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What may be lurking at the root of psoriasis?

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Psoriasis is an inflammatory skin condition that is characterized by itchy, scaly skin plaques. The exact cause of psoriasis is unknown; however, more and more evidence suggests that the immune system can be a culprit when it is chronically stimulated, causing an overproduction of cytokines, which maintains an inflammatory environment.

According to a new study published in the journal *International Immunology*, researchers have discovered more evidence that a cytokine called IL-17A is especially critical in the pathogenesis of psoriasis.

In this study, researchers cultured normal keratinocytes with a mixture of six different cytokines known to be involved in psoriasis and, as a result, found that this caused the expression of psoriasis-related genes. The research team identified a group of psoriasis-related genes in keratinocytes that are regulated by IL-17A. One of these genes in particular, called NFKBIZ, was found to have a significant role in the IL-17A pathway. This gene encodes a protein that plays a well-known role in regulating the body's immune response to infection.

What appears to happen with most autoimmune conditions is that there are multiple triggers chronically stimulating the immune system over a long period of time in multiple ways. As a result, the immune system goes into an overloaded, overwhelmed state and loses its ability to function.

If we know what causes the immune system to attack itself and we know some of the triggers that cause a malfunction in the immune system, we can then strive to successfully treat these conditions.

There are various autoimmune diseases within all specialties, and all of these are looked at differently. Nevertheless, they all have the same common triggers. Therefore, we can take a similar approach in working with all autoimmune conditions.

Nutrients to Consider

There are only a few natural products that have demonstrated such a wide range of protective properties as those containing curcumin. This powerful component of the Indian spice turmeric provides anti-inflammatory properties and antioxidant effects that modulate cytokine and chemokine production, and as a result balances the Th-1 and Th-2 T helper cells further downstream.

Glucosamine is a derivative of glucose which can be converted in cells to N-acetyl glucosamine (GlcNAc). This novel form of glucosamine has demonstrated that it acts as an immunosuppressive agent through a variety of mechanisms. Glucosamine can suppress the activation of T-cells and dendritic cells, both being critically involved in the immune response. In one study, when GlcNAc was used in children with chronic inflammatory bowel disease, biopsies revealed histological improvements as well as restoration of the epithelial barrier (i.e., repairing leaky gut).

ParActin® is a branded botanical that has very unique immune-modulating properties. It is a standardized, special extract of *Andrographis*. In low doses (25-30mg) it actually acts as an immune stimulant, but at higher doses (150-500mg) it activates the peroxisome proliferator activated receptor gamma (PPAR γ) nuclear receptor. When activated, it stimulates the expression of genes involved in energy homeostasis as well as key regulators of the immune and inflammatory responses.

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Reference:

Muromoto R, Hirao T, Tawa K, Hirashima K, Kon S, Kitai Y, Matsuda T. IL-17A plays a central role in the expression of psoriasis signature genes through the induction of I κ B- ζ in keratinocytes. *International Immunology*. March 3, 2016.

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