



A REVIEW ARTICLE ON AUTOIMMUNE DISORDERS AND IMMUNOMODULATION IN AYURVEDA WITH HELP OF RASAYANA AS IMMUNOMODULATOR

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ABSTRACT

Immunology, today is one of the fastest growing topics in Medicine and Biology. Its significance has grown more, because of the growing significance of immune strength and resistance against different diseases. It is found that spicy-food, fermented food, bakery products, alcohol consumption is increasing and on the other hand hard work becoming sedentary, but mentally stressful. Unhealthy competition and unnatural high aims increasing tension in life. This has resulted the emergence of a wide range of immunological diseases. It is interesting to observe that, the ancient *Ayurvedic* texts show a clear description of the foundations of immunology thousands of years Ago. *Ayurveda* describes the *ojas* which is the essence of all the seven *dhatu*s of the body and is responsible for the immune strength of an individual, classically known as *Oja-Bala* and *Vyadhikshamatva* which refers to natural and acquired immunity. There are clear descriptions available in *Samhita*'s about the three broad categories of immune disorders, namely *Oja-vyapat*, *Oja-visramsa*, and *Oja-kshaya*. The texts describe *Rasayana Tantra* which is one of the eight branches of *Ashtanga Ayurveda*. The present review article critically examines the available literatures to evaluate the ancient concepts of early *Ayurvedic Immunology* in the light of recent developments.

KEYWORDS: Immunology, *Oja-Bala*, *Vyadhikshamatva*, *Rasayana*.

INTRODUCTION

Ayurveda has its own unique fundamental principles, its own *Nidan*(biology), *Samprapti* (pathology), *Vyadhivinishchaya* (diagnostics), its own *Materia-medica* and *chikitsa* (principles of treatment) which grant it the status of a full system of medicine. *Ayurveda* considers hereditary and genetic predisposition as the primary cause of many diseases, *apathya* and life-style errors being the other principal causes of illness. "*Ayurveda*", our ancient health care system has mentioned many daily routines (*Charyas*) for e.g. *Dinacharya*, *Ratricharya*, *Ritucharya*, *Brahmacharya* etc, to prevent diseases in future. Still, humankind neglects these *Charyas* and follows *Abrahmacharya* like *Viruddha-anna* (tendency of keeping self on faulty food habit), *Anidra* (improper sleep) or *Diwaswap* (excessive day-sleep). It is found that Unhealthy competitions and unnatural high aims increase tension in life. This has resulted in increase in 'Autoimmune disorder cases' worldwide.

MATERIAL AND METHODOLOGY

Ayurveda Immunology

Ayurveda describes this defence function in a holistic manner under the terms *Oja-Bala* and *Vyadhikshamatva*. *Vyadhikshamatva*, as it is understood in *Ayurveda* has

much wider implications than the term "Immunity" used in modern medicine. *Chakrapani Datta* has interpreted the term *Vyadhikshamatva* as *Vyadhi bala Virodhitva* i.e., antagonistic to the strength and virulence of the disease and *Vyadhyutpada Pratibandhakatva* i.e., the capacity to inhibit and bind the causes and factors of the disease. *Charaka* has also described *Bala* as the factor, that destroys the *Dosas* or disease-causing factors viz.

"Balam hyalam dosaharam Nigrahaya dosanam"
(*Ch.Chi. 3/16*).

The *Ayurvedic* texts describe a unique hitherto unknown concept of *ojas* i.e. vital essence of the body which is responsible for biological strength including the immune strength. *Ojas* is the final product of tissue nourishment and is the quint essence of all the seven *dhatu*s namely *rasa*, *rakta*, *Mamsa*, *meda*, *Asthi*, *Majja*, *Shukra*. *Sushruta* describes *ojas* as the *Paramteja* of the *saptadhatu*s and as the *bala* or biological strength of an individual.

Superior most quint essence of the seven primordial tissues of the body is called *ojas* and the same is ones *bala* or biological strength which includes his immune strength too. (*SS.Sū.15.24*).^[3]

Chakrapani Datta observes that *Ojas* which is the *Sara* of all the *Dhatus* in virtually no different than them, comparable to Ghee of the milk, honey of flowers and fruits, being located in *Hrdaya*, mixes with *Rasa* and circulates through the blood vessels and capillaries and perform *Tarpana* of the entire body. It represents the strength of all the tissues and is present in the organism from time of fertilization of the sperm and ova, due to its natural powder. (Chakrapani on Su. Su. 15/99).^[4]

Ojas is considered to be of two kinds namely 1. *Para ojas* and 2. *Apara ojas*. *Para ojas* is subtle in nature and is in minute quantity measuring only eight drops located in the heart while *Apara ojas* is gross i.e. half *Anjali* in quantity spread all over the body. *Para ojas* is a life factor and its injury and insult may lead to instantaneous death. *Apara ojas* is responsible for gross biological and immune strength

Vyadhikshamatva (natural resistance) is not of the same order constitutions i.e., it varies with individuals. It also depends upon nutritional, environmental and individual factors – both physical and mental. The *Vyadhikshamatva* or *Bala* is stated to be of three types:

(1) **Sahaja Bala** – It is genetic and inborn resistance to disease, which exists since birth. It is said to increase with the growth of tissues and does not depend upon any other cause.

(2) **Kalaja Bala** - This type of immunity is said to be influenced by seasonal traits and the age of the person.

(3) **Yuktikrit Bala** – This type of *Sarira Bala* refers to modulation of body's resistance against diseases by resort to appropriate *Ojovardhak* diet, physical exercise, rest, restorative and *Rasayana*, therapies in keeping with seasonal needs. (Chakrapani Ca.Su. 11/36).^[6]

Autoimmune Disorders (Ayurveda point)

As Sushruta Acharya has mentioned about *Sankramakroga* (contagious disease) viz. *Jwar*, *Shosh Kshaya*, *Netrabhishyanda* and *Kustha*, all these diseased conditions raised in an individual due to direct contact with diseased person, this can only happen when individual immunity is low and compromised. In *Prameha*, involvement of all *dhatu*s is seen along with *dhatu*, *Oja vikruti* is also explained in *Prameha Roga*, as *Oja* is only immune system of body is hampered in *Prameha* hence it's also considered as immune disorder which is widely accepted now a day. Similarly, *Amavata*, a disease which is similar to rheumatoid arthritis is described to be caused by impact of a systemic antigenic material called *Aama* which is a by-product of faulty digestion and metabolism. Incidentally now a day's rheumatoid arthritis is known as an auto immune disease which is an example of *Oja-visramsa* as described in *Ayurveda*. There are also descriptions available to suggest that immunity is intimately linked with mind, indicative of the concept of psychoneuroimmunology in *Ayurveda*.

Treatment

Line of treatment for Autoimmune disorders as per *Ayurveda* prospective can be subdivided in various way amongst them some are like,

- **Toxin (Aama) removal** - As per *Ayurveda* every *Vyadhi* is due to *Agnimadhya* and formation of *Aama Dosha* in body. This *Aama Dosha* is spreading all amongst body and causing various diseased hence removal of this *Dosha* helps in new formation of *dhatu*s (tissues) with their proper functioning. For *Aama Dosha* removal *Ayurveda* has explained different types of *Shodhan* (cleansing) *Chikitsa* like *Vaman*, *Virechan*, *Basti*, *Raktmokshana*. In medicine like *Gugguls* and *Haritaki* promote systemic nutrition by way of *sroto-prasadana* or *sroto-shodhan* by its *lekhan* action which intends to do toxin removal and act as *Rasayana* in body.

- **Metabolism Correction** – After *Shodhan chikitsa* i.e. removal of toxins from body certain *Pathya-Apathya* and daily routine changes is advisable which helps in metabolic correction and formation of new tissues by enhancing digestive fire (*Agni*). At the level of *Agni* some *Rasayana* such as *Pippali* and *Sunthi* work as digestive and metabolic enhancer and lead in turn to improved tissue metabolism.

- **Increase in Ojas Production** – As we all know well that immune status of an individual plays an important role for conservation of health and prevention of disease. *Ojas* is the component which helps in the nourishment of the immune system. It is generally received from the food we eat. Due to dysfunctional immune system causing the impairment of metabolism, production of *Ojas* decreases. *Ayurveda* deliberates extensively on positive health measures such as life-style management, healthy dietetics and rejuvenation therapy with the help of *Rasayana* therapy. These *Rasayana* therapy are considered the means of obtaining the best quality of *dhatu* (tissue). *Gudhuchi*, *Haridra*, *Manjishtha*, *Amalaki*, *Nirgundi*, *Yashtimadhu* and *Pippali* are used to increase *Oja* production.

All this treatment goal can be achieved with help of immunomodulatory drugs.

Immunomodulators

The modulation of immune response by using *Ayurvedic* herbal medications as a possible therapeutic measure has now become a subject of scientific investigation. The concept in modern scientific understanding would mean enhancement of immune responsiveness of an organism against a pathogen by non-specifically activating the immune system using immunomodulatory agents of plant origin. It is now being recognized that modulation of immunological response could provide an alternative to conventional chemotherapy for a variety of diseased conditions of impaired immune responsiveness.

The basic concept of immunomodulation not only existed in *Ayurveda* but is being really practiced by the *Ayurvedic* practitioners for centuries. In fact, one of the therapeutic strategies in *Ayurvedic* medicines is to

enhance the body's overall natural resistance to the disease-causing agent rather than directly neutralizing the agent itself. Here lies the difference between the fundamental therapeutic approach of *Ayurveda* and modern medicine, which emphasize on direct attack on the disease-causing agents using chemotherapeutic drugs. In *Ayurvedic* practice, the objective of immune enhancement is achieved through the use of the *Rasayana* and *Vajikarana* therapy.

DHATU POSANA, DHATUSARA AND OJAS

Ahara + *Agni* + Intact *srotas* system = *Ahara rasa*

Tissue nourishment and new tissue formation

Rasa → *Rasa sara*

Rakta → *Rakta sara*

Mamsa → *Mamsa sara*

Meda → *Meda sara*

Asthi → *Asthi sara*

Majja → *Majja sara*

Sukra → *Sukra sara*

Ojas - 1. *Para ojas*, 2. *Apara ojas*

Ojabala

Vyadhikamatva = Immunity

This immunomodulation in *Ayurveda* done with help of *Rasayana* and *Vajikarana*. Apparently, *Rasayana* means an improved state of nourishment, which in turn upholds increased immunity and youthfulness. *Rasayana* can be a drug, diet or even a life style and conduct *Rasayana* measures act by one of the following three ways

(1) **Acting at the level of *Rasa***: Thus, directly improving the quality of nutrition.

(2) **Acting at the level of *Agni***: i.e., by improving the digestion and metabolism of the body and thereby affording better nutrition.

(3) **Acting at the level of *srotas***: i.e., by improving the micro-circulation, it ensures proper perfusion and nourishment of the tissues. The integrity of channels is equally important for the distribution of *Ojas* to the *Dhatus*, as discussed earlier, which provides body immunity against degeneration and diseases. *Ayurveda* describes a number of drugs as *Rasayana* and *Ojovardhak* remedies, which are claimed to possess immunomodulatory effect. Some of the *Rasayana* which have been subjected to scientific studies and found to possess immunomodulatory effect are *Ashwagandha* (*Withania somnifera*)^[7] *Shilajatu*,^[8] *Amalaki* (*Embilica officinalis*)^[9] *Tulasi* (*Ocimum sanctum*),^[10] *Gudhuchi* (*Tinospora cordifolia*)^[11] *Pippali* (*Piper longum*) and *Punarnava* (*Boerhaavia diffusa*), of which *Gudhuchi* and *Tulasi* have been extensively studied.

DISCUSSION AND CONCLUSION

Ayurveda is holistic system of medicine from ancient India that is still used today. It treats the root cause of disease rather than the symptoms of autoimmune disease.

To discovered the root cause of autoimmune disorders, *Ayurveda* looks at what causes the inflammation and work backward. Inflammation caused by lack of cellular recognition/communication. This breakdown in communication is due to cells being covered with something or having some intercellular component bad behaviour. In *Ayurveda* this misbehaviour of cell component or covering is considered due to metabolic disturbance and excess production of toxins in body which is corelated with *Aama Dosha* and this *Aama Dosha* is form due to low *Agni* (digestive fire) which at end leading to low *Oja* (vital essence of all seven *dhatu*s in body). So, the root cause of auto immune disorders is low *Agni* (digestive fire) and weak *Oja* in body. Therefore, the *Ayurveda* treatment focuses on restoring *Agni* and *Oja*.

RESULT

Autoimmune disorders may not be easily treated, Autoimmune disease can be frustrating, uncomfortable, and even debilitating but that doesn't mean you cannot expect it to cure or witness a miracle. *Ayurveda* has its own unique fundamental principles, its own biology, pathology, diagnostics, its own *Materia Medica*, and Principles of treatment which grant it the status of a full system of medicine.

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