Immunology: An Ayurvedic Aspect with reference to Oja and Vyadhikshamatva

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Abstract

Maintenance of healthy status of an individual is very important especially in today’s era. Globally as well as nationally the number of individuals surrendering to any diseased conditions is increasing alarmingly day by day. The immunity of an individual is being compromised today. This is due to negligence towards one’s health due to sedentary, busy and a hectic lifestyle. The dietary changes and consumption of junk and fast food has contributed a lot in all this. Basically this immunity factor in body is encroached by ojas as per Ayurveda. The resistance power, immunity is together manifested by this ojas component present throughout the body. According to Ayurveda ojas is stated as cause and its effect being the resistance power viz. bala. So Ayurveda has given significant importance to ojas due to its presence needed exclusively for survival and performing important functions inside the body. Even though this ojas is essence of all the dhatus inside the body, its production, maintenance, storage, utilization and proper circulation inside body must be consistent and proportionate. The ojas being practically invisible is very well known by its functions and symptoms manifested on the living body. The present review explores some more info about the ojas and its basics.

Keywords

Ojas, Bala, Dhatu, Resistance Power, Immunity
INTRODUCTION

Today man is emerged into highly developing, technical era as compared to ancient time period. The working pattern, living standard, daily routine has become more comfortable, pleasant and with more ease. The sedentary lifestyle thus has given man almost every type of happiness; joy that too in a much reduced efforts. This has made man lethargic somehow compromising and affecting the health factor overall. All the things are thus in hand and efforts are minimized, and this compensation is paid on its behalf by impairing the immunity or resistance power of man. The energy resource which is gained by a man is only through the diet which is being ingested. Moreover, it is accompanied on a large scale by synthetic molecules in a number of forms as like antioxidants, nutritional supplements, cytokines, hormones and so on. After proper digestion the partially digested food viz., _ahara rasa_, is important as it nourishes all the _dhatus_ at their respective level\(^1\). All together its output is the essence of all _dhatus_ called as – _ojas\(^2\). The _ojas_ is principally responsible for the immunity inside body. The _ojas_ and resistance power or immunity is proven by the cause effect relationship. For proper production, storage and utilization of _ojas_, it is essential to have a look over its review and this is here.

OBJECTIVES

1) To highlight immunity and its basics from _Ayurvedic_ perspective.
2) To impart in detail about _ojas_ and overall basics concerned from immunological perspective.

REVIEW OF LITERATURE

The prime most definition of ojus itself states that it is the essence present in every _dhatu_ (tissue) and is the collective _sara_ (nectar) of all the _dhatus_ from _rasa_ to _shukra_ which is mainly responsible for strength, vigor and vitality of life. Sushruta describes _ojas_ as the paramateja of the saptadhatus and as the _bala_ or biological strength of an individual. The presence of _ojas_ in body is relevant as like ghee\(^3\) present in milk itself. Being cumulated at every _dhatu_ level and highly nutritive in nature it is said to be extreme purest, finest _sara_ part of _sneha_. Moreover being omnipresent it represents _bala, veerya, prana, prakriti_ and _kapha_ of body. _Ojas_ and _bala_ in body explains the cause effect relationship where _ojas_ is cause and _bala_ or strength being the ultimate effect of the same. Our physical, mental and spiritual strength totally depends on _ojas_ which is manifested by its own symptoms.

FORMATION OF _OJAS_
Ojas along with its manifesto in body is having controversies about its formation also. Some scholars say that ojas is formed after digestion of rasa dhatu and before formation of rakta dhatu in saumya form\(^4\).

Even in intra-uterine period, in the fetal stage in a mother, the ojas is present in shukra and shonita in the form of sara\(^5\). After the formation of garbha by combination of sperm and ova along with soul, then the ojas is present in the form of garbha sara in kalala (morulla) stage. The ojas exists in body before the pregnancy of a woman and is carried forward. In 8\(^{th}\) month of pregnancy the mother is said to be prone to have a high risk as ojas is unstable due to lack of sthira guna of ojas. It is foresaid that ojas in this month is exchanged from mother to fetus and back to mother through blood vessels. If it moves in mother then fetus is prone to many infectious disorders due to lack of immunity whereas mother feels happy emotionally. So delivery in 8\(^{th}\) month proves to be dangerous and risky. It dwells in body throughout the life inevitably until death, manifesting its own symptoms.

The formation of ojas is best ever explained by ancient scholars. Thousands of honey bees collect nectar from each and every flower into their hives to form essence part honey similarly ojas is the nectar or essence cumulatively collected by metabolism of various physiological processes occurring at dhatu (tissue) level in body.

Existence of oja in body can be stated in three ways-

1) Before formation of garbha in the form of sara in sperm and ovum.

2) After formation of garbha in the form of sara in garbha at morulla stage.

3) Then persisting throughout lifetime which is omnipresent in body.

**LOCATION AND TYPES OF OJA**

Ojas is considered to be of two kinds namely 1. para ojas and 2. apara ojas\(^6\). Para ojas is subtle in nature which resides in heart and is in very minute quantity measuring only eight drops while apara ojas is gross measuring half an anjali in quantity and which is omnipresent\(^7\). This two types of ojas, accounts for different functions in body. Para ojas is vitality, life factor and its injury or any diminution in its volume may lead to instantaneous death whereas apara ojas is responsible for overall immune strength of the body.

Scholar Bhela has mentioned in its treatise that ojas in our body resides all together at total 12 places. Which are- Rasa (Lymphatics), Rakta (Blood with components), Mamsa (Muscle tissue), Meda (Adipose tissue), Asthi (Osseous tissue), Majja (Nervous tissue & Bone marrow), Shukra (Reproductive tissue), Sveda (Sweat),
Pitta (Gastric secretions), Shleshma (Mucoid secretions), Mutra (Urine & its products) and Purish (Fecal matter).

QUALITIES OF OJA

Table 1 Qualities of Oja mentioned in brihatrayi-

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Charaka⁹</th>
<th>Sushruta¹⁰</th>
<th>Ashtang Hridaya¹¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Guru (Heavy)</td>
<td>Somatmaka (Cool like moon)</td>
<td>Snigdha (Unctuous)</td>
</tr>
<tr>
<td>2</td>
<td>Shita (Cold)</td>
<td>Shukla (Whitish)</td>
<td>Somatmaka (Cool like moon)</td>
</tr>
<tr>
<td>3</td>
<td>Mrudu (Soft)</td>
<td>Sara (Liquid or Movable in nature)</td>
<td>Ishat lohita pitakam (faint reddish yellow)</td>
</tr>
<tr>
<td>4</td>
<td>Shlakshna (Smooth)</td>
<td>Vivikta (Clear or Transparent)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Bahal (Ease to get in minute channels)</td>
<td>Mrutsna (Slimy)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Madhur (Sweet)</td>
<td>Pranaytana uttamam (Superior among all sites where prana dwells)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Sthira (Stable)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Prasanna (Cherish able)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Pichhila (Sticky)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Snigdha (Unctuous)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CHARACTERISTICS FEATURES OF OJA¹²

1. Color - Whitish, Red or Yellowish
2. Appearance – Resembles to Ghee (clarified butter)
3. Taste – like Madhu (Honey)
4. Smell – like Laja (Pori or Puffed rice)

FUNCTIONS OF OJA¹³

As from above contexts it is very clear that the oja present inside the body is responsible for the strength, vigor, vitality of body on a gross aspect. But to be specific, oja has its own manifestations which are known to be functions of the same.

1) Bala- Apara oja especially is responsible to sustain the immunity in body. It provides the nutrition to body and its components by enhancing the immune strength. Besides this, apara oja is also responsible for retarding the ageing process of body. This is done by reducing the oxidative stress at molecular level. The free radicals produced after every chain reaction is combined to form a
compound to reduce the oxidative stress, and thus prevents ageing. This can be happen by the consistent nature of body tissues whose optimum nutritive structure is maintained by proper nourishment and essence provided by the oja to them.

2) **Sthira upachita mamsata**- Along with nourishing the body and its components it plays a role to sustain the stability inside the body. With the help of sthira guna it can be said that ojas maintains integrity of body by bringing stability in muscle tissues as well. It thus helps to make a proper stability and growth of mamsa dhatu (muscle tissue) so as to build up a considerable strength, stamina inside body.

3) **Sarva cheshta swapratighata**- All the actions which are needed to be performed continuously and inevitably throughout life needs power to keep on going which is supplied by ojas. It helps to perform physical, psychological, spiritual all actions continuously that too without any hindrances.

4) **Swara varna prasado**- It also helps to develop your speech orientation, complexion.

5) With the help of oja, the external and internal Indriyas are able to perform their own functions without any hindrance throughout the lifetime.

6) **Jeevana**- All life sustaining factors and components are stable due to existence of Oja in body.

7) **Preenana**- Presence of Oja in the body is essential for proper growth, development and nourishment of organs and ultimately whole body

**IMMUNOLOGY IN AYURVEDA**

Since ancient times practically ojas is a significant parameter with controversies. However, it cannot be practically dissociated even though they had mentioned its quantity. Thus it implies a measurable fact. Quantity wise its proportion must be maintained in body for manifestation of strength and immunity in body. The stream of immunology as today was uprooted from Ayurveda science itself also. The immune disorders at that time were classified broadly under three aspects of – Oja Vistramsa, Oja Vyapat and Oja Kshaya, means the abnormality of ojas which itself implies vyadhikshamatva viz. immunity itself. Vyadhikshamatva implies prevention of the occurrence of new disease and retarding the progression of existing disease. It is clearly stated for the subject to be disease free. Any disease to be retarded is mainly achieved by significantly positive and imposing status of Ojabala and Dosha bala.
The *oja bala* is then classified in three categories:

1) **Sahaj bala** (Primary) - It is primary immunity which is gained or transferred from generation to generation.

2) **Kalaj bala** (Acquired) - It is a type of acquired immunity which is dependent on environmental factors such as climate, age.

3) **Yuktikrut bala** (Artificial) – It is the immunity which is either induced or gained by nutritive diet regimen, exercise and healthy workouts.

The immune disorders are classified broadly as – **Oja Vistramsa**, **Oja Vyapat** and **Oja Kshaya**. Where *oja vistramsa* may be understood by fluctuating immunity, unstability and autoimmune generated disorders; *oja vyapat* reveals hypersensitivity and allergic disorders while *oja kshaya* relates with immune deficiency diseases. The *oja vistramsa* thereby can be managed by *shodhan* and *stambhan* treatment modality which helps to restore the *sthira guna* of *oja*. Whereas *oja vyapat* can be managed by the herbal and other medicinal treasure mentioned in *Ayurveda* and which are known to induce immune response in body, thus enhancing the resistance power against diseases. *Oja kshaya* can be managed by implementation of both above so as to increase the *oja bala* in body which is essential to guard body against diseases.

Table 2 Table showing symptoms of *oja dushti* mentioned by different Acharyas

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Vistramsa&quot;</th>
<th>Vyapat&quot;</th>
<th>Kshaya&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sandhi vishlesh – lethargic and looseness in joints</td>
<td>Stabdha guru gatrata – feeling of stiffness and rigidity in body</td>
<td>Murcha – fainting or unconsciousness</td>
</tr>
<tr>
<td>2</td>
<td>Gatra sadanam – fatigue and weakness in body</td>
<td>Vata shofa – edematous swelling due to vitiation of vata dosha</td>
<td>Mansa kshaya – emaciation and muscle tissue wasting</td>
</tr>
<tr>
<td>3</td>
<td>Dosha chyavanam – vitiated doshas migrates from their own locations and are capable to create disease where they gets lodged in body (<em>kha-vaigunya</em>)</td>
<td>Varna bheda – change in normal complexion</td>
<td>Moha – giddiness, lack of decisive power</td>
</tr>
<tr>
<td>4</td>
<td>Kriya sannirodha – obstruction or hampering the physical, vocal and mental actions.</td>
<td>Nidra – more sleepy</td>
<td>Pralapa – irrelevant talk</td>
</tr>
</tbody>
</table>

**Glani** – tiredness and prone to sleepy

**Charaka"**

<table>
<thead>
<tr>
<th>Sr. No.</th>
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<td>Charaka&quot;</td>
</tr>
<tr>
<td>2</td>
<td>Tandra - drowsiness</td>
<td>Charaka&quot;</td>
<td></td>
</tr>
</tbody>
</table>

**Bibheti** - constantly feeling under some threat, inferiority and negativity complex

**Durbal Abhikshna** – general debility

**Dhyayati** – constant worrying

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without any significant reason
Vyathit indriya – impairment or misjudgment of sense and motor organs.
Dushchhaya – loss of luster, complexion
Durmana – lack of confidence, self esteem
Ruksha – dry or rough skin and body
Kshama – blackish discoloration of body

Factors responsible for oja kshaya

1) Abhighatat – Trauma or any grievous injury
2) Kshayat – Emaciation
3) Kopat – Angriness
4) Shokat – Constant under depression
5) Dhyanat – Cconstant worrying

11) Excessive expulsion of Kapha (Mucoid secretions), Shonita (Blood), Mutra (Urine) and Purish (Fecal matter).

Factors nourishing oja-

1) Mana prasannata – satisfaction through psyche, happiness
2) Madhur (Sweet), Snigdha (Unctous and nutritive), Shita veerya (Calm and not irritating) and Laghu (light weighted) dietary regimen.
3) Ksheer (Milk), Mamsarasa (Non veg Soup)
4) Herbal drugs mentioned in Jeevaniya gana as like – Jeevak, Rushbhak, Ashwagandha, Kakoli, Ksheer kakoli.

6) Shramat – Excessive physical workouts
7) Akshudha – Starvation, lack of nutritive diet
8) Ativyyayama – Excessive exercise
9) Atimadyapaan – Excessive alcohol intake
10) Ativyavaya – Excessive sexual exercise

However the strength or power of body is assessed by the examining the relevant factors as mentioned below-

1) Sama Mamsa Pramana- The person who is fledged with well developed, proportionate mamsa (muscle tissue) as per the age and other organs of body, even though while mentioning praman of all dhatus acharyas had not mentioned about the mamsa dhatu but here it can be considered in a proportionate ratio as well.

2) Sama Samhanana- Samhanana indicates the well developed, proportionate body with all its components. This together forms the constitution of a physical body. This is also a necessary factor involved in
adequacy of strength, power or stamina in an individual.

3) **Dhrudendriya**- The Indriya are meant to conjoin with their own objects and perceive the knowledge of particular aspect. It is also necessary that these Indriya must be stable, organized, well coordinated to work out the process and helps to attain and achieve stability and strength.

**DISCUSSION**

Ayurved science accepts the *vata*, *pitta*, *kapha* these biological humors to be regulating the body at physical level whereas *sattva*, *raja* and *tama* at psychological level. Nevertheless, the quantitatively measuring of these parameters is not possible yet but even though their actions and functions performed may be measured and are countable facts. The *vata dosha* is broadly responsible for all movement and regulatory activities inside body along with process of transduction, *pitta* whereas performs the process of transformation and conversion while *kapha dosha* is responsible for stability and general build up of proteins essential for growth and development of body. Moreover the *kapha dosha* has constitution of *Prithvi* and *Aapa mahabhuta* which are meant for structural development to provide *moorta swaroopa* to any object. Thus this *kapha dosha* may resemble with *oja* which is said as *Somatmaka* due to presence of *Aapa mahabhuta*. The material which is stored in body and utilized as energy to sustain overall life activities and to combat against various diseases is *kapha dosha* which in other sense creates a defense system of body. Then any impairment in factors responsible for increase or decrease of *kapha dosha* leads to same of *oja*. So it is essential to store and protect the existing *oja* or *kapha dosha* and related matter in body so as to sustain the immune response and keep the defense system of body active. It may be managed by *samshodhan* and *samsashaman* treatment modality but prior to that *Nidan parivarjanam* is main one. *Rasa* and *Rakta* in our body have capacity to combat against foreign bodies and virulent creating diseases in body as these are the two *dhatus* having *gati* and flourishes as a media to circulate any substance whether harmful or harmless throughout the body. Thus *oja* is also termed as in context of the same *Rasa* when supplies useful, essential and beneficial substances throughout body which may help to build up a certain immunity. *Rasa-Rakta* contains variety of
antibodies, white blood cells which are meant to fight against antigens and foreign particles and sustaining immunity. Most of these procedures include phagocytosis, pinocytosis, opsonization, agglutination, direct combat mechanism. All this is done by the cells dwelling in blood which are basically derived from the bone marrow tissue. There are also some cases where the antibodies or bodies own tissues have self-destructive capacities leading to autoimmune diseases. These are nothing but the intermediate products resulted prior to completion of a any complete reaction. These substances sustain inside body and later on crown outside manifesting any symptom or any complete disease as well. This thing is termed as Ama in Ayurveda. The Ama conjoining with the doshas vitiate the doshas and seeking to any strotovaigunya or khavaigunya inside body results into proliferation of a disease. All these facts and things needed to go through before coming to a clean point over pathophysiology of immunity and immune related disorders.

**CONCLUSION**

Oja which is omnipresent is essence of all the dhatus is responsible for bala, immunity in body. Immunology has its roots in Ayurved science also which are referred through this oja and immune disorders as oja vistramsa, oja vyapat and oja kshaya. Many of daily routine factors are responsible for depletion of oja and nourishment of the same in body as like ativyayama, ativyavay, excessive thinking, depression, alcohol intake and felling of happiness, satisfaction, sweet and desirable food. Out of many synonyms of oja, kapha proves to be most suitable one. As the diet and medicines enhancing kapha dosha are same improving the quality status of oja in body. The sneha guna is suggested as the unique of kapha dosha while oja is the sneha of all the dhatus. Oja can also be closely related with the bone marrow tissue which produces the cells responsible for sustaining, developing and enhancing the immune response of body. Rasa (lymphatics and blood capillaries along with whole blood) is also one of the closely resembling synonyms of oja as it contains antibodies and cells which develop the immunity power of body. The stability, resistance, immunity and defense combat mechanism is very well achieved and sustained in body by Oja, Kapha dosha and Shukra dhatu. All these factors have Dhairya (Patience), Dhruti (Controlling
power), Kshama (Forgivingness), Priti (Cheerfulness), Bala (Strength), Vyadhikshamatva (Immunity) as their ultimate function.

The immunity or resistance capita in body is altogether achieved by phagocytosis, pinocytosis, opsonization, agglutination. The recovering capacities of body are highly engrossed by steroids and modern medicines to restore the health are generously explained by in-built oja.
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