigger. Also, there can be mold spores in the herbs that could seriously affect people with certain allergies. Thus,

colostrum provides the safest and most effective natural remedy for allergies and allergic asthma.

PRPs: The power to kick allergies

Proline-rich polypeptide (PRPs) from colostrum function as a regulatory substance of the thymus gland. It has been shown to eliminate or improve the symptoms of allergies, as well as other autoimmune conditions such as multiple sclerosis, rheumatoid arthritis, and lupus.[5]

PRPs have the ability to regulate the activity of the immune system. This means that they can activate an underactive immune system, helping it move into action against disease-causing organisms, such as bacteria and viruses. This also means that it can suppress an overactive immune system, as with allergies and all other hyper-immune disorders, thereby preventing it from reacting to otherwise harmless substances. Scientists believe that PRPs' ability to regulate the immune system is due in part to its ability to inhibit the overproduction of lymphocytes and T-cells. PRPs aid in stimulating the production of helper T-cells and suppressor T-cells. Various studies also identify some PRPs as highly anti-inflammatory.[6]

PRPs are one of the most powerful components found naturally in colostrum, making it the safest and most logical natural component to fight off allergy symptoms. Oral sprays containing concentrated PRPs are ideal for daily supplementation because research shows that PRPs are best absorbed in the back of the throat. Physicians recommend IRM® (Immune Response Modulator) to assist patients experiencing allergies and chronic inflammation.

Antibodies & Immunoglobulins:

As previously stated, bovine colostrum contains antibodies directed against allergens that commonly affect humans. Researchers at the Royal Children's Hospital in Melbourne, Australia determined that bovine milk and colostrum contains antibodies directed against ryegrass pollen, house dust mites, Aspergillus mold and wheat proteins, which are common allergens to humans.[7] Numerous other antibodies are present in colostrum which cross-react with allergens of importance to humans, as well as antibodies against pathogenic invaders, such as E. coli, Candida, H. pylori, salmonella and others.

The IgE (immunoglobulin) found in colostrum is thought to be responsible for regulating the allergic response.[8] It is believed that the IgE inhibits the allergic response by limiting the histamine response.

Natural Delivery System

A natural delivery system provided by the mammary gland to ensure that colostrum reaches the newborn's stomach and small intestine is absolutely critical. When the mammary cells secrete colostrum, they do so by "apocrine secretion". This means that colostrum is collected in a globule within the mammary cell which is surrounded by a protective cell membrane. When the globule is released into the mammary duct, the cell membrane remains intact; thereby protecting colostrum's healing components until they reach the small intestine where they can be absorbed by the body.

Commercially dried and defatted colostrum supplements lose this protective membrane, leading to the degradation of colostral proteins in the stomach. This renders the colostrum no more effective than powdered milk. In other words, bovine colostrum for human consumption is essentially worthless if the active components have been destroyed during processing. The quality and thus, effectiveness of colostrum depends on four factors, including the colostrum source, processing methods, testing and verification of active components, and Liposomal Enhanced Delivery (LD).[9] LD protects the active components and makes them up to 1,500% more bioavailable and effective. This delivery system helps to ensure that the gastrointestinal tract receives the immune and healing components necessary to fight off LGS and protect against allergies.[10]

Physicians who recommend colostrum supplements to their patients choose a high quality, efficacious product, such as Colostrum-LD®. Here's why:

- Colostrum-LD® is obtained from pasture-fed dairy cows that are certified to be healthy, BST, BSE, and antibiotic-free.
- Colostrum-LD® is flash pasteurized and dried with low heat, as opposed to the high heat of milk pasteurization, which preserves rather than destroys any of the bioactivity.
- Every batch of Colostrum-LD® is tested for quality, efficacy and safety in an FDA licensed facility.
- Liposomal Enhanced Delivery (microcoating of every colostrum particle) is applied to ensure that Colostrum-LD® will bypass digestion and the healing components will remain bioavailable at the cellular level.

Conclusion

With more than 280 identified immune and growth components in bovine colostrum, it is no wonder that supplementing with colostrum helps the immune system maintain a healthy balance. Not only do the PRPs indirectly help by regulating the immune system, the antibodies directly fight human allergens. This is great news for individuals who suffer with seasonal and food allergies.

REFERENCES

1. Galland, L. Leaky Gut Syndromes: Breaking the Vicious Cycles. T*ownsend Letter for Doctors*, 62. 1995 Aug/Sept.
2. Henderson, D. Colostrum: Nature's Healing Miracle. CNR Publications, Sedona, AZ. 2000.
3. Walker, WA. Pathophysiology of intestinal uptake and absorption of antigens in food allergy. *Ann Allergy*. 1987 Nov;59(5 Pt 2):7-16.
4. Radosevich JK, et al. Delayed-type hypersensitivity responses induced by bovine colostral components. *Am J Vet Re*s. 1985 Apr;46(4):875-8.
5. Rona, ZP. Bovine colostrum emerges as immunity modulator. *American Journal of Natural Medicin*e. 1998 March.
6. Starościk K, et al. Immunologically active nonapeptide fragment of a proline-rich polypeptide from ovine colostrum: amino acid sequence and immunoregulatory properties. *Molecular Immunology*.Dec;20(12):1277-82.
7. Collins AM, et al. Bovine milk, including pasteurised milk, contains antibodies directed against allergens of clinical importance to man. *Int Arch Allergy Appllmmunol*.1991;96(4):362-7.
8. Milgrom, H. Attainments in atopy: special aspects of allergy and IgE. *Advances in Pediatrics*. 2002;49:273-97.
9. Chrai SS, et al. Liposomes (a Review) Part Two: Drug Delivery Systems. *BioPharm*. 2002 Jan:40-43.
10. Milne, RD. Liposomal Encapsulation Technology: Proven Nanochemistry that can make health and longevity supplements many times more efficient and effective. Life Fountain Books, Henderson, NV 2004.