



PHYSIOLOGICAL ASPECT OF AALOCHAK PITTA PERSPECTIVE OF THE MOD-ERN ERA

Neelam¹, Dinesh Chandra Sharma², Rajesh Kumar Sharma³

1. P.G. Scholar, Dept. of *Kriya Sharir*, PGIA, DSRRAU, Jodhpur, Rajasthan
2. Professor & H.O.D., Dept. of *Kriya Sharir*, PGIA, DSRRAU, Jodhpur, Rajasthan
3. Professor (Dr.) Dept. of *Kriya Sharir*, PGIA, DSRRAU, Jodhpur, Rajasthan

Corresponding Author: neelamyadavd4180@gmail.com

<https://doi.org/10.46607/iamj1812092024>

(Published Online: September 2024)

Open Access

© International Ayurvedic Medical Journal, India 2024

Article Received: 08/07/2024 - Peer Reviewed: 29/07/2024 - Accepted for Publication: 14/08/2024.



ABSTRACT

Ayurvedic science is based on *Dosha*, *Dhatu*, and *Mala Vijnana*. The body's origin and maintenance depend upon the three primary and fundamental units or principles: *Doshas Vata*, *Pitta*, and *Kapha*. The first *Aacharya* to categorise *Pitta Dosha* into five categories was *Sushruta*. *Rupa grahana*, or the perception of vision, is attributed to the *Pitta* known as *Alochaka Pitta*, located in the retina (*Drishti*). *Acharya Bhela* has divided this *Alochaka Pitta* into two categories: intellectually (*Buddhi*) and visually or optically (*Chakshu's*) differentiative. An example of an optically differentiative *Pitta* creates a differentiation by placing a picture. The visual process, also known as the physiology of vision, is the mechanism by which the outside world is perceived. Specialised cells called photoreceptors start the process that turns light rays into nerve impulses. There are two categories of photoreceptors: Rods and cones.

Keywords: *Alochaka Pitta*, *Drishti*, *Chakshurvaisheshika*, *Buddhirvaisheshika*, Visual Process

INTRODUCTION

Alochaka pitta signifies "That which helps to see" or "that which helps to think". "*Lochana*," a synonym for "eye," is the phrase that makes up the word "*Alochaka*." *Alochaka*, therefore, signifies "to see." In our bodies, *Pitta* is the symbol for fire or *Agni*. As a result, *Pitta* and *Agni* are identical. *Agni* is the suffix present in all *Pitta* subtypes. *Alochaka Agni* is another name for *Alochaka Pitta*. The seat of *Alochaka Pitta* is *Drishti* or sight. *Drishti*, which means vision, is the ability to see and understand the world around us. This perception takes place in the eyes. Thus, the seat of *Alochaka Pitta* is the eye. Not only is this *Pitta* subtype found in the anatomical eye, but it also facilitates visual physiology. Though *Pancha Bhautic* in composition, the *Tejas Mahabhuta* is represented in the body by *Pitta*, in accordance with the norm that all five *Mahabhutas* are represented in the body. It exists in every cell in its subtle form (*Sukshma*). However, other body components also display their gross form, or *Sthula*. According to Acharya Sushruta, the five forms of *Agni* are colour, digest, vitalize, illuminate, grip, and regulate body temperature, all of which are *Agni* (enzymatic actions) that favors the body.¹ There are five different types of *Pittas*: *Ranjaka Pitta*, *Sadhaka Pitta*, *Alochaka Pitta*, *Pachaka Pitta*, and *Bhrajaka Pitta*. According to *Bhela*, there are two varieties of *Alochaka Pitta*: *Chakshurvaisheshika* and *Buddhirvaisheshika*.² In The aforementioned two forms of *Alochaka Pitta* describe the activity of the optic pathway in the brain's optic centre and the eye, respectively.³ In Following the *Sannikarsa* of *Atma*, *Manas*, and *Indriyas*, this *Pitta* causes the perception of vision. In *Sringataka*, "intellectually differentiative" is located in between the two eyebrows. It observes the minute and extraordinary things created in *Atma* and holds onto those ideas within the mind.⁴

The term "*Pitta*" refers to a grouping of many compounds. Though it has frequently been referred to be *Dosha*, *Pitta* is dressed as *Dosha* when it gets out of gear. The following are the names of the five varieties:

1. *Pachaka*, which breaks down the food.

2. *Ranjaka*: this gives skin colour.

3. *Sadhaka*, which facilitates work.

4. *Alochaka*: a visual enhancer.

5. *Bhrajaka*: the skin-brightening agent.

The presence of *Alochaka Pitta* in the eye facilitates the ability to see outside objects. After being connected to the soul, mind, and sense organs, *Alochaka Pitta* brings forth the perception of vision. The protoplasm undergoes a physio-chemical change brought about by light exposure to the retina, which in turn stimulates the optic nerve terminals. The description of the *Alochaka Pitta* thus bears a striking resemblance to the visual purple (Rhodopsin).⁵ Transferring and transforming visual perception data into cognition is the function of the *Alochaka Pitta*, also known as the vision *Pitta*. This brain decides whether or not the information is valid. As soon as the intellect decides to accept the perception, the *Alochaka Pitta*, which is the organ of vision located in the *Chakshurindriya*, becomes involved and gives us unique information about the form, structure, colour, and distinguishing characteristics of the object we are seeing. *Alochaka Pitta* is the photochemistry process involved in vision, and the photosensitive compounds found in eyes are called *Prakash-Ranjaka Dravya*. Nevertheless, *Alochaka Pitta* is retained under the neurotransmitter of the visual pathway, which represents this.⁶ After being exposed to light, activated Rhodopsin sets off a series of intricate biochemical events that eventually lead to the regeneration of receptor potential in photoreceptors.

This technique transforms light energy into electrical energy, which is then processed and sent over a visual channel. Compared to cones, the rods are far more sensitive to low light. As a result, rods are more frequently used for scotopic vision in low light and cones for photopic vision in bright light.

MATERIALS AND METHODS:

In the *Susruta Samhita Sutra Sthana* in *Dosa-dhatumala kshaya-vruddi-vijnaniyam Adhyaya*, five varieties of *Pitta* have been defined as *Agni*. The classification of *Alochaka pitta* is detailed in the *Bhel Samhita Sarira sthana* in *Purusha Nicayam Adhyayam*.

The current work has been conducted through a critical analysis of published research works, modern literature, and classical material. A potential association between the gathered data and the methodically presented information has been established.

DISCUSSION

The *Alochaka Pitta* is a visualisation of the eye that aids in maintaining the general health of the eye, including its translucency and colour. The process of photosynthesis, or the meeting of the mind through *Pitta* energy, is how the eye converts perception-based information into perceivable truth as it transfers that information to the intelligence in the *Sadhaka Pitta* white film in the mind. The eye has enzymes that aid in optical imaging, just like other body organs do. Eye problems arise when a person's perception of reality is compromised. "The eye that functions in tandem with the *Sadhaka Pitta* and *Buddhi* can see the truth in depth, through various dimensionalities, and through various energy levels. When we look without bias or mental interference, our eyes become the windows of God, allowing us to perceive the Truth." *Alochaka Pitta* uses its two constituent parts to perform its functions. Among its constituents is the eye-specific *Drishti Vaisheshika Alochaka Pitta*.

It aids in seeing the objects that are visible. It aids in item identification and knowledge of many elements. The central control of vision is represented by the second component of vision, the *Pitta*, which is situated in the frontal portion of the brain between the brows. This aids in the retention of visual data, which may then be retrieved later on by using memory, creativity, and concentration. Glutamate is thought to be the neurotransmitter material released at the type A pain nerve fibre ends in the spinal cord. Glutamate, an excitatory amino acid, is used by all rods and cones of photoreceptors to send signals to the next order neuron in the chain. The complex processes that allow vitamin A to enter the visual system. The prosthetic group of photosensitive pigment is called the retina in both rods (Rhodopsin) and cones (Iodopsin). In the dark, this chemical isomerizes to the 11-

cis form, which combines with opsin to generate rhodopsin. All-trans-retinol is oxidised to all-trans-retinal. Because rhodopsin, iodopsin, and melanin—three pigments of the retina—have comparable locations and functions, they can be tightly associated with *Alochaka Pitta*. The rod layer is where rhodopsin is generated, which allows us to see in the dark.

The retina is the most developed and innermost layer of the eyeball. As an outgrowth of the forebrain, the optic vesicle gives rise to the retina, which is in fact a component of the brain. The retinal pigment epithelium and the neurosensory retina are formed by the vesicle's inner and outer walls, respectively. Ten layers make up the retina, which are divided into two separate functional components with a possible gap in between. The retina is made up of photoreceptor cells, ganglion cells and their axons that connect to the central nervous system, and a relay layer of bipolar cells. The retina is composed of the ten layers listed below, starting from the inside out:

- 1) Retinal pigments epithelium
- 2) Layers of Rod and cones
- 3) External limiting membrane
- 4) Outer nuclear layer
- 5) Outer plexiform layer
- 6) Inner nuclear layer
- 7) Inner plexiform layer
- 8) Ganglion cell layer
- 9) Nerve fiber layer
- 10) Internal limiting membrane.⁷

The second layer is where the rod and cones are located. The term "photo receptor" also refers to these end organs of vision. The outer segments of photoreceptor cells are the only ones found in rod and cone layers. Placed in a palisade style. Rods serve the periphery and are composed of a photosensitive substance called rhodopsin. Cones are in charge of highly discriminatory centre vision (photopic vision), peripheral vision, and vision in low light (scotopic vision). They also contain a photosensitive substance.⁸ In the retina, photoreception is supported by about 125 million rods and 6–7 million cones. Since cones at the fovea are closely spaced and correlate with ganglion cells exactly, the fovea centralis has a high level of visual resolution.⁹ Iodopsin is found in cones. The layer of cones is where colour vision and photopic vision, or light vision, occur. Melanin is present in the pigment layer of the retina.

This stops light rays from reflecting from the outside of the eye and turns it into a dark chamber. After going through every layer in front of it, light finally reaches the layer of rods and cones in the retina. Phototransduction starts when it gets to the retina. The process via which light energy is transformed into electrical energy is known as photo-transduction. As the sensory nerve ends for vision, the rods and cones perform this function. When light strikes the retina, photochemical changes occur. These changes then set off a series of metabolic events that produce electrical changes. There are two fundamental reactions in photo-transduction: photochemical and electrical.

CONCLUSION

A photochemical reaction is produced when the pigment part (*Ranjaka Pitta*) and the protein part (*Rasa Dhatu*) combine. The photochemical reaction's connection is always easily able to be broken and reformed by the action of light. Rods are mostly used for motion sensing and are especially sensitive to low light.

The breakdown of rhodopsin into its constituent fractions, opsin and retinene, is what generates the nerve impulse. Once more, retine is converted to vit-A, which produces rhodopsin. From the foregoing, it can be inferred that the *Alochaka Pitta* are the pigments

of the retina, namely rhodopsin and iodopsin. It is possible to draw a comparison between the functions of *Alochaka Pitta* and *Chakshurvaisheshik Alochaka Pitta*, which is its location. Since *Sheeta Satmya* and *Agnibhutta* are the ancestors of *Chakshurindriya* and *Drishtimandal* are rich in *Alochaka Pitta*, *Sheeta Virya Dravya* is advantageous to *Drishti*.

REFERENCES

1. Prof. G.D. Singhal & Colleagues, *Susruta-Samhita Ancient Indian Surgery Part I*
2. Dr. Chitta Ranjan Das. A textbook of Physiology, *Sharira Kriya Vijnan Volume I*, Chaukhambha Sanskrit Pratishtan Delhi
3. Prof. Dr. Subhash Ranade, A Textbook of Kriya Shari ra, Part I, Chaukhambha Sanskrit Pratishtan Delhi
4. K.H. Krishnamurthy, *Bhela-Samhita*, Chaukhambha Visvabharati Varanasi (India), Page no-206.
5. Pt. Shiv Sharma, *Dosadhatumala Vijnana*, Chau khamba Surbharati Prakashan Varanasi.
6. *Anatomy & Physiology* by Manohar Gangadhar Pat wardhan.
7. *Dhingari Textbook of Ophthalmology*, Jaypee- High-lights Medical Publishers, INC, Page no. 296.
8. A K Khurana, *Comprehensive Ophthalmology*, Jaypee the Health Sciences Publisher Page no-264.
9. A K Khurana, *Comprehensive Ophthalmology*, Jaypee the Health Sciences Publisher.

Source of Support: Nil

Conflict of Interest: None Declared

How to cite this URL: .: International Ayurvedic Medical Journal {online} 2024 {cited September 2024} Available from:

http://www.iamj.in/posts/images/upload/1720_1723.pdf