

## REVIEW ARTICLE

# A Bird's Eye View on *Ojakshaya* with Special Reference to *Pandu* (Anemia)

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### ABSTRACT

It is considered that *Ojas* is a constituent that embodies the ultimate essence of each one of the body's *Dhatus* or tissue elements. It is one of the *Pran-ayatanas* or the "seat of life." *Ojas* is also regarded as the live, luminous energy that resides within the human body. Every bodily component needs it to function efficiently. Both physiological and psychological elements have an impact on it. The classical *Ayurveda* text describes *Ojakshaya* as one of the *Ojavikara* which may be prevalent in various diseases. Referring to our ancient text, *Pandu Roga* is a disorder brought on by *Ojakshaya* in the body. Clinical evaluations of *Pandu* patients can reveal the presence of *Ojakshaya*; if this information is kept in mind during treatment, it may prevent the disease from progressing further and leading to problems. The relationship between *Ojakshaya* and *Pandu* is discussed in old *Ayurvedic* texts. The findings indicate that *Ojakshaya* may be more common in *Pandu* patients. The goal of this review article is to comprehend *Oja* and *Ojakshaya* and how they relate to *Pandu*.

## 1. INTRODUCTION

The texts of *Vedas* explain a novel idea of *Oja*, or the life force of the body, which is arranged for biological strength, including immunity.<sup>[1]</sup> According to *Sushruta*, *Oja* is described as the biological strength of an individual and as the *Paramateja* of the *Saptadhātus*.<sup>[2]</sup> *Oja* is listed as one of the *Das-prana-ayatan* by *Acharya Charaka*.<sup>[3]</sup>

*Oja* is responsible for the strength, consciousness, purity in thoughts, creating positive feelings in every situation, better immunity, longevity, intelligence, and memory. Wherever, there is a disarrangement of *Oja* in the body, at that location, the diseases strike.<sup>[4]</sup>

When adequate amounts of high-quality *Oja* are present, the body remains healthy. Numerous diseases arise in our bodies because of the *Oja Vikriti* (pathology of *Oja*), which includes *Ojavistrans* (movement from its usual spot), *Ojavyapat* (vitiated by *Dushta Dosh*a and *Dushya*), and *Ojakshaya* (loss).<sup>[5]</sup>

In *Ayurveda*, *Rakta* has been considered a key factor for the *Jeevana* (life), *Prinana* (provides nutrition to other *dhatu*s), *Dharana*, and

*Poshana karma* of the body.<sup>[6]</sup> It is seen that *Rakta* gets vitiated by *Doshas*, mainly by *Pitta dosha* as *Rakta* is *Pittavargiya* and disease-like *Pandu* appears. *Pandu roga* is *Pitta pradhanavyadhi*. Due to *hetusevana*, *Pitta pradhana tridosha* gets vitiated and is circulated in the whole body causing *Shithilata* in all *dhatu*s which ultimately reduces *Rakta* and *Meda dhatu*. Decrease in *Sneha* and *Rakta Dhatu*, *Rupa Oja guna*, *Varna*, *Bala* are lost, and thus, there is *Pandu roga*.<sup>[7]</sup> *Pandu Varna* (whitish yellow) is mentioned as one among the *lakshana* of *Pandu Roga*. As per modern medicine, pallor discoloration is also a characteristic feature of anemia.<sup>[8]</sup>

The primary cause of *Panduroga* is *Pitta dushti*, which subsequently vitiates *Rakta* and results in *Pandubhava*. *Balakshaya*, *Varnakshaya*, and *Ojakshaya* follow from this.

### 1.1. Aim and Objectives

The aim and objectives of the study are as follows:

- To compile, study, and evaluate the concept of *Ojas*, *Oja Vikriti* from the available classical literature, commentaries, research works, articles on the Internet, and available information in allied basic science.
- To study of *Oja kshaya* in etiopathogenesis *Pandu* (Anemia).

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## 2. MATERIALS AND METHODS

This article's contents are based on a review of several contemporary books, journals, and classical Ayurvedic literature. The concept of *Oja* and *Ojakshaya* in *Pandu* was thoroughly and in-depthly understood through the collection, analysis, and discussion of materials pertaining to *Ojas*, *Ojakshaya*, *Pandu*, and anemia.

### 2.1. Ojas Formation

It is said to be created at the exact moment of fertilization when *Shukra* and *Shonita* merge. At that point, *Paka* of *Shukra dhatu* (both *Shukra* and *Shonita*) is said to have taken place, and two entities – *Sara* and *Mala* – are created, according to the same principle as *Rasadi dhatwagni vyapara*. This *Ojas* will fulfill its role as *Avastambha* and sustain *Garbha's* life. Further, nutrition and boost up the quantity of *Ojas* to *Ardhanjali* takes place by *Ahararasa*, which is obtained from the mother's body and possesses qualities like *Ojas* and it also concurrently nourishes the developing embryo. In the later period of intrauterine life, when the heart is matured, it is processed into the heart and with the vessels connected to it, circulates all over the body of the fetus, every tissue of the fetal body is supplied with *Ojas*, and is maintained by it. Thus, it is claimed that *pranas* is positioned within it. *Ojas* is therefore considered to be prevalent during the whole intrauterine life cycle.

### 2.2. Characteristic features of Oja

*Acharya Sushruta* has been described qualities of *Oja* in *Sutrasthana*,

- i. *Somatmaka* (cooling/water element)
- ii. *Snigdha* (greasy/viscous)
- iii. *Shukla* (white)
- iv. *Sita* (cold in potency)
- v. *Sthira* (steady)
- vi. *Sara* (expansile)
- vii. *Vivikta* (best nutrition/clear)
- viii. *Mridu* (soft)
- ix. *Mrtsna* (moist/slimy)
- x. *Pran-ayatanam* (important seat of life).

### 2.3. Types of Oja

*Ojas* is deliberate to be of two kinds, namely (1) *Para oja* and (2) *Apara oja*.

*Para ojas* is subtle in nature and is in minute quantity measuring only eight drops located in the heart while *Apara Ojas* is gross, that is, half *Anjali* in quantity spread all over the body. *Para oja* is a life factor and its injury and insult may lead to instantaneous death. *Apara oja* is responsible for gross biological and immune strength.

### 2.4. Functions of Oja

#### 2.4.1. In Utpatti

##### 2.4.1.1. 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 place.

##### 2.4.1.2. In the growth and development of Garbha

After fertilization *Sara* of *Shukra* and *Shonita* get converted into a new substance, which is said to be *Garbharasadrashah*, it is the only source of nutrition for *Garbha* for its growth and development.

##### 2.4.1.3. In viability or non-viability of fetus

In 8 months of pregnancy, *Ojas* becomes a transplacentally circulating entity. If the fetus gets delivered in this month, in the state when *Ojas* is in the maternal body, it does not survive being devoid of *Ojas*.

#### 2.4.2. In Sthiti avastha

##### 2.4.2.1. In maintenance of health

*Dosha*, *Dhatu*, and *Mala* are the fundamental units of the body, among these, *Doshas* are said to sustain the body in their normal state. However, these *Doshas* even in their physiological state of equilibrium cannot sustain a body that is devoid of *Ojas*.

It is also said that all the activities of the living body may it be *Kayika*, *Vachika*, *Mansika* take place smoothly if it is contained with *Ojas*. Thus, it can be inferred that *Ojas* influences the function of physical, sensory, psychic, and other higher faculties of the body and maintains the homeostatic condition of the body.

### 2.5. 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*. *Vyadhi pratikar Shakti* depends on the *Bala*, hence, it is not only responsible entity for *Vyadhiutpada Pratibandhakara* but also *Vyadhibalavirodhitwa*.

### 2.6. OJAKSHAYA

The deficiency of *Oja* quantitatively and/or qualitatively or functionally is called *Ojakshaya*.

### 2.7. Etiology of Ojakshaya

- *Abhigata* (Infliction of injury)
- *Kshaya* (Decrement of constituent)
- *Krodha* (Infuriate)
- *Shoka* (Affliction)
- *Dhyan* (Anxious thoughts)
- *Shrama* (Fatigue)
- *Kshudha* (Hunger).<sup>[9]</sup>

### 2.8. Manifestation of Ojakshaya

#### 2.8.1. According to Charaka Samhita

- *Vibheti* (person is constantly suffers from a fear complex)
- *Durbaloabhikshanam* (physical and mental debility)
- *Dhyayati* (Worries always without apparent reason)
- *Dushchhaya* (developed impaired or loss of complexion of the body)
- *Durmana* (bad mentation or feeble mental stamina)
- *Ruksha* (dryness or roughness)
- *Kshama* (skin becomes black)
- *Karshya* (Emaciation of the body).

#### 2.8.2. According to Sushruta Samhita

The *Oja Vikriti* is described in *Sushruta Samhita* as three stages *Ojavirsansa*, *Ojavyapad*, and *Ojakshaya*. The details are given in Table 1 below.

## 3. OJAKSHAYA AND PATHOGENESIS OF PANDU

The pathology of *Panduroga* is mainly concerned with the vitiation of *Pitta* which in turn vitiates the *Rakta*, leading to the condition of

*Pandubhava*. Thus, *Pitta* being the *Pradhan Dosha* or main factor in the causation of *Panduroga*, all the fivefold functions are affected, but as the main seat of the disorganization is the *Rakta*, the *Ranjana* function of *Pitta* is to bear the brunt. Thus, *Pitta Dosha* takes a leading part in the production of *Dhatu Shaithilya* and *Dhatu Gaurava*. This leads to *Balakshaya*, *Varnakshaya*, and *Ojakshaya*. Ultimately, the *Panduroga* is stated to be afflicted with *Raktalpata*, *Medalpata*, *Nihsarata*, *Vivarnata*, and *Shithilendriyata*.

The symptoms such as *Aruchi*, *Jwara*, *Panduta*, *Gaurava*, and *Tandra* are indicative of *Rasa Dhatu Dushti*. *Angamarda* indicates the involvement of both *Rasa* and *Rakta Dhatu*. *Karshya* is indicative of *Mamsa Dhatu Dushti*. *Atisveda* and *Svedabhava* are suggestive of the involvement of *Twak*, *Mamsa Dhatu*, and *Medo Dhatu*. *Shirmalomata* is an important indicative of *Asthi dhatu Dushti*. The loss of luster and debility are suggestive of the depletion of *Oja*. Thus, among *Sapta dhatu*s, mainly *Rasa* and *Rakta Dhatu* are involved in this disease.

#### 4. DISCUSSION

In our classical texts, it is mentioned that in *Panduroga*, aggravated *Pitta* vitiates the *Dhatu*s which later loses their integrity and subsequently depletes *Varna*, *Bala*, *Sneha*, etc., listed as the *Gunas* of *Oja*.<sup>[11]</sup> As the *Pitta Dushti* is the prime factor for the manifestation of *Pandu*, here *pitta Dushti* happens as the secondary cause after the *Agni Dushti*. When due to the *Apathya Ahara*, *Vihara*, and *Agantuja Nidanas*, *Agnimandya* happens which will result in the production of *Ama Visha* later on affects the *Garahani* which reduces the *Grahana Shakti* of the individual. If this condition is not properly managed, it goes to the secondary stage where the production of *Ama* is more and that creates *Pitta Dushti*. Once the *Rasa Dhatu* and *Rakta Dhatu* vitiates, due to the *Ashraya Ashrayi Bhava* of *Pitta Dosha*, the functions of *Pitta* such as *Pakti*, *Ushma*, *Darshana*, *Kshudha*, *Trishna*, *Ruchi*, *Prabha*, *Medha*, *Dhee*, *Shourya*, *Tanutva*, and *Mardavata* of the body also get affected, due to which the *Pandu* can manifest with almost the similar *Lakshanas*. As modern medicine defines anemia as the reduction in hemoglobin and red blood corpuscles levels, in ayurveda, we cannot completely correlate *Pandu* with that of anemia as in *Pandu* multi-systems of the body are affected where there can be the difference in various other blood parameters also. This stage of *Pandu* when it does not get properly managed can deteriorate the body as there is a hamper in the absorption of the food that results in impaired cell metabolism.

As the *Rasa* and *Rakta Dhatu* got vitiates, it creates hampering to the further *Dhathu*s, and the entire *Dhathu Paka* process got hampered where there cannot be the production of *Oja*. As *Oja* is defined as the essence of *Sapta Dhatu*, the non-production of any one of the seven *Dhathu*s can alter the production of *Oja* which can reduce the *Sharira Bala*.

As in the anemia, pallor is mentioned as the prime symptom, resembling the manifestation of *Ojakshaya* where discoloration is said to be one of the features described by *Charaka* as *Dushchaya* (developed impaired or loss of complexion in the body) and *Varna Bheda* (change in complexion and discoloration) by *Sushruta*.<sup>[12]</sup>

At present, all the treatments available can only increase the hemoglobin of an anemic patient but on the other hand, the immunity of the patient continues to decrease, so in this way, maintenance of the immunity or *Ojakshaya* is an important factor to prevent the complication and proper treatment of disease as *Oja* being the responsible factor for maintaining *Bala*.

#### 5. CONCLUSION

The usage of contemporary medications, poor eating habits, and current lifestyle choices are all contributing factors to the rising number of *Pandu Vyadhi* patients these days. As per the *Ayurveda* etiology, signs and symptoms of *Pandu Roga* can only be correlated with anemia. As we can understand, *Pandu* is better to be considered as a stage, before entering to any *Roga Avastha*, and *Prabha Hani* (pallor) is only one among the *Lakshana* of *Pandu*. Hence, it is evident that *Pandu* is a condition that has an effect on multi-systems of the body and diverse types of presentations that can range from simple pallor to life-threatening complications. When the stage of *Pandu* is not managed, it can lead to the *Oja Kshaya* which may deteriorate the *Bala* of an individual.

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#### 11. DATA AVAILABILITY

This is an original manuscript, and all data are available for only review purposes from the principal investigators.

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**Table 1:** The Oja Vikriti Stages

| <b><i>Ojas Visransa (First stage)</i></b>   | <b><i>Ojas Vyapad (Second stage)</i></b>                                    | <b><i>Ojakshaya (Third stage)</i></b>                    |
|---|---|--|
| <i>Sandhi Vishlesh</i> (looseness of joints)  | <i>Stabdha Gurugatrata</i> (Stiffness and feeling of heaviness in the body) | <i>Murchha</i> (unconsciousness or fainting)             |
| <i>Gatrasada</i> (weakness of the body)   | <i>VataShopha</i> (swelling caused by <i>Vata Dosha</i> impairment)         | <i>Mansakshaya</i> (decrease of muscle)                  |
| <i>Dosha Chyavana</i> (provoked <i>Tridosh</i> as moves away from their normal seats)   | <i>Varna Bheda</i> (change in complexion or discoloration)                  | <i>Moha</i> (mental disturbance, especially in judgment) |
| <i>Kriyasamirodha</i> (inability to perform normal functions)   | <i>Glani</i> (Exhaustion)   | <i>Agyan</i> (loss of sense)                             |
| <i>Shrama</i> (lethargy in organs)  | <i>Tandra</i> (drowsiness or stupor)  | Pralap (delirium)  |
| <i>Aprachuryam Kriyanam</i> (it also results in the impairment of <i>Kayik</i> , <i>Vachik</i> , and <i>Mansik</i> function of the body.) | <i>Nidra</i> (sleep)  | <i>Mrityu</i> (death) <sup>(10)</sup>                    |