



A critical review on *Ojas*, the defense to disease and its clinical importance

*¹ Dr. Dustidev Sahu, ² Dr. Rakesh Parashar, ³ Dr. Mahesh Chand Gupta, ⁴ Dr. Rajkumar Dhaked

¹ Reader, Department of Rognidan, Government Ayurveda College, Pancheshwar Road, Junagadh, Gujarat, India

² Reader, Department of Kriya-sharir, Government Ayurveda College, Pancheshwar Road, Junagadh, Gujarat, India

³ Reader, Department of Moulik Siddhant, Government Ayurveda College, Pancheshwar Road, Junagadh, Gujarat, India

⁴ Lecturer, Department of Swasthavritta, Government Ayurveda College, Pancheshwar Road, Junagadh, Gujarat, India

Abstract

The basic components of human body are *Dosha*, *Dhatu* and *Mala*. The healthy state of body rests on the state of dynamic equilibrium of these components. Human body is in a continuous exposure to external and internal stressors which make the body vulnerable to disease. But the tendency to have disease is prevented by many factors within the body. *Oja* is one of the factors that prevent the body from illness. *Ojas* is nothing but the pure essence of all *Dhatu* of the body. Abnormalities of *Ojas* result in many illness and loss of strength and stamina. So it is utmost essential to manage *Oja* in optimal quantity and quality so that the body will enjoy healthy life. The present study is carried out with an aim to have proper understanding of the *Ojas* with special reference to immunity and access its clinical importance.

Keywords: *Oja*, *Bala*, *Vyadhikshamatwa*, immunity

Introduction

The concept of *Ojas* in *Ayurveda* is a very important principle. *Ojas* literally means "vigour". It is described as an essential component of the body to sustain life force^[1]. *Ojas* exists on a subtle level within the body. *Ojas* help in normal functioning of all body elements. The occurrence of disease within body is also prevented by the presence of quality *Ojas*. Disease strikes at the location where there is derangement of *Oja*. The diseases in present scenario such as AIDS, diabetes etc. manifest features of decrease immunity or rather *Ojakshaya*.

Materials and Methods

This article is based on a review of various Ayurvedic classical literatures, online and offline journals. Materials related to *Oja*, *Vyadhishamatwa*, immunity and other relevant topics were collected by searching through various search engines and digital libraries. The search results thus obtained were compiled, analyzed and discussed for a thorough and in-depth understanding of the concept of *Oja* vis-à-vis immunity in *Ayurveda*.

Discussion

Formation of *Ojas*

The *Oja* manifest within the embryo right at the time of fertilization, when *Shukra* (sperm) fuses with *Shonita* (ovum). *Paka* of *Shukradhatu* (both *Shukra* and *Shonita*) takes place (fertilization) and two components are formed i.e. *Sara* (nutrient materials) and *Mala* (excretory products). This *Ojas* will perform its function of *Avastambha* and support the foetal life the *Garbha*. Thus the *Oja* can be regarded as the product of conception having derived from sperm and ovum; carry the *Sara* of all *Dhatu*s in them, which make them viable. Further nutrition and enrichment in the quantity of *Ojas* to *Ardhanjali*

takes place by *Ahararasa* (nutrient materials), which is derived from mother's body and possesses qualities similar to *Ojas* and, it also simultaneously nourishes the growing embryo. In later period of intrauterine life, when heart is developed, it enters into heart and with the vessels connected to it, circulates throughout the body of fetus; every tissue of the fetal body is supplied with *Ojas*, and is supported by it. So that *Pranas* (factor responsible for sustenance of life) are said to be seated in it. Hence *Ojas* is said to be prevailing in all the stages of intrauterine life.

Types of *Ojas*

The *Ojas* is considered to be of following two types viz. *Para Oja* which is of *Astha Bindu Pramana* and located in *Hridaya* (heart) and *Apara Oja* which is of *Ardhanjali*. *Chakrapanidata* is of view that *Param Teja* which is the *Sara* (essence) of all *Dhatu*s, being located in *Hridaya* (heart) gets mixes with *Rasa* (lymph) and circulates through *Dhamani* (vessels) and supply nourishment to entire body. It represents the strength of all the *Dhatu*s and is present in the body right from the time of fertilization.

Nutrition of *Ojas*

Ojas has to be synthesized by body continuously to maintain the state of dynamic equilibrium as the *Ojas* is continuously being utilized in the course of its functions. *Acharya Sushruta* says that food is the basis of all life as well as of *Bala*, *Varna* and *Ojas*. The same view also holds by *Charakacharya* i.e. body is the outcome of food. At some other place, he states the same fact in other words that *Ahararasa* nourishes all the body tissues as well as *Ojas*. Thus it is obvious that *Ojas* is produced and nourished from food substances, which are conductive to *Ojas*. But, the conversion of food, in spite of

having all nutritive factors of *Ojas*, Dhatu, Bala and Varna etc. into specific metabolite depends upon the proper functioning of Agni (digestive factor). Another important factor that serves as an important entity for internal transport system of body is termed as Srotasas. The nutrient factors, the precursors of bodily elements are recognized and they are transported to the place where they undergo digestion and metabolism for the formation of latter body tissues. The *Ojas* is said to be located primarily in the Hridaya (heart). It mixes with rasa and circulates through the Dhmanis (circulating vessels). The heart plays an important role in distribution of Sleshmika *Ojas* to all the tissues of the body. The channels of transport are the Dasha Mahamula Dhmanis which carry Oja to the entire body. These channels permit the exudation (filtration, diffusion and permeation) and maintain the steady and dynamic flow to the body tissues for nourishment.

Quantity of *Ojas*

According to Charaka, the quantity of *Ojas* in a healthy individual is Ardhanjali while Vagbhatacharya the Astanghrdayakara has stated it to be one Prasrtha in quantity. It is equitant to volume of the cavity formed by hollowing one's own palm, not mean two Pala in weight for present context. In Padmapurana, the quantity of *Ojas* (Bala) is stated to be 1/4 Kudawa which is approximately 1/4 Anjali when individualized norm is taken as standard measure. By summation of the above statements it appears that *Ojas* is Ardhanjali in an individual and it may fluctuate from 1/4 to 1/2 Anjali depending upon the constitution. Since Charaka also says that these fluids are always subjected to fluctuation i.e. increase or decrease. Chakrapani Datta by quoting other authority, states that there is one more kind of *Ojas* which is Astabindu in quantity and is called as Para *Ojas* and is different from 1/2 Anjali *Ojas* i.e. Shlesmika *Ojas*. Arundatta on the other hand, observes that *Ojas* pervades in all the cells of body and its six drops are located in Hridaya.

Properties of *Ojas*:

The properties can play an important role in understanding its multiple aspects precisely.

- **Colour:** According to *Sushruta* it is *Sukla Varna* (clear white) whereas other *Acharyas* has mentioned three colors of *Ojas* i.e. a clear substance with the tinge of red and yellow.
- **Odour:** *Lajagandhi* i.e. with the smell of *Laja*.
- **Taste:** According to *Charaka*, its taste is similar to that of honey i.e. *Madhuras* with slight *Kashayatva* [2]. No one else among the *Acaryas* have directly mentioned about the taste of *Ojas*.

Relationship of *Ojas* and Sleshma

The *Kapha* in its normal status is supposed to give *Bala* (strength) to body hence it is correlated with *Ojas*. According to Chakrapani dutta *Sleshmika Ojas* is *Apara Oja* whose *Pramana* is considered as *Adhanjali Pramana* [3].

Relationship of *Ojas* and Bala

Acharya Charaka states that Bala, Arogya, Ayu, Prana and *Ojas* are dependent on Agni. Bala is classified into three types

as per Samhita Grantha:-

- **Sahaja Bala:**-It is resistance to disease states to be *Prakrita* (natural/inborn) and exists from birth. Some individuals are observed as physically strong from their birth whereas some are observed as physically weak from the very birth. *Acharya Charaka* in analyzing the *Sahaja Bala* has mentioned that the natural *Bala* of the *Sharira* and *Satva* i.e. the body and mind are termed as *Sahaja Bala*. *Sahaja Bala* can be correlated with constitutional strength of an individual. According to *Acharya Chakrapani* the constitutional strength is present in every living being from the very time of birth. This is because of the natural growth of the *Dhatu* (tissues). Thus the natural strength does not require any extraneous factor for its growth. It is known that, there are some people who are by nature strong; some others are weak, it is genetically decided.
- **Kalaja Bala:**-This *Bala* is influenced by seasonal traits and age of the person. *Bala* is dissipated and lowest in *Adanakala*. This *Kala* corresponds to *Shishira*, *Vasanta* and *Grishma*, which represents the hottest season of the year. On the other hand *Bala* is conserved and its highest optimum level is witnessed in *Visargakala* corresponding to *Varsha*, *Sharada*, *Hemanta Ritu* that represents the cooler seasons of year. As regards to *Bala* the childhood and age come in last descending order.
- **Yuktikrita:** - When the body resistance against diseases is inducted with the help of appropriate nutrition and *Rasayan* therapy then it is called *Yuktikruta Bala* [4].

Clinical importance of *Ojas*

Ojas plays a vital role in maintenance of health as well as production of illness. When *Ojas* is in normal state it brings health and when it become vitiated or depleted it leads to many pathological conditions. The various clinical implications of *Ojas* are as follows;

In Physiological State:

The *Ojas* plays a vital role right at the time of conception. During fertilization *Ojas* is said to be present in the sperm and ovum in the form of their *Sara* or essence, in the absence of which, fertilization does not take place. After fertilization *Sara* of *Shukra* and *Shonita* get converted in to a new substance, which is said to be *Garbharasadrash* (resultant of fusion of sperm and ovum) it is the only source of nutrition of *Garbha* (fetus) for its growth and development. *Ojas* is also responsible for viability or non-viability of fetus. During eight month of pregnancy *Ojas* circulate trans-placentally between mother and foetus. If the fetus gets delivered in this month, in the state when *Ojas* is in maternal body, it does not survive being devoid of *Ojas* [5]. *Ojas* help in maintenance of health by helping the *Dosha*, *Dhatu* and *Mala* which are the fundamental units of the body, to remain in a state of dynamic equilibrium. It is also said that all the activities of the living body may it be *Kayika*, *Vacika*, *Mansika* take place smoothly if the body is endowed with proper qualities of *Ojas*. Thus it can be inferred that *Ojas* influence the function of physical, sensory, psychic and other higher faculties of the body and maintain the homeostatic condition of body.

Ojas acts as *Vyadhishamatwa* within the body. *Vyadhikshamatwa* is nothing but the immunity in *Ayurvedic* concept which has two aspects viz. *Vyadhibalavirodhitwa* and *Vyadhyutpadakanibandhakatwa*. According to *Charaka* *Vyadhikshamatwa* is not of the same order in all constitutions, it varies in individual regardless of their nutritional environmental and individual factors, physical and psychological factors etc.^[6]

In Pathological States of *Ojas*

The pathological states of *Ojas* or *Ojas* Vikruti are of three types *Oja Visransa* *Oja Vyapath* *Ojakshaya*. Symptoms observed due to *Visransa* (*visransa* means displacement from its normal place) are as: - Looseness of joints, debility, displacement of three dosas, fatigue and impaired body functions. Symptoms observed due to *vyapat* (*vyapat* means vitiation by *dusta dosa* and *dushya*) are as: - heaviness and stiffness in body, exhaustion, discoloration, stupor, excessive sleep and swelling due to *vata* (*vata* is one of three *doshas*). Symptoms due to *kshaya* (loss) are as: fainting, depletion of muscle, unconsciousness, delirium, improper sensory perception and death^[7].

There are also certain other disorders in which the *Ojas* get vitiated or become pathological and depleted. Those disorders are as follows:-

- **Sannipata Jwara:** In *Sannipata Jwara* in when the excited *Pitta* and *Vayu* bring about the *Visransa* of *Oja* Then the symptoms like stiffness all over body, coldness, and desire to sleep always, unconsciousness, somnolence, loosening of the limb, low fever and body pain are seen.
- **Rajayakshama:** -In *Rajayakshama* due to the obstruction of the *Srotansi* as a result of deficiency of nutrients of *Raktadi Dhatus*, lowered functioning of *Dhatushmas* (*Dhatwagnis*) and *Apachaya* (catabolic events), the food ingested which when subjected to the process of digestion in *Kostha* is changed into *Malas*, little of nutrition is available for production of *Ojas*.
- **Madhumeha:** -In *Madhumeha Vyadhi*, *The Aggravated Vata* by its *Ruksha Guna* Converts the *Madhura Ojas* into one of *Kasaya* and transports it to the *Mutrashaya* (urinary apparatus). The *Ojas* produced in this condition is qualitatively deficient. Even the impoverished *Ojas* is lost to the body through urine.
- **Panduroga:** -In *Pandu Roga*, aggravated *Pitta* vitiates the *Dhatu* which latter lose their integrity. Subsequently, *Varna*, *Bala* and *Sneha* which are the *Gunas* of *Ojas* are depleted by the vitiated *Doshas* and *Dhatu*. The individual suffers from impoverished *Rakta* and *Medo Dhatus* and de-vitalization. The person is then affected as *Nissara* (loss of natural integrity, tone and strength of the tissues), *Shitilendriya* (impairment of the integrity of the senses) and *Vaivarna* (abnormal color or complexion of body)^[8].

Concept of Immunity

The Body Defenses as per modern science is termed as Immunity which can be regarded as resistance to disease. The immune system is responsible for defense against all the microorganisms and toxic cells to which individuals are exposed. There are many factors which directly or indirectly

affect the immunity e.g. Genetics, Age, Health, nutrition, stress, Hormones etc. The immune system is a functional system rather than a system with discrete organs. The parts of almost all organs in the body play some role in immunity. Wide spread chemical mediators, cells and tissues along with their transport via circulatory and lymphatic systems constitute the immune system^[9]. There are mainly two types of immunity present in body. First one is Nonspecific Immunity an innate reaction that acts as a general response against all kinds of pathogens without having been previously exposed to it. The examples of non specific immunity are; a. physical and chemical barriers, b. internal cells and chemicals. Second one is Specific Immunity an adaptive system that fights specific individual pathogens in customized and professional ways.

Cells and tissues of the immune system

The cells of the immune system take their origin from precursors in the bone marrow, after which they circulate in the blood and live in lymphoid organs like lymph nodes, spleen, tonsils along with virtually within all the tissues of the body. During the demand they can rapidly migrate to any site of infection. Among circulating white blood cells (leukocytes), the major phagocytes are neutrophils and monocytes. These cells ingest and destroy microbes, other injurious agents, and one's own dead and damaged cells. Neutrophils respond rapidly to foreign stimuli and to injury; their reaction is part of acute inflammation. When blood monocytes enter tissues, they mature, and are called macrophages. These cells are present under epithelia, in connective tissues, and in all organs. Macrophages respond more slowly than do neutrophils but for longer times; this reaction is typical of chronic inflammation. Macrophages also help to repair damaged tissue. The most important cells of adaptive immunity are lymphocytes which are categorized in two main classes B lymphocyte and T lymphocyte. B lymphocytes (so called because they mature in the bone marrow) secrete proteins called antibodies, which bind to and eliminate extracellular microbes. T lymphocytes (which mature in the thymus) function mainly to combat microbes that have learned to live inside cells (where they are inaccessible to antibodies). There are two main types of T lymphocytes one is helper T cells which help B lymphocytes to make the most effective antibodies and help macrophages to kill ingested microbes. The second group of T lymphocyte is called cytotoxic (cytolytic) T lymphocytes (CTLs) which kill infected host cells and thus serve to eliminate reservoirs of infection. A third, small population of lymphocytes is called "regulatory T cells" because they control immune responses and prevent inappropriate reactions. 11 There are several other small populations of lymphocytes. In order to get immune responses started, foreign substances have to be captured and displayed to lymphocytes. The cells that perform this task of displaying antigens are called antigen-presenting cells (APCs). 12 The best defined APCs are specialized type of cells called dendritic cells.

Conclusion

As the immune system is a two edged sword so is the *Ojas*. *Ojas* prevent the body from having illness at the same time it

also become responsible for many illnesses if it get vitiated. So during diagnosis the state of *Ojas* should be accessed properly and during treatment also Rasayan Dravyas should be administered to maintain *Ojas* in its optimal state. Optimal state of *Ojas* leads to the maintenance of unctuous quality of body parts, holding body entities together, durability of body elements, and maintenance of bulk of body, maintenance of sexual vigor and strength of body.

References

1. Anon. Charaka Samhita of Agnivesha elaborated by Charaka and Drudhabala with the Ayurveda Dipika commentry by Chakrapani Dutta, Chikitsasthan, Chapter 3, Verse 141, Edited by: Vaidya Jadavji Trikamji Acharya Published by Choukhambha Surbharati Prakashan, Varanasi Edition Reprint 2005, 409.
2. Anon. Charaka Samhita of Agnivesha elaborated by Charaka and Drudhabala with the Ayurveda Dipika commentry by Chakrapani Dutta, Sutrasthan, Chapter 17, Verse 75, Edited by: Vaidya Jadavji Trikamji Acharya Published by Choukhambha Surbharati Prakashan, Varanasi Edition Reprint 2005; 103.
3. Anon. Charaka Samhita of Agnivesha elaborated by Charaka and Drudhabala with the Ayurveda Dipika commentry by Chakrapani Dutta, Sutrasthan, Chapter 17, Verse 116, Edited by: Vaidya Jadavji Trikamji Acharya Published by Choukhambha Surbharati Prakashan, Varanasi Edition Reprint 2005; 105.
4. Anon. Charaka Samhita of Agnivesha elaborated by Charaka and Drudhabala with the Ayurveda Dipika commentry by Chakrapani Dutta, Sutrasthan, Chapter 11, Verse 36, Edited by: Vaidya Jadavji Trikamji Acharya Published by Choukhambha Surbharati Prakashan, Varanasi Edition Reprint 2005; 74.
5. Anon. Vaidya Yadavaji Trikamji Acharya (editor). Charaka Samhita of Charaka. Shareerasthana. Chapter 4. Verse no 24. 4th Edition. New Delhi; Munshiram Manoharlal Publishers Pvt. Ltd; 1981;321.
6. Anon. Charaka Samhita of Agnivesha elaborated by Charaka and Drudhabala with the Ayurveda Dipika commentry by Chakrapani Dutta, Sutrasthan, Chapter 28, Verse 7, Edited by: Vaidya Jadavji Trikamji Acharya Published by Choukhambha Surbharati Prakashan, Varanasi Edition Reprint 2005; 178.
7. Anon. Susruta Samhita of Sushruta with the Nivandha Samgraha Commentary of Sri Dalhanacharya and the Nyayachandrika panjika of Sri Gayadasacharya on Nidansthan; Edited by Vaidya Jadavji Trikamji Acharya and Narayan Ram Acharya Kavyatirtha, Sutrasthan, Chapter 15, Verse 24, Published by Chaoukhambha Surabharati Prakashan, Varanasi; Edition - Reprint 2003; 72.
8. Singh RH. Foundations of Immunology in Ayurvedic classics. Indian Journal of History of Science. 2015; 50(1).
9. Singh K, Verma B. The concept of vyadhikshamatva (immunity) in Ayurveda. Ayurpharm International Journal of Ayurveda and Allied Sciences. 2012; 1:99-108.
10. Gras S, Van Rhijn I, Shahine A, Le Nours J. Molecular recognition of microbial lipid-based antigens by T cells. Cellular and molecular life sciences: CMLS. 2018.
11. Chu Z, Zou W, Xu Y, Sun Q, Zhao Y. The regulatory roles of B cell subsets in transplantation. Expert Review of Clinical Immunology. 2018.
12. Chamoun MN, Blumenthal A, Sullivan MJ, Schembri MA, Ulett GC. Bacterial pathogenesis and interleukin-17: interconnecting mechanisms of immune regulation, host genetics, and microbial virulence that influence severity of infection. Critical Reviews in Microbiology. 2018;1-22.