



# PHYSIOLOGICAL AND PATHOLOGICAL INSIGHTS ON OJAS

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## Abstract

Since the inception of Human race, mankind seeks for a healthy as well as a long life. *Acharya Charaka* defines utility of Ayurveda as to maintain good health in a healthy and to cure ill health in the diseased and ways to achieve these are also elaborated. To understand the status of good health, concepts like *Ojas*, *Vyadhikshamatva*, *Bala*, *satva* are explained and they are mutually dependent. *Ojas* which is said to be the essence of all seven *Dhatu*, when it is normal forms the *balavan shareera*. *Bala* in turn provides *vyadhikshamatva*, which is the ability of an individual to fight against diseases and to prevent it. Due to intake of *Nidana* or by any *Vyadhi*, *Ojodushiti* may happen primarily or secondarily, thus leading to various kinds of disorders as well as inability of the body to defend itself from the diseases. This article is an effort to understand the physiological as well as pathological aspects of *Ojas*.

**Keywords:-***Ojas, Bala, Vyadhikshamatva, Ojo dushti.*

## INTRODUCTION

*Ayurveda* aims to maintain healthy status of a healthy individual and to cure the disease of diseased person<sup>1</sup>. The concept of immunity in *Ayurveda* revolves around *Dosha, Dhatu, Agni*. *Dosha, Dhatu* and *Mala* are the *Mula* of *Shareera*<sup>2</sup>. *Pakruta Avasta* of *Tridosha* supports the body and it is also referred as *Dhatu*. *Dhatu* does the *Dharana* and *Poshana* of body, hich when all 7 *dhatu* are in normal state, their essence is *Ojas*. *Ojas* is *Saara* of *Saptadhatu* and it does the *Dharana karma* of *Shreera*. *Ojas* is one among *Dashapraanaayatana* and it maintains *Bala* and *Vyadhikshamatva* of an individual. *Vyadhikshamatva* is the capacity to fight against the diseases before the actual manifestation of diseases (prevention) oreven after manifestation of diseases. Various factors which contribute to *Vyadhikshamatva* such as *Prakruta Dosha, Dhatu, Agni* and *Srotas*. *Ojas* when maintained in proper quantity and quality, keep up homeostasis, sustains *Prana*, whereas its *Abhava* leads to *prana Nasha*.

## Concept of Vyadhikshamatva

The concept of *Vyadhikshamatva* is having prime importance in the wellness of human beings for prevention and recovery from diseases. *Vyadhikshamatva* comprises of two components<sup>2</sup>,

1. *Vyadhi bala virodhitvam*– the one which attenuates the manifested disease.
2. *Vyadhi utpaada pratibandhakatvam* – one which prevents the manifestation of diseases.

Person following *Satmya Ahara Vihara* and proper *Dinacharya*, *Ritucharya* and *Ratricharya*, in them will be proper *Agni*, *Dosha Saamyata* and *Dhatu Sarata*, this *Dhatu Sarata* is responsible for good quality and quantity of *Ojas*. This is well support to *Vyadhikshamatva*.

## Concept of Ojas

“*Ubje Aarjave*” a/c to *Amarakosha* the word ‘*Aarjave*’ is originated from word ‘*Ruju*’ which means *sahaja*, “*Ubje Aarjave*” means “*Sahaja / Praakuta / Aavastika bala*”<sup>3</sup>, which means that which is inborn.

According to *Astanga hridaya*, the essence part of all the *Dhatu* from *Rasa* to *Shukra* is termed as *Ojas*.

According to *Acharya Sushruta*, *Ojas* is *Parama Tejas* of *Dhatu* from *Rasa* ending with *Shukra Dhatu*, that itself is called as *Bala*.

## Utpatti of Ojas

*Ojas* forms for the first time during intrauterine life<sup>4</sup>. *Acharya Charaka* says *Ojas* is the *Adirasa* of *Garbha*, before the *Garbha Utpatti* it is in the form of *Saara* of *Shukra* and *Shonita*. After manifestation of *Hridaya* in *Garbha*, *Ojas* acquires the position in *Hridaya* and *Garbha* and performs all its activities. *Acharya Charaka* describes the simile how the *Ojas* is formed in body, as the honeybees collect honey from different types of flowers and fruits and is deposited in one place, in the same way, *Ojas* is formed from the from all *Dhatu* and deposited in one place i.e *Hridaya*<sup>4</sup>. According to *Acharya Susruta* formation of *Ojas* is just like how *Ghee* is formed out of milk<sup>5</sup>.

## Oja Guna

*Acharya Sushruta* quotes the *Guna* of *Ojas* as *Somatmaka*, *Snigdha*, *Shuklam*, *Sheeta*, *Sthiram*, *Saram*, *Vivikta*, *Mridu*, *Mritsna* and *Praanaayatana*. *Acharya Dalhana* explains each *Guna* of *Ojas* as, *Somatmaka* means *Soumya* (Mild), *Snigdha* means *Snehairgunayukta* (having unctuousness), *Shukla* means *Atishwetavarna* (having white in colour), *Sheeta* means *Sheetaveerya* (cold in nature), *Sthira* means *Shareera Avayava sthairyakari* (it provides stability to body organs) *Sara* means *Prasarana sheelam* (easily spreading in nature), *Vivikta* means *Sreshtagunairyuktam* (having supreme qualities), *Mridu* means *Komala* (soft in

nature), *Mritsna* means *Picchilam* (having sticky /slimy in nature) and *Uttama praanaayatana* means *Agnisomadrinam ayatanam*(it is chief among the seats of life)<sup>6</sup>.

*Acharya Charaka* while explaining the *Dasha Gunas* of *madya*, describes the *guna* of *ojas* as *Guru* (heaviness), *Sheeta* (cold), *Mridu* (softness), *Slakshna* (smoothness), *Bahala* (density), *Madhura* (sweetness), *Sthira* (stability), *Prasanna* (clearness), *Picchila* (sliminess) and *Sigdha* (unctuousness)<sup>7</sup>.

*Acharya Charaka* illustrates other *Guna* of *Ojas* as *Sarpirvarna* (colour like ghee), *Madhuras* ( taste like honey), *Laajagandhi* ( smell like fried paddy)<sup>8</sup>.

*Acharya Charaka* quotes other *Varna* of *Ojas* as *Shudhda*, *Raktamishat* and *Sapeetakam*. *Acharya Chakrapani* comments on this *Shudhda* means *Shukla varna* (white in colour), *Raktamishat* means *kinchidrakta*(Slight reddish in colour) and *Sapeetakam* means *Eshatpeetakam*(slight yellow in colour)<sup>9</sup>.

According to *Acharya Cakrapaani*, *Ojas* is having *Gunas* as that of *Ksheera*<sup>10</sup>.

## Divergent views on Ojas

1. **Ojas as Prakruta Sleshma** – “*Slaishmikasyojasaha*” – *Acharya Charaka* considers *Prakruta Sheshma* as *Ojas* because of *Samana Guna*<sup>11</sup>. *Samana Guna* between *Sleshma* and *Ojas* are *Guru*, *Sheeta*, *Mridu*, *Picchila*, *Sthira* and *Madhura*. According to *Acharya Kashyapa*, *Pramana* of *Prakruta Kapha* and *Ojas* are same i.e., *Shat anjali*. According to *Acharya Charaka*, *Kapha* in *Prakruta Avastha* promotes *Bala* in the form of *Ojas* and in *Vikruta Avastha* takes the form of *Mala*<sup>12</sup>.

2. **Ojas as Rasa** - “*Rasa ca Oja samkhyata*” According to *Acharya Charaka*, *Sthana* of *Rasa* is *Hridaya*<sup>13</sup>. It does the *tarpana*, *dhaarana*, *vardhana* and circulate through out the body along the *Dhamani*, and to this *Acharya Chakrapani* comments *Hridayasya rasa* is called as *Ojas*<sup>14</sup>.

3. **Ojas as Shonita** – “*Jeevashonitama oja*” According to *Acharya Dalhana*, *Jeevashonita* is also considered as *Ojas*<sup>15</sup>, *Acharya Hemadri* also quotes the word *Ojas* for *Rakta* because of *Jeevana Karma* of *Rakta*<sup>16</sup>.

4. **Ojas as Shukra Dhatu**– *Acharya Dalhana* and *Bhavamisra* quote *Shukra* does the *Oja Poshana*. According to *Acharya Sharangadhara*, *Ojas* is *Upadhatu* of *Shukra*, According to *Vagbhata*, *Ojas* is *Shukramala*<sup>17</sup>, According to *Chakrapani*, *Ojas* is *Shukra Vishesh* and he says *Shukra* is *Manapreenana* but *Ojas* is not a *Manapreenana*<sup>18</sup>.

5. **Ojas as Dhatu** – According to *Acharya Chakrapani*, *Dhatu* does the *Dharana* and *Poshana Karma* but *Ojas* does only *Dehadharana* not *Poshana* of *Shareera*<sup>19</sup>.

6. **Ojas as Bala**– *Acharya Sushruta* explains *Ojas* is also called as *Bala*. *Acharya Dalhana* quotes on that, though *Ojas* and *Bala* are one and the same, they are different in *Parama Artha*. *Ojas* is *Sarva dhatu snehabhuta*, having *Upachaya Lakshana* and it possess the *Rupa*, *Rasa* and *Veeryadhi Guna*, but *Bala* can be assessed through *Bharaharanadi Shakti* and it does not possess the *Rupa*, *Rasadi Guna*<sup>20</sup>. *Acharya Charaka* has considered *Prakuta Kapha* as *Bala* as well as *Ojas*<sup>21</sup>.

## Types of Ojas

1. **Para ojas** – This type of Ojas is termed as *Shreshtha*. It is *Prana Ashraya*, its *Sthana* is *Hridaya* and its *Pramana* is *Ashtabindu*, but According to *Vagbhata*, *Pramana* of *Para Ojas* is *Shad bindu*<sup>22</sup>. If there is slight reduction of *Ashtabindu pramana*, it leads to *Praana Naasha* or *Marana*<sup>23</sup>.

2. **Apara ojas** – According to *Ashtanga Hridaya*, *sthana* of *Apara Ojas* is *Dasha Dhamani* which are attached to *Hridaya*, through which it circulates all over body and its *Pramana* is *Ardha anjali*<sup>24</sup>. If there is reduction in *Pramana* of this Ojas, it leads to *Ojakshaya*, this is the pathway for various diseases.

## Ojas sthana

*Hrudaya* is considered as the *sthana* of Ojas by many Acharya. *Bhela Samhita* mentioned 12 *Sthanas* for Ojas i.e, *Rasa, Rakta, Mamsa, Meda, Asthi, Majja, Shukra, Sweda, Mutra, Purisha, Pitta and Sleshma*<sup>25</sup>.

**Ojavaha srotas** – *Dasha Damani* attached to the *Hridaya* which carry Ojas and pulsate all over the body.

**Functions of Ojas** - The person with good quality and quantity of Ojas can perform the activities like *Sarvachesta, Swaravarna pradasa, Baahya abyantara karana aatma kriya* without any glitches. *Dalhana* comments on this *Sarvachesta* means *Kaya vak mano vyapareshu apratighata* (ability to perform all activities of body, speech and mind without any difficulty), clarity in *Swara* and good complexion, *Bahyaanam* means *Karmendriya*, *Abhyantara* means *Budhindriya*, *Karana* means *Manas* (ability to perform *baahya abhyantarakarma* of *indriya* and *manas* in order to perform their function). According to Acharya *Dalhana*, Ojas provides *Bala* to *Karmendriya, Budhdindriya* and *Manas*<sup>26</sup>.

## Oja Vikruti

Acharya *Sushruta* explains the factors which destruct Ojas as *Abhighata, Kshaya, Kopa, Shoka, Dhyana, Srama* and *Ksudha*<sup>27</sup>. *Ashtanga hridaya* and *Ashtanga sangraha* quotes *Nidana* of *Oja ksaya* as *Kopa, Dhyana, Shoka* and *Shrama*, Acharya *Hemadri* on commenting adds *Bhrama, Trasa, Katurasa* and *Rukshagunayukta bhojana*<sup>28</sup>. Acharya *Charaka* explains *Nidana* like *Vyaayama (excessive exercise), Anashana (not taking food), Chinta (thinking), Ruksha alpa Pramitashana* (over indulgence in food item of only one taste among six tastes and also in less quantity or foods which are predominant of *ruksha guna*), excessive exposure to *Vata, Aatapa, Bhaya* and *Shoka*, excessive intake of *Rukshagunayukta peya paana, Prajagara* (staying awake at night), *Atinirharana* of *Kapha, Shonita* and *Shukra* (by adaptation of excess *vamana, raktamokshana* and *maithuna*), *Kaala* (in *adana kala* and *vardhakya*) and *Bhutopaghata* (by *pishacadhi upaghata*)<sup>29</sup>.

Acharya *Susrutha* explains three stages of *Oja Vikruti*, they are *Ojo Visramsa, Ojo Vyapat* and *Ojo Kshaya*.



1. **Ojo Visramsa** – “*Visramsaha sthanat chyutih*” - Displacement of *Ojas* from its original place because of *Abhighataadi Kaarana* and produces the symptoms like *Sandhivishlesha* (instability in body parts and joints), *Gaatra Sadana* (weakness of body), *Doshaccyavana* (displacement of *doshas* from its *swasthanato* other place) and *Kriyasannirodha* (impaired activities of *kaaya*, *vaak* and *manas*). According to *Acharya Sushruta*, *Ojo Visramsa* is seen in *Pitta* and *Vata Vridhdi* also<sup>30</sup>.

2. **Oja Vyapat** – *Dushta Dosha* and *Dushya* combine with *Ojas* and produces symptoms like *Stabdha Gurugatrata* (stiffness and heaviness of body), *Vatashopha* (shopha due to vata dosha), *Varna bheda* (change in *gauradi varna*), *Glani*, *tandra* and *Nidra*.

3. **Oja kshaya** – *Pramaanataha Kshaya* of *Ojas* occurs due to *Shoka*, *Dhyana* and *Dhatukshayadi Karana* and exhibits the symptoms as *Murccha*, *Mamsakshaya*, *Moha*, *Pralapa* and *Marana*. *Acharya Charaka* quotes *Dhaatu Kshaya Lakshana's* as *Bibheti*, *Durbala*, *Abhikshnam Dhyayati*, *Vyathitendriya*, *Dushchaya*, *Durmana*, *Ruksha* and *Kshama*, *Acharya Cakrapani* comments on this as *Bidheti* means *Trasyati* (fear complex), *Durbala* means *Heenabala* (loss of strength), *Abhikshnam Dhyayati* means *Punaha Punaha Chintayati* (constantly thinking), *Vyathitendriya* means *Hridayadisthaneshu Vyathana* (sensory disturbance), *Dushchaya* means *Malinakanti* (loss of complexion), *Durmana* means *Gatotsaha* (confusion), *Ruksha* means *Nisnehangata* (absence of *sneha* in body) and *Kshama* means *Krushaanga* (emaciated body)<sup>31</sup>. a/c to *Vagbhata*, *Ojo Kshaya* is also seen in *Udanavruta Pranavata* and *Samanavruta Vyanavata*<sup>32</sup>. This indicates there is a involvement of different system like nervous and limbic system in the body.

#### Probable *Samprapti* of *Ojakshaya*

*Nidanasevna*

*Agnidmandya*

*Jaataraagnimandya*

*Ahara Apacana*

Improper formation of *sara* and *Kitta Bhaga*

Inappropriate *Dhatuposhana*

Inappropriate *Uttarottara Dhatu Poshana*

Incorrect formation of *Sara* of *Saptadhatu*

Improper formation of *Ojas*

*Oja Kshaya*

## Conclusion

*Ayurveda* believes that, to maintain *Swasthyavastha*, it is important to attain *Prakruta Avastha* of *Dosha*, *Dhatu*, *Mala* and *Agni*. *Ojosaustava*, is a state in which *Ojas* is formed is in its normalcy which is a direct indicator of *Vyadhikshamatva* and *Swasthyavastha*. *Ojosaustava* is mainly dependant on *Prakruti*, *Dosha*, *Dhatu*, *Agni*, *Mala* and *etc.*, *Ojas* is a refined supreme product of *Sapta Dhatu*.

Concept of *Ojas* can be understood as *Vyadhi Utpaadapratibandhakatva* (to prevent the manifestation of disease). *Ahara* and *Agni* are *Mula* for *Ojas* and *Vyadhikshamatva*. *Ojas* cannot be incorporated as *Dosha*, *Dhatu* or *Mala*. The nature of *Ojas* differs from person to person depending on *Prakruti*, *Agni*, *Satva*, *Satmya*. *Ojo Visramsa* indicates *Karmahani*, *Ojo Vyapath* indicates *Gunahani* and *Ojo Kshaya* indicates *Pramanahani*. If *Ojas* is not maintained in proper quality and quantity it affect bala of a person leads in manifestation of different physical and mental disorders as well as death.

## References

1. Yadavji Trikamji Acharya, *Charaka Samhitha of Agnivesa*, with *Ayurveda Deepika* commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. su. 30/26.
2. Yadavji Trikamji Acharya, *Charaka Samhitha of Agnivesa*, with *Ayurveda Deepika* commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. su. 28/7; PP.178.
3. Sir Moneir Williams, *Sanskrit English dictionary*, Mohanal Banarasidas Publications, Delhi, first reprinted edition 1990, PP; 235.
4. Yadavji Trikamji Acharya, *Charaka Samhitha of Agnivesa*, with *Ayurveda Deepika* commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. su. 17/75; PP.103.
5. Yadavji Trikamji Acharya. *Sushruta Samhitha of Sushruta with the Nibandha Sangraha* commentary of Sri. Dalhanacharya; Varanasi; Chaukhambha Subharathi Prakasan; 2019; Su. Su. 15/22; PP.71.
6. Yadavji Trikamji Acharya. *Sushruta Samhitha of Sushruta with the Nibandha Sangraha* commentary of Sri. Dalhanacharya; Varanasi; Chaukhambha Subharathi Prakasan; 2019; Su. Su. 15/21; PP.71.
7. Yadavji Trikamji Acharya, *Charaka Samhitha of Agnivesa*, with *Ayurveda Deepika* commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. chi. 24/31; PP.584
8. Yadavji Trikamji Acharya, *Charaka Samhitha of Agnivesa*, with *Ayurveda Deepika* commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. su. 17/75; PP.103.
9. Yadavji Trikamji Acharya, *Charaka Samhitha of Agnivesa*, with *Ayurveda Deepika* commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. su. 17/74; PP.103.
10. Yadavji Trikamji Acharya, *Charaka Samhitha of Agnivesa*, with *Ayurveda Deepika* commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. chi. 16/5; PP.526.
11. Yadavji Trikamji Acharya, *Charaka Samhitha of Agnivesa*, with *Ayurveda Deepika* commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. chi. 17/75; PP.103.

12. Yadavji Trikamji Acharya, Charaka Samhitha of Agnivesa, with Ayurveda Deepika commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. su. 17/117; PP.105.
13. Vagbhata, Astanga Sangraha, English commentary by Proof. Krishnamurthy, Varanasi Chaukhambha Orientalia; 2008. As. su. 11/37; PP. 302.
14. Role of Ayurveda in management of ojus kshaya W.S.R to AIDS publication in international journal of current research.
15. Yadavji Trikamji Acharya. Sushruta Samhitha of Sushruta with the Nibandha Sangraha commentary of Sri. Dalhanacharya; Varanasi;Chaukhambha Subharathi Prakasan;2019;Su. Su. 15<sup>th</sup> chapter.
16. Vagbhata, Astanga hridaya, English commentary by Proof. Krishnamurthy, Varanasi Chaukhambha Orientalia; 2008. As. su. 11/39; PP. 302.
17. Yadavji Trikamji Acharya, Charaka Samhitha of Agnivesa, with Ayurveda Deepika commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. su. 30/7; PP.185.
18. Yadavji Trikamji Acharya, Charaka Samhitha of Agnivesa, with Ayurveda Deepika commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. su. 30<sup>th</sup> chapter.
19. Yadavji Trikamji Acharya. Sushruta Samhitha of Sushruta with the Nibandha Sangraha commentary of Sri. Dalhanacharya; Varanasi;Chaukhambha Subharathi Prakasan;2019;Su. Su. 15/19; PP.71.
20. Yadavji Trikamji Acharya, Charaka Samhitha of Agnivesa, with Ayurveda Deepika commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. su. 17/117; PP.105.
21. Yadavji Trikamji Acharya, Charaka Samhitha of Agnivesa, with Ayurveda Deepika commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. su. 30/7; PP.185.
22. Vagbhata, Astanga hridaya, English commentary by Proof. Krishnamurthy, Varanasi Chaukhambha Orientalia; 2008. As. Su. 11/37 - 38. PP:302.
23. Yadavji Trikamji Acharya, Charaka Samhitha of Agnivesa, with Ayurveda Deepika commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. su. 17/73-75; PP.103.
24. Yadavji Trikamji Acharya, Charaka Samhitha of Agnivesa, with Ayurveda Deepika commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. su. 17/75; PP.103.
25. Bhela Samhita by Krishnadutta Swami, Chaukhamba prakashana, sutra sthana, 12/7 PP;560.
26. Yadavji Trikamji Acharya. Sushruta Samhitha of Sushruta with the Nibandha Sangraha commentary of Sri. Dalhanacharya; Varanasi;Chaukhambha Subharathi Prakasan;2019;Su. Su. 15/20; PP.71.
27. Yadavji Trikamji Acharya. Sushruta Samhitha of Sushruta with the Nibandha Sangraha commentary of Sri. Dalhanacharya; Varanasi;Chaukhambha Subharathi Prakasan;2019;Su. Su. 15/23; PP:72.
28. Vagbhata, Astanga hridaya, English commentary by Proof. Krishnamurthy, Varanasi Chaukhambha Orientalia; 2008. As. su. 11/41; PP. 302.
29. Yadavji Trikamji Acharya, Caraka Samhitha of Agnivesa, with Ayurveda Deepika commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. su. 17/76-77; PP.103.
30. Yadavji Trikamji Acharya. Sushruta Samhitha of Sushruta with the Nibandha Sangraha commentary of Sri. Dalhanacharya; Varanasi;Chaukhambha Subharathi Prakasan;2019;Su. Su. 15/24; PP:72

31. Yadavji Trikamji Acharya, Charaka Samhitha of Agnivesa, with Ayurveda Deepika commentary by Chakrapani data; varanasi; Chaukhambha Surbharathi Prakashan; 2019. Ca. su. 17/73; PP.103
32. Sarvanga sundhari Arunadatta commentatry, Vagbhata, Astanga hridaya, Chaukhambha samskruta samsthana Varanasi. As. ni. 16/51; PP. 450.
33. Sarvanga sundhari Arunadatta commentatry, Vagbhata, Astanga hridaya, Chaukhambha samskruta samsthana Varanasi. As. su. 11/41; PP. 190.

