



Review Article

BHARAJAKA PITTA IN AYURVEDA AND CONTEMPORARY SCIENCE

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ABSTRACT

Ayurveda's fundamental idea is known as *Tridosha*. *Vata*, *Pitta* and *Kapha* are the body's three pillars. One of the three, *Pitta* is in charge of all bodily transformations, including hormonal and metabolic processes. The fire is referred to as "*Pitta*" The term "*Tapa santapaiti*" refers to *Pitta*, which is that which generates heat and a burning sensation. It offers perception of vision, concerning healthy digestion, preservation of body temperature, appropriate skin tone and the promotion of intelligence, self-assurance and bravery. *Pachaka*, *Ranjaka*, *Sadhaka*, *Alochaka*, and *Bhrajaka* are the five different varieties of *Pitta*. *Bhrajaka Pitta* is in charge of keeping the body temperature stable as well as providing the skin its colour and shine. *Bhrajaka Pitta* causes various drugs, *Abhyanga* (oil massage), *Parisheka* (hot water or oil pouring), *Avgaha* (tub bath), and *Lepa* (paste) to be absorbed and digested. This page explains how *Bhrajaka Pitta*'s physiological activity relates to current medical knowledge. To enhance comprehension of the notion and enable comparison with current scientific research, the fundamental materials for this study were gathered from old Ayurvedic texts and their available commentary, in addition to modern medical science textbooks.

INTRODUCTION

Initially, the five types of *Pitta* -*Pachaka Pitta*, *Ranjaka Pitta*, *Sadhaka Pitta*, *Aalochaka Pitta*, and *Bhrajaka Pitta*. One type of *Pitta* found in the skin that keeps the skin's natural colour and tone is called *Bhrajaka Pitta*. Before getting into the specifics of *Bhrajaka pitta*, it is important to briefly discuss *Tridosha* and *Pitta dosha*. From there, it will be clear what role *Bhrajaka pitta* plays in both the body's healthy situations and pathological states.

The five different types of *Pitta* were initially given names by *Acharya Sushruta*^[1]. The five types are *Ragkrta*, *Paktikrta*, *Tejokrta*, *Medhakrta* and *Usmakrta*. *Usmakrta*^[2] - It produces heat or temperature in the body so called *Bhrajaka Pitta*. *Bhrajaka* and *Pitta* are the two parts of the word *Bhrajaka pitta*.

The term *Bhrajaka* comes from the word "*Bhraj'* *Dhatu*" and means "*Dipti*" or "*Kanti*."

This refers to the one that preserves the skin's natural tone. The amount of *Bhrajaka Pitta* determines how the skin develops in terms of colour, and this situation is set in the skin throughout embryonic growth. When *Sukra* and *Shonita* collaborate with *Tridosha* (*Vata*, *Pitta*, and *Kapha*) during embryonic creation, the *Prakriti* is determined based on the amount of *Tridosha*, which might be minimum, medium, or maximal. Thus, it appears that the *Tridosha* is likewise present in varying amounts based on the previously indicated foundation. It implies that decisions on the normal texture of the body should be made at the same time as decisions about the natural stage and amount of *Bhrajaka Pitta* during embryonic formation. Every step of this procedure ought to be dependent upon *Bhrajaka Pitta*.

Although *Acharya Charaka* did not specifically name the *Bhrajaka Pitta* as a type, he did openly acknowledge the significance of *Pitta* in a different context when discussing how skin colour forms. In *Charaka Samhita*, *Sutra sthana* 12th chapter (*Vatakalakaliya adhyaya*) *Acharya* has accepted the

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view of *Acharya Marichi*^[3] and states that *Prakriti* and *Vikriti* complexion of skin depends on the *Prakriti* and *Vikriti* state of *Pitta*.

The *Bhrajaka Pitta* has been explained by *Acharya Cakrapani*^[4] as being engaged in the control of body temperature and skin colour.

The five forms of *Pitta* and their localities have been explicitly mentioned by *Acharya Sushruta*. He has depicted *Bhrajaka Pitta* as *Bhrajaka Agni* and acknowledged skin as its *Adhiṣṭhana*. Because *Bhrajaka Pitta* is found in the epidermis, it absorbs the substances that are utilised in the *Abhyanga*, *Parīṣeka*, *Avagaha*, and *Alepa* processes^[5]. The manifestation of *Chaya* is caused by it.

Following *Acharya Sushruta*, *Acharya Vṛiddha Vagbhata*^[6] named the five varieties of *Pitta*, *Bhrajaka Pitta* being one of them. As per *Astanga Samgraha*, *Bhrajaka Pitta* is said to be seated in the skin. *Acharya Sushruta* has been followed by *Acharya Vṛiddha Vagbhata* while detailing the *Karmas* of *Pitta*. Analysis reveals that *Bhrajaka Pitta* has depends in both natural and artificial skin coloration.

Astanga Hridaya^[7] has adhered to the earlier *Acharyas* and acknowledged *Bhrajaka Pitta* as a *Pitta* type and skin as its seat. It absorbs the wet portion of the skin while preserving its colour.

Acharya Bhavamishra^[8] has also followed the elderly *Acharyas*, while describing *Bhrajaka Pitta*. He has accepted *Bhrajaka Pitta* to be seated in the skin and digest the medicines externally applied on the skin.

Sthana of Bhrajaka Pitta

Acharya Sushruta^[9] has given 7 layers of skin in which *Avabhasini* is the first one. This layer has the ability to reflect all hues and can be affected by the pigmentation of all five *Pancha Mahabhutas*. This suggests that *Bhrajaka Pitta* is located in the *Avabhasini* layer of skin. *Acharya Charaka*^[10] described six layers of skin, but only the first two- *Udakdhara* and *Asrigdhara*- were given names. He has not given the name of upcoming four layers.

Seven layers of skin were also identified by *Acharya Vagbhata*^[11]; however, their specific names were not stated. However, in his commentary, *Arundatta* named the seven layers of skin: *Bhasini*, *Lohita*, *Shweta*, *Tamra*, *Tvagvedini*, *Rohini*, and *Maansdhara*.

Functions of Bhrajaka pitta

1. Formation of the normal skin colour

According to *Acharya Sushruta*^[12], *Bhrajaka Pitta*'s primary purpose is to give skin a particular shade.

2. Maintain of the normal skin colour

According to *Acharya Dalhana*, *Bhrajaka Pitta* is responsible for producing either the grace (*Prabha*) or the darkness (*Chhaya*). While the *Prabha* expresses the basic colour of skin in a better way, the *Chhaya* genuinely express the basic colour of skin. *Bhrajaka Pitta* aids in the presentation of *Prabha* and *Chhaya* in the skin. According to *Acharya Sushruta*^[13], assimilation, or *Pachana*, that results from the union of *Shukra* and *Shonita* gives rise to seven layers of skin. *Charaka* has explained what separates *Chaya* and *Prabha*. Although the *Prabha* illuminates the skin, the *Chaya* circumscribes the body's complexion. While the lustre sparkles from a distance, the shadow is seen up close. Nothing is without shadow and shine. When the shadow and lustre mature, some characteristic traits show the emergence of favourable or unfavourable outcomes for humans.

3. Regulation of Temperature- The comment given by *Acharya Cakrapani*^[14] has clearly explained the *Bhrajaka Pitta* as a factor for regulation of body temperature.

4. Smoothing action- *Acharya Charaka*^[15] has included softening (*Dehamardavam*) of body under wanting of *Pitta*.

5. Absorption- *Bhrajaka Pitta* helps in the digestion and absorption of the matter applied on skin through *Abhyanga*, *Parīṣeka*, *Avagaha*, *Snana*, *Lepa* etc., due to its *Uṣṇa Guna*.

Modern View

Skin

One of the body's most important and largest organs is the skin. It's not enough to think of it as just a body covering. It is an infection of the body's mirror, reflecting a wide range of internal illnesses. It is multipurpose and self-replacing. Being sensitive to pressure, pain, touch, temperature changes, and damage, the skin is a special "sense organ" that is more than just the skin acts as a barrier to protect an organism from its surroundings. The skin covers the external surface of the body in its whole, including the lateral side of the tympanic membrane and the external auditory meatus. It is continuous at each orifice where the specialised skin of the mucocutaneous junction occurs with the mucosa of the alimentary, respiratory, and urino-genital tracts. It also fuses with the lining of the lacrimal canaliculi of the lacrimal puncta and the conjunctiva at the edge of the eyelids. In clinical practice, 12% of all medical disorders are dermatological in nature. The spectrum of skin problems includes pigmentation disorders. They affect not just the regular functioning of the skin but also the body's interior environment. In pigmentary illnesses, disorders pertaining to hypopigmentation require attention, wherein the

psyche is significantly more involved than the sum in these conditions.

Melanin

The natural colour of skin is attributed to melanin; in the absence of this pigment, skin turns white. Melanocytes are cells that, according to embryology, are generated from the neural crest and produce the pigment melanin which are typically seen in relation to the organism's surface structure. The primary pigment that gives skin, hair, and eyes their colour is called melanin. Moreover, melanin functions as a density filter to lessen the damaging effects of ultraviolet radiation on skin. Melanin pigment, carotenoids, and haemoglobin- both reduced and oxygenated- are the factors that determine skin colour. Yellow pigments called carotenoids are present in subcutaneous fat and the epidermis.

In humans, melanin pigmentation comes in two varieties. First, there is constitutive melanin pigmentation, which is determined by genetics in the absence of external factors like sun exposure. The next is facultative, which is brought on by exposure to sunlight. Pregnancy, diet, and some autoimmune disorders are among the other factors that affect the Differences in the level of pigmentation can be found in different parts of the body and among different ethnic groups. In Asian people, the lightest area is lumber region and the darkest is upper thigh skin colour.

The melanocyte is a type of specialised skin cell that generates pigment known as melanin. The quantity of pigment cells in human skin is nearly universal. Darker skinned people have pigment cells that have a greater capacity to hold melanin.

Endocrine influence: Serotonin, noradrenalin, and adrenalin are the three biologically significant lightening chemicals. Melanin pigmentation is regulated by pituitary, adrenaline, oestrogen, and androgen hormones.

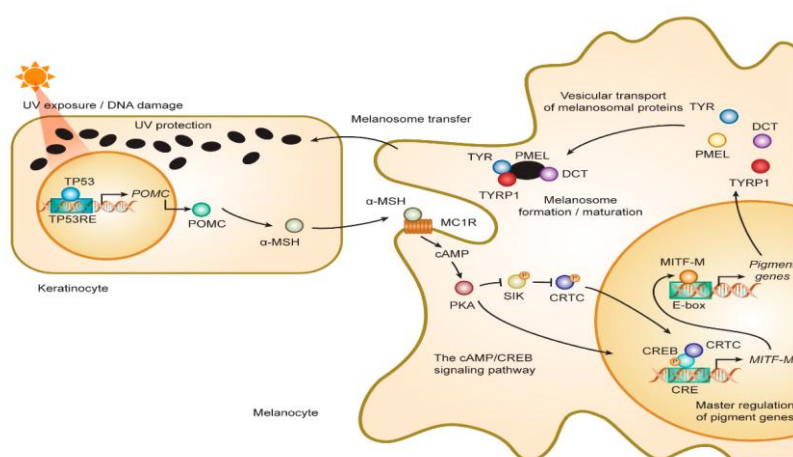
Melatonin: It's unclear how melatonin affects mammalian epidermal melanocytes. It is a derivative of 5,6-dihydroxyindole and the human body's strongest lightning agent.

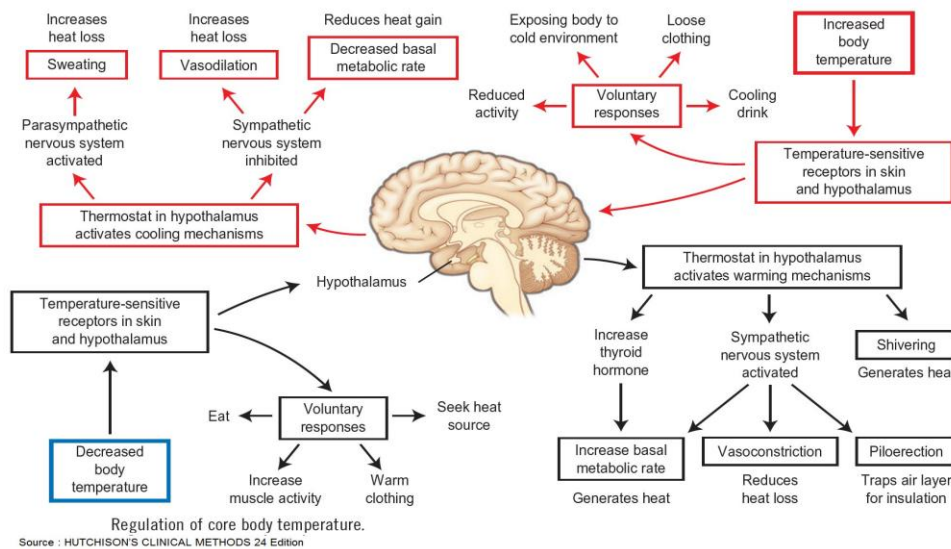
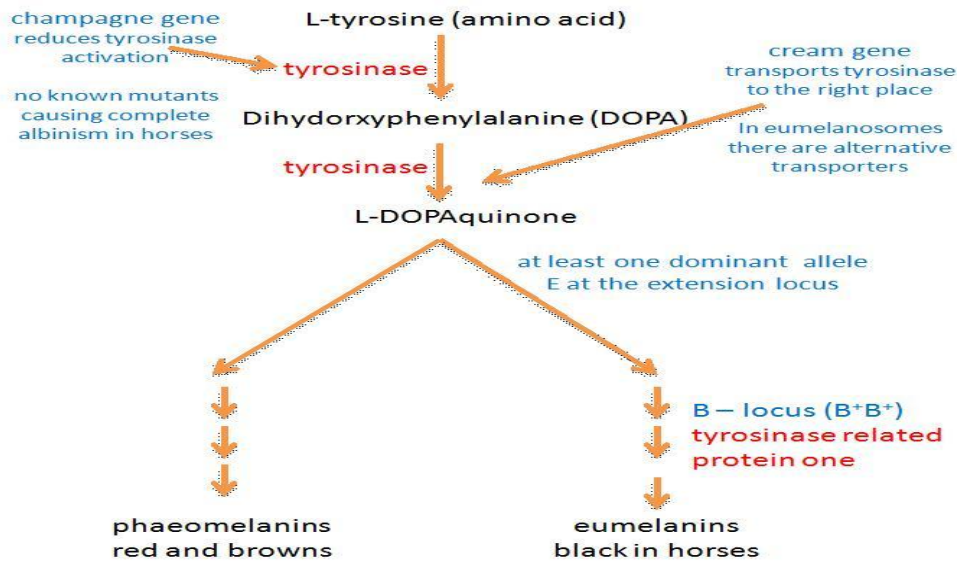
MSH: From the intermediate lobe of the pituitary gland, two melanocyte stimulating hormones (α - and B-MSH) have been extracted. These are the strongest skin-darkening agents identified in human skin, and they are polypeptides by nature.

The proper distribution, absorption, and digestion of nutrients are factors that affect melanogenesis. Vitamins C and D, folic acid, and trace minerals such as copper, zinc, iron, etc. hormones such as MSH, noradrenalin, adrenaline, and so forth, Sun exposure, UV radiation, and physical agents like tyrosinase are examples of these.

Skin Functions

1. Barrier function and skin desquamation
2. UV protection
3. Thermoregulation
4. Immunological surveillance
5. Sensation
6. Protection
7. Storage and synthesis
8. Excretion
9. Absorption
10. Blood reservoir





DISCUSSION

After going over every facet of Ayurveda related to *Bhrajaka Pitta*, we can conclude that maintaining *Varna* and *Ushma* is one of its fundamental purposes. Any deviation from *Bhrajaka Pitta* will result in an individual's *Ushma* and *Varna* being improperly managed. One of *Pitta's* seats is *Sweda*. *Sweda* is crucial for maintaining a healthy body temperature. For instance, both of *Bhrajaka Pitta's* functions are impaired in an albino person. Therefore, an individual with albinism cannot withstand prolonged exposure to sunlight due to elevated body temperature and increased perspiration. The pigment melanin and the hormone MSH that the pituitary gland secretes are the primary factors that determine skin colour. Temperature is another factor that melanin influences.

CONCLUSION

The skin's *Bhrajaka Pitta*, which is located there, produces both normal and aberrant skin colour, resulting in a variety of skin tones. *Bhrajaka Pitta* determines both normal and pathological body

temperature. The pituitary gland secretes MSH, which controls the formation of melanin by the melanocytes found in the skin's epidermis. Sweat and the pigment melanin allow the skin, which is regarded as the seat of *Bhrajaka Pitta*, regulate body temperature in reaction to changes in the internal or external environment.

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