

## **Autoimmune Disorders: An Ayurvedic Perspective**

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### **ABSTRACT**

*Autoimmune diseases are some of the leading causes of death among young and middle-aged people in the world. An autoimmune disease occurs when our over active immune system mistakenly attacks our body. 80% of individuals with autoimmune disorders are women. Females are more prone to autoimmune until menopause (~age 45-50). A systemic autoimmune disease is still not very clear. It is now considered that genetic factors, infection, endocrines and environmental exposure are involved in the pathogenesis of these diseases. This higher prevalence is partly attributable to the X-chromosome, which has many genes relating to the immune system such as CD40LG, CXCR, OGT, FOXP3, TLR7, TLR8, IL<sub>2</sub>RG, BTK and IL<sub>9</sub>R. Common autoimmune disorders include rheumatoid arthritis, systemic lupus, celiac sprue, vitiligo, scleroderma, IBS, Hashimoto's, Sjögren's, Graves, Type 1 diabetes, pernicious anemia, and others. There is more than 80% different kind of diseases caused by autoimmunity. An Ayurvedic analysis of autoimmune and metabolic disorders reveals compromised tissue metabolism. Doshas in their imbalanced states disturb the digestive fire, leading to tissue metabolism turbulence, and subsequently, to various types of autoimmune disorders. Ayurveda restores the innate intelligence of the body and awareness for healing. Ayurveda observes disease manifestation differently from person to person. When Prana (vital life force), Tejas (vital energy), and Ojas (vital immunity) are disturbed, this leads to autoimmune and metabolic imbalances. Ayurveda adopts various methods of healing the body, mind and spirit through natural herbal supplements, dietary guidelines, lifestyle management, Yoga Asanas, Pranayama, meditation, natural physiological detoxification and purification (Panchakarma), and rejuvenation (Rasayana) therapies.*

**Keywords:** - Autoimmune, IBS, Rasayana, Pranayama.

### **INTRODUCTION**

An autoimmune disease is a condition in which immune system mistakenly attacks healthy cell, tissues and organs in our body. The immune system normally guards against germs like bacteria and viruses. When it senses these foreign invaders, it sends out an army of fighter cells to attack them. It does by releasing a group of proteins called antibodies that destroy harmful microbes that invade the body. These proteins can recognize and distinguish between our normal cells and

those of harmful germs. Autoimmune diseases occur when the body is working hard to defend against potentially hazardous substances bodies, such as allergens, toxins, infections or food, but does not see the difference between the invaders and own body cells. Because certain body cells for harmful looked, antibodies are sent on off. Autoimmunity may be seen in normal individuals and in higher frequency in normal older people. Auto reactivity may develop during various infectious conditions. The

mechanism of pathogenesis of systemic autoimmune diseases is still not very clear. Autoimmune comprises multiple disorders and symptoms ranging from organ-specific to systemic. It is now considered that genetic factors, infection, endocrines, and environmental exposure are involved in the pathogenesis of these diseases.

**ऊष्मणोऽल्पबलत्वेन धातुमाद्यमपाचितम् |**

**दुष्टमामाशयगतं रसमामं प्रचक्षते ||**

(अ. ह. सू. 13/25)

*Ayurveda* suggests that the immune system attacks the body's own cells do not accidentally, but it does to defend against a form of harmful metabolites body called 'Ama' in *Ayurvedic* term. The digestive system plays the most important metabolic function of the body, and is the basis for all other macro- and micro-metabolic processes that convert and breaking down all organic substances regulate. Weak digestion leads to the accumulation of incompletely processed metabolites coarser level. This in turn has an impact on all metabolic processes, allowing the production of *Ama* [1]. *Ama* is produced in the tissues that are attacked. There are several reasons for the emergence of *Ama*. Autoimmune diseases are usually caused by large amounts of *Ama* penetrate certain body tissues or physiological systems. In addition, prolonged exposure to poorly digestible food, pollutants, allergenic, toxic stiffen, synthetic chemicals and drugs is another cause of autoimmune diseases. The pathology *Ama*-homogenized with body tissue and cannot be easily separated from the host cells. Powerful extraction of *Ama* can cause serious damage to vital cellular tissue. Aggravations of All the *dosha* can occur when a person consumes food during indigestion, unwholesome habits and activities can lead to the formation of the toxic materials. Depending on the severity of the toxins

can directly impact the tissues causing the process of the autoimmunity or the toxins can aggravate the *Dosha's* which intern disturbs the tissues and immunity causing the process of autoimmunity. Due to repeated consumption of unwholesome or incompatible food habits leads to the alteration in the tissues. The altered tissue in the body considers itself as an antigens and an altered immune response takes place leading to autoimmunity.

## **ETIOLOGY [2]**

The causes of autoimmune disease are largely unknown. But that interplay of genetic and environmental factors may contribute to this phenomenon.

### **1. Genetic Factors**

- Genetic links have occurred between diseases and HLA antigens.
- Women are more susceptible to autoimmune diseases than men, typically beginning during a woman's reproductive age. The female reproductive hormones – estrogen and progesterone – may play a role in autoimmunity.

### **2. Environmental Factors**

- Infectious agents including certain viruses and bacteria can trigger an auto-immune reaction by our immune systems.
- Solvents, which are found in several industrial products including paints, nail polish, and cleaning agents.
- Excessive exposure to ultraviolet radiation from the sun.
- Heavy metals such as mercury eat contaminated fish.
- Exposure to industrial materials, also, such as silica and asbestos.
- Tobacco smoke
- Food is also a major culprit.

The average “Western diet” comprising high-fat, high-sugar, and processed foods,

is also thought to be a risk factor for dysfunctional immune response.

The following factors, alone or in combination with each other, may contribute to the development of autoimmune diseases.

रोगाः सर्वेऽपि मन्देग्नौ सुतरामुदराणि तु |  
अजीर्णान्मलिनैश्चान्नेर्जायन्ते मलसञ्चयात्  
|| (अ. ह. नि. 12/1) [3]

**A. Underlying reasons which cause Ama are responsible for penetration of deep tissues.**

- Weak digestion
- Vitiating of Dosha
- Accumulation of metabolic waste

**B. Prolonged exposure to incompatible materials**

- Food: unwholesome food or combination of food
- Addictions: Alcohol, nicotine, drugs etc.
- Excessive use of medicine
- Sedentary life style

**C. Psychological Disturbance [4]**

मात्रयाऽप्यभ्यवहृतं पथ्यं चान्नं न जीर्यति |  
चिन्ताशोकभयक्रोधदुःखशय्याप्रजागरैः ||  
(च. वि. 2/9)

If a person take wholesome diet which can be triggered due to psychological factors like worry, mourning, fear, anger, sadness, bed awakening, day sleep etc and went to indigestion.

**PATHOGENESIS**

Manifestations of autoimmunity are found in a large number of pathologic conditions. The relationship of autoimmunity to the development of autoimmune disease may relate to the fine specificity of the

antibodies or T cell or their specific effector capabilities.

In many circumstances, a mechanistic understanding of the pathogenic potential of auto antibodies has not been established. In some autoimmune diseases, biased production of cytokines by helper T (T<sub>H</sub>) cells may play a role in pathogenesis. In this regard T cells can differentiate into specialized effector cell that predominantly produce interferon  $\gamma$  (T<sub>H</sub>1) or IL-4 (T<sub>H</sub>2). The former facilitate macrophage activation and classic cell-mediated immunity, whereas the latter are thought to have regulatory functions and are involved in the resolution of normal immune responses and also the development of responses to a variety of parasites. In a number of autoimmune diseases, such as rheumatoid arthritis, multiple sclerosis, type 1 diabetes mellitus, Crohn's disease, Vitiligo, pernicious anemia, myasthenia gravis, multiple sclerosis, Guillain-berre Syndrome, Good posture's syndrome, Systemic lupus Erythematosus, Hashimoto's Thyroiditis [5].

आमाशयस्थः कायाग्ने दौर्बल्यादविपाचितः |  
आद्य आहरधातुर्यः स आम इति कीर्तितः ||  
(मधुकोष) [7]

*Ayurveda* suggests that the immune system attacks the body's own cells do not accidentally, but it does to defend against a form of harmful metabolites body is called 'Ama'. The digestive system plays the most important metabolic function of the body, and is the basis for all other macro- and micro-metabolic processes that convert and breaking down all organic substances regulate. Weak digestion leads to the accumulation of incompletely processed metabolites coarser level. This in turn has an impact on all metabolic processes, allowing the production of *Ama*. *Ama* is produced in the tissues that are

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### **Common Sign & Symptoms of Autoimmune Disease**

The early symptoms of many autoimmune diseases are very similar, such as:

- 1) fatigue
- 2) achy muscles
- 3) swelling and redness
- 4) low-grade fever
- 5) trouble concentrating
- 6) numbness and tingling in the hands and feet
- 7) hair loss
- 8) skin rashes

Individual diseases can also have their own unique symptoms. For example, type 1 diabetes causes extreme thirst, weight loss, and fatigue. IBD causes belly pain, bloating, and diarrhea. With autoimmune diseases like psoriasis or RA, symptoms may come and go. A period of symptoms is called a flare-up. A period when the symptoms go away is called remission.

**स्त्रोतरोध बलभंश गौरवानिलमूढताः |**

**आलस्यापक्तिनिष्ठीवमलसङ्गारुचिक्लमाः ||**

**(अ. ह. सू. 13/23)**

Acharya Vagbhatta has been mentioned the symptoms of *Ama* as Srotorodha (blocking in chhenals), Balbhransha (generalized weakness), Gaurva (heaviness in body), Anilmudhta (decrease in activity), Aalsya (lethargy), Apakti (indigestion), Nishthiwana (belching), Malavrodha (constipation), Aruchi (anorexia), and Klama (drowsiness).<sup>(7)</sup>

### **INVESTIGATION [8]**

No single test can diagnose most autoimmune diseases. Some common investigations which usually done in autoimmune diseases are-

- 1) **Antinuclear antibody test (ANA):-** ANA test is commonly used to detect an autoimmune condition.
- 2) **Erythrocyte Sedimentation Rate (ESR):-** ESR is high; it may be related to an inflammatory condition.
- 3) **C-reactive protein (CRP):-** it measure a substance produced by the liver that increases in the presence of an acute inflammation.
- 4) **Complete blood count (CBC):-**
- 5) **RA factor:-** RF is protein produced by immune system that can attack healthy tissue in body.
- 6) **Anti-cyclic citrullinated peptide (Anti-CCP):-** Anti-cyclic citrullinated

peptide is an antibody present in most autoimmune condition.

- 7) **Human leukocyte antigen B27 (HLA-B27):-** Is a major histocompatibility complex class I molecule that is strongly associated with the disease ankylosing spondylitis.

### TREATMENT

The *Ayurvedic* line of treatment for autoimmune disorder focuses on restoring balance and strengthening the natural immunity. Immunity depends on the equilibrium of the *Doshas*, healthy status of the tissues and proper formation and expulsion of waste from the body.

### Prevention

Autoimmune diseases have been linked to excessive inflammation. Low risk of autoimmune disease is by avoiding factors that trigger excessive inflammation. First step in treating an autoimmune disease starts with the correcting the diet itself. Focus more on whole food, plant-based diet, as this is packed with antioxidants and vitamins that help to mop up toxins that may incite an immune response.

This diet includes lots of veggies (leafy greens, squash, onions, carrots, turnips), spices (ginger, cayenne pepper, garlic, turmeric), and fruits (apples, mangoes, berries, etc). Avoid foods that trigger inflammation such as red meat, high-fat dairy products, refined sugars, refined grains, and refined oils. But in the end,

"prevention is better than cure". So stay healthy by incorporating a healthy diet and exercise into lifestyle.

### Life Style Changes

Sedentary lifestyle, lack of physical activities also reduces immunity through various modes like reducing metabolism, digestive power. Physical activities like exercises are also known as *Karmaja Bala*. The reduction in *Karmaja Bala* also decreases the immune system.

### Psychological Changes

Being in happier state also enhances the immunity by releasing certain hormones. Detox body from the harmful effects of environment and stress, by incorporating Pranamaya-breathing exercises and meditation by daily routine.

### Pacifying Treatment

According to *Ayurveda* autoimmune diseases are formed due to production of excess *Ama* in body. This *ama* penetrates certain body tissues that are responsible for autoimmune disorders. The natural herbo-minerals appear to best and appropriate option in autoimmune conditions. In *Ayurvedic* literature numbers of plants are mentioned to promote physical, mental health and defensive mechanism in the body. Herb medicines are immunomodulator, immunostimulant, neuro-nutrient, anti-aging and anti-stress, antioxidant, anti inflammatory, anti allergic effect.

Drug	Latin name
<i>Aamalaki</i>	<i>Embelica officinalis</i>
<i>Haritaki</i>	<i>Terminalia chebula</i>
<i>Guduchi</i>	<i>Tinospora cordifolia</i>
<i>Shatavari</i>	<i>Asparagus recemosus</i>
<i>Bala</i>	<i>Sida cordifolia</i>
<i>Shankhapushpi</i>	<i>Convolvulus pleuricolis</i>
<i>Ashwagandha</i>	<i>Withania somnifera</i>
<i>Shunthi</i>	<i>Zingiber officinale</i>

<i>Ajawain</i>	<i>Foniculam valgeris</i>
<i>Hingu</i>	<i>Ferula narthex</i>
<i>Jeerak</i>	<i>Cuminum cyminum</i>
<i>Tulsi</i>	<i>Ocimum sanctum</i>
<i>Kumari</i>	<i>Aloe vera</i>
<i>Kaalmegha</i>	<i>Andrographis paniculata</i>
<i>Arjun</i>	<i>Terminalia arjuna</i>
<i>Shallaki</i>	<i>Boswellia serrata</i>
<i>Khadira</i>	<i>Acacia catechu</i>
<i>Punarnana</i>	<i>Boerhaavia diffusa</i>
<i>Brahmi</i>	<i>Centella asiatica</i>
<i>Pipali</i>	<i>Piper longum</i>

### Panchakarma Therapy

आमं जयेत् लङ्घनकोष्णपेया-

लघ्वन्नरुक्षौदनतिक्तयूषैः |

निरुहणैः स्वेदनपाचनैश्च

संशोधनैरुर्ध्वमधस्तथा च ||

(योगरत्नाकर पूर्वार्ध प्रथम अध्याय)

*Panchkarma* is a Sanskrit word meaning “five actions”. It’s a deep psycho-physiological cleansing and detoxification, help to improve overall health and rejuvenation. *Snehana* and *Swedana* therapy softened *Ama* gradually separated from cell and tissues. Then loose and scattered *Ama Dosha* clump together and that these substances are additionally loosening of cellular tissue.

Depending on the place in the body where this process takes place, *Aama* is discharged through near physical channels, such as GIT and urinary tract with including therapies vomiting (*Vamana*), purgation (*Virechana*), and enema (*Basti*), errhine (*Nasya*) are the *Ama*, *Dosha* and other metabolites released from the body. This foremost step is to improve digestion, assimilation and absorption.

And post cleansing diet, lifestyle and administering various *Rasayana* gradually and systematically enhance the immune

system to alleviate autoimmune disorders [9].

### Rasayana Therapy

लाभोपायो हि शस्तानां रसादीनां रसायनम्

(च. चि. 1/8)

*Rasayana* therapies restore the vitality and strength of the damaged body cells. Proper immune response is an expression of a balanced state of physical and mental health. Various *Rasayana* explained in *Ayurvedic* literature have a shown immune boosting action with comprehensive effect on the body and mind. Body tissues known as *Dhatu* are significantly responsible for the body’s immune system. Each of the seven *Dhatu* contributes uniquely to a healthy immune response. There are *Rasayana* that are specific to specific *Dhatu*.

Recommending *Dhatu Rasayana* to their immunomodulatory, immune stimulator, adaptogen, cytoprotective, anti-oxidant and rejuvenating properties are effect can be beneficial in preventing an attack of autoimmune disease and also in its management. E.g – *Haritaki Rasayana*, *Brahma Rasayana*, *Chyavanpracha*, *Aamalaka Rasayana*, *Pippali Rasayana*, *Pippali Vardhamana Rasayana*, *Tripkala Rasayana* [10].

## DISCUSSION

An autoimmune disease is a condition in which immune system mistakenly attacks healthy cell, tissues and organs in our body. The immune system normally guards against germs like bacteria and viruses. *Ayurveda* suggests that the immune system attacks the body's own cells do not accidentally, but it does to defend against a form of harmful metabolites body called 'Ama' in *Ayurvedic* term. The *Ayurvedic* line of treatment for autoimmune disorder focuses on restoring balance and strengthening the natural immunity. Immunity depends on the equilibrium of the *Doshas*, healthy status of the tissues and proper formation and expulsion of waste from the body. First step in treating an autoimmune disease starts with correcting the diet itself. "Prevention is better than cure". So stay healthy by incorporating a healthy diet and exercise into lifestyle. Herb medicines are immunomodulator, immunostimulant, neuro-nutrient, anti-aging and anti-stress, anti-oxidant, anti-inflammatory, anti allergic effect. It's a deep psycho-physiological cleansing and detoxification, helping to improve overall health and rejuvenation. *Rasayana* therapies restore the vitality and strength of the damaged body cells. Proper immune response is an expression of a balanced state of physical and mental health. Recommending *Dhatu Rasayana* to their immunomodulatory, immunostimulatory, adaptogen, cytoprotective, anti-oxidant and rejuvenating properties can be beneficial in preventing an attack of autoimmune disease and also in its management.

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