

OJA VIS-À-VIS IMMUNOLOGY IN AYURVEDA

Aparna Singh

Ph.D. Assistant Professor, Department of Kriya Sharir, R.K. Ayurvedic Medical College and Hospital, Sathiyon, Azamgarha, Uttar Pradesh, India

Email: appisingh23@gmail.com

ABSTRACT

Ojas in Ayurveda is considered as the resistance to decay and degeneration of the body and immunity against diseases. It is considered as quintessence of all the *dhatu*s and represents the *bala* (strength) of all *dhatu*s. The concept of immunology as described by ancient Ayurvedic scholars is stated as *vyadhikshamatwa* or *ojabala* of an individual. The *sahaja bala* may be clinically correlated as natural immunity whereas *kalaja* and *yuktikrita bala* as acquired immunity. The Ayurvedic approach to *bala* or *vyadhikshamatwa* is describes in two states viz. *vyadhibala virodhitwa* i.e. antagonistic to the strength and virulence of disease and *vyadhyutpada vibandhakatwa* i.e. the capacity to inhibit the factors causing disease. The immune disorders were also broadly classified as *oja vyapath*, *oja visramsa* and *ojakshya*. The facts which have emerged from modern researches relating to natural resistance do not contraindicate the existing ayurvedic conceptual scheme of natural resistance.

Keywords: *Oja*, *bala*, *vyadhikshamatwa*, immunity.

INTRODUCTION

Ayurveda the age-old science of life has been contributing to the health of society since times immortal. This science has witnessed drastic changes in environments, lifestyle and so on. In spite of this changing scenario, *Ayurveda* continuously has contributed as a major system in maintaining and fulfilling the health related needs of Indian society. This had been possible because of strong, universal, unchanged principles of *Ayurveda*. The

epitome of *Ayurveda* science and utility is firmly standing on fundamental principles of *Ayurveda*

Ojas literally means “vigour”. It is the quite essential substance of our life, energy and exists on a subtle level in the body. 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. Materials related to *oja*, *vyadhishamatwa*, immunity and other relevant topics were collected as well as references 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 Ojus

The synthesis of *oja* is said to be started 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 things formed i.e. *sara* (nutrient materials) and *mala* (excretory products). This *ojas* will perform its function of *avastambha* and support the life of *garbha* (fetus). Thus these are the products of conception having derived from sperm and ovum; carry the *sara* of all *dhatu*s in them, which make them viable. Further nutrition and enhancement 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.^{1,2}

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 *ardhanjal*. *Chakrapanidata* notes that *param teja* which is the *sara* (essence) of all *dhatu*s, being located in *hridaya* (heart) mixes with *rasa* (lymph) and circulates through *dhamani* (vessels) and performs nourishment of entire body. It represents the *bala* of all the *dhatu*s and is present in the organism from the time of fertilization.³

Nutrition of Ojas

Ojas has to be synthesized by body in continual manner because it gets utilized in the course of its functions. Hence, to fulfill the amount utilized and to keep intact the total quantity reinforcement must be needed. *Acharya Sushruta* says that food is the basis of all life as well as of *bala*, *varna* and *ojas*.⁴ 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*.⁵ Thus it is obvious that *ojas* is produced and nourished from food substances, which are conducive to *ojas*. But, the conversion of food, in spite of having all nutritive factors of *ojas*, *dhatu*s, *bala* and *varna* etc. into specific metabolite depends upon the proper functioning of *Agni* (digestive factor).⁶ Another important factor that serves as an important entity for internal transport system of body is termed as *Srotasas*.⁷ The

nutrient factors, the precursors of bodily elements are recognized and they transported to the place where they are subjected to digestion and metabolism for the formation of latter body tissues.⁸

Synthesis of Ojas

The mechanism of formation of *Ojas* does not become clear merely by defining it as *sara* of all *dhatu* i.e. it does not alone sufficient to know whether it is synthesized by each *dhatu* in the form of its own *sara* and then collectively called as *sarvadhatusara* or, it is collectively synthesized through series of reactions from the contributions made by each *dhatu*. Yet commentators have tried to make the picture clear on the basis of which we can say that it takes place in both ways.⁹

Each *dhatu* synthesizes its own *Ojas* in the course of formation of *dhatu* and former nourishes the already formed *Ojas* of *sthayidhatu*. In other words, *poshaka ojas* nourishes the *poshya ojas* which is already formed and stable. Some of it, from each *dhatu* possessing similar qualities or/and having affinity to produce a new substance i.e. *sarvadhatusara* might enter into general circulation to contribute for the formation of it.

Hence, from *rasadhātu sara* of *rasadhātu* is produced and it is taken up by *sthayi rasadhātu* for nourishing the already formed *sthayi ojas* residing in it since it is alike in properties and nature to that of *rasadhātu*, it is taken up by *srotasas* of *rasadhātu* only. Likewise from each *dhatu*, *ojas* is produced at the time of that *dhatwagnivya*para, from its specific nutrients. But the *sara* of *shukradhatu* is paid more importance and emphasis.

Though each *dhatu* synthesizes its own *Sara* individually and contributes for the formation of *sarvadhatusara*, then is yet another mechanism by which production of *sara* of *shukradhatu* takes place, because from this *sara* of *shukra*, after fertilization, all *dhatu*s are formed since it might have some portion of *sara* of all *dhatu*s collectively.¹⁰

Seat of Ojas

The *Ojas* is said to be located in the *hridaya* (heart)¹¹. It mixes with *rasa* and circulates through the *dhamanis* (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 dhamanis* which carry *oja* to the entire body. These channels permit the exudation (filtration, diffusion and permeation) and maintain the steady flow to the body tissues for nourishment.¹

Quantity of Ojas

According to *Charaka*, the quantity of *ojas* in a healthy individual is *ardhanjali* while *vagbhatacharya* an *astangahrdayakara* has stated it to be one *prasrta* 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 is subjected to fluctuation from 1/4 to 1/2 *anjali* according to 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*.¹²

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*. No one else among the *Acaryas* have directly mentioned about the taste of *ojas*.
- **Pharmaco-therapeutic properties:** Twenty *sharira gunas* are described in classics divided in ten pairs. One out of each pair shows anabolic and / or anti-catabolic effect on body. *Ojas* possesses these ten *gunas* on the basis of which it performs various pharmacotherapeutic actions in the body.^{13,14}

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*.

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*s (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:**-It refers to the induction of body resistance against diseases by resort to appropriate nutrition and *rasayan* therapy.¹⁵

Function of Ojas:

Ojas plays a vital role in all three stages of life i.e. *utpatti*, *sthiti* and *pralaya*.¹⁰

In Utpatti:

- a. In 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 place¹
- b. In growth and development of *Garbha* (fetus): 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.
- c. In viability or non-viability of fetus: In eight month of pregnancy *ojas* becomes trans-placentally circulating entity. 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*.^{16,17}

In Sthiti Avastha:

(a) **In maintenance of health:** *Dosha*, *dhatu* and *mala* are the fundamental units of the body, among there, *doshas* are said to sustain the body in their normal state. But these *doshas* even in their physiological state of

equilibrium cannot sustain body which is devoid of *ojas*. It is also said that all the activities of the living body may it be *kayika*, *vacika*, *mansika* take place smoothly if it is contained with *ojas*. This 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.

(b) **As a preventive measure:** The word *bala* used as the synonym of *ojas* by *Sushruta* is because of the cause and effect relationship existing between *ojas* and *bala* and hence the term *bala* in any context represents the status of *bala*.¹⁸

(c) **Attaining positive health:** Positive health means something above the normal health.

Ojas and *Vyadhishamatwa*

The ayurvedic approach to immunology is in two aspects viz. *vyadhibalavirodhitwa* and *vyadhyutpadakanibandhakatwa* was directed almost exclusively to the natural and innate resistance. 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. The importance of *sleshmika ojas*, its production and distribution in protection of the body against decay, degeneration and disease can be understood better by a study in cross-section described by *Shushruta* as *oja visramsa*, *oja vyapath* and *ojakshaya*¹⁹.

Table 1: The symptomatology of *Oja Vikriti* is described in samhitas as:-

<i>Oja Visransa</i>	<i>Oja Vyapath</i>	<i>Ojakshaya</i>
<i>Sandhisleshana</i> (looseness of the joints)	<i>Stabdha guru gatrata</i> (inertness and heaviness of the extremities)	<i>Murcha</i> (loss of consciousness)
<i>Gatrasada</i> (inertness of the extremities)	<i>Vatasopha</i> (anasarca due to vata)	<i>Mansakshaya</i> (wasting of muscles)
<i>Dosha chyavana</i> (displacement of doshas from their respective location)	<i>Varnabheda</i> (discoloration of skin or change of complexion)	<i>Moha</i> (stupor)
<i>Kriya Sannirodha</i> (impairment of the function of the body, manas etc)	<i>Glani</i> (fatigue of the senses)	<i>Pralapa</i> (delirium)
	<i>Tandra</i> (drowsiness)	<i>Marana</i> (death)
	<i>Nidra</i> (somnia)	

Symptomatology of *oja visransa*, *vyapath* and *kshaya* are manifested in various diseases which are as follows:-

- *Sannipata jwara*: The symptoms of *sannipata jwara* in which the excited *pitta* and *vayu* bring about the *visramsā* of *oja* are stiffness all over body, coldness, and desire to sleep always, unconsciousness, somnolence, loosening of the limb, low fever and body pain.
- *Rajyakshama*:-In *rajyakshama* 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 vata* by its *ruksha guna* changes the *ojas* which is *madhura* in nature into one of *kasaya* and transports it to the *mutrashaya* (urinary apparatus) leading to the

causation of the condition known as *madhumeha*. 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 *dhatus* which latter lose their integrity. Subsequently, *varna*, *bala* and *sneha* which are the *gunas* of *ojas* are depleted by the vitiated *doshas* and *dhatus*. 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)

CONCLUSION

Ayurveda, the ancient health system of India, describes the holistic approach of the concept of immune system which is responsible for attaining positive health and strengthen the body to fight against diseases. *Ojas* is considered as vital essence of all the tissues

which when sufficient in quantity there is health whereas its deficiency leads to diseases. The maintenance of unctuous quality of body parts, holding body entities together, durability of body elements, maintenance of bulk of body, maintenance of sexual vigor and strength of body. It is observed that in diseases accompanied by profuse tissue loss there is also diminution of strength of *ojas*. Some food articles that can replenished *ojas* were milk, cow ghee, and butter whereas also by special Ayurvedic drugs like *ashwagandha*, *kapikachu*, *shatavari* etc.^{20,21}

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Source of Support: Nil

Conflict Of Interest: None Declared

How to cite this URL: Aparna Singh Et Al: Oja Vis-À-Vis
Immunology In Ayurveda. International Ayurvedic Medical
Journal {online} 2017 {cited July, 2017} Available from:
http://www.iamj.in/posts/images/upload/2612_2619.pdf