
Understanding Pitta Dosha from Contemporary view Point

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Abstract

Ayurveda, a natural system of medicine, invented in India more than 5, 000 years ago. The term *Ayurveda* is derived from the two Sanskrit words *Ayur* (life) and *Veda* (science or knowledge). Thus, term Ayurveda interprets to knowledge of life. In Ayurveda, an independent consideration has been established with reference to biological actions. Tenets of Ayurveda conceive human body as miniature of macro cosmos which is corroborated by contemporary science as well. Vata, Pitta and Kapha have been understood as Tridosha. In this regard, it has been asserted that all these three sustain the body, but, in pathological state, they contaminate the body independently. Therefore, their identity is as Dosha. Doshas are the vital biological entity accountable for the maintenance of homeostasis. This article endeavour is made to discuss all aspects of Pitta Dosha to make it understandable and relevant.

Keywords: Ayurveda, Tridosha, Vata, Pitta, Kapha.

Ayurveda, a natural system of medicine, invented in India more than 5, 000 years ago. The term *Ayurveda* is derived from two Sanskrit words *Ayur* (life) and *Veda* (science or knowledge). Thus, term Ayurveda interprets to knowledge of lifeⁱ. In Ayurveda, an independent consideration has been established with reference to biological actions. Tenets of Ayurveda conceive human body as miniature of macro cosmos which is corroborated by contemporary science as wellⁱⁱ. The well-known Tridosha theory of Ayurveda, which deciphers the intricate biological function of body is outcome of fine observation of activities of universe and juxtaposition to biological activities of human body, Firstly, wordily bustle has been studied, then bodily actions were ascertainedⁱⁱⁱ. According to Ayurvedic philosophy, this creation originally has been divided in to two groups, which are Saumya (mild) and Agneya (igneous). Amalgamation of Agni and Soma causes the gubernation of universe, but motion is prerequisite condition of this coalescence. This motion has been recognized as Vata or Vayu. Agni is contemplated to be possessing Adanatmaka (incineration) attribute, Soma is acknowledged as Visargatmaka (energy restoring function) while Vayu is conceded as holding Gatyatmaka (dynamic) disposition. In the regulation of the creation, Moon is accepted as representative of Soma and Sun as Agni whereas Vayu is considered as causative factor of dynamic. In the body, Pitta and Kapha are conceded as tantamount to Agni and Soma correspondingly. Adanatmaka Kriya (energy generating function) and Visargatmaka Kriya (energy restoring function) of Agni and Soma are not possible without dynamic changes because their bodily representatives Kapha and Pitta are cripple. By this way, Vata, Pitta and

Kapha have been understood as Tridosha^{iv}. In this regard, it has been asserted that all these three sustain the body, but, in pathological state, they contaminate the body independently, therefore, their identity is as Dosha. Doshas are the vital biological entity accountable for the maintenance of homeostasis. Each Dosha has its distinct properties and functions, Vata contributes to manifestation of shape, cell division, signalling, movement, excretion of wastes, cognition and also regulates the activities of Kapha and Pitta. Kapha is responsible for anabolism, growth and maintenance of structure, storage and stability. Pitta is primarily responsible for metabolism, thermo-regulation, energy homeostasis, pigmentation, vision^v. Balance of these Doshas results in health while imbalance results in disease^{vi}. They are responsible for all kinds of physiological functions and their regulation, and have inclination to be vitiated by corresponding internal and external factors. Exhaustive comprehension of their appearances, functions, and causes of aggravation and diminution of function is of great importance from the treatment point of view. This article endeavour is made to discuss all aspects of Pitta Dosha to make it understandable and relevant.

Aim and objective- critically analysis of concept of Pitta illustrated in Ayurveda with the intention of that this notion could be made understandable.

Material and methods: Before writing the article, relevant literatures have been reviewed and studied meticulously, specially, all the major scriptures of Ayurveda. Other than these scriptures online articles have also been looked into for subject related information and elucidation. On the basis of all information and collected data, subject has been discussed with erudite persons and after deliberation systematically subject has been finalized in present form.

Description of Pitta

The term Pitta is derived from the root word “Tap”, which refers to generate heat or to burn^{vii}. Heat indicative of fire element in our body is contemplated to be the representative of sun energy in exterior world, which is indicator of life. This heat or fire element in our body is discerned as Pitta. Various metabolic and bodily activities like hunger, appetite, digestion of food for supply of nourishment to every cell, colour, complexion, circulation of blood, regulation of body temperature, vision, thought process, anger, aggression, energy and many other things are accomplished under the control of Pitta. Pitta renders these functions with perfection to maintain the health in the state of balance. When this beneficial Pitta got the state of imbalance and vitiation, it causes burning sensation and inflammation in the body leading to many ailments and in extreme condition death may occur. Absence of Pitta means absence of heat which is indicative absence of life. Normalcy of Doshas depends upon life style, dietary habit and constitution of body which inflict the properties of Doshas by virtue of which they perform their functions. Vitiation of Dosha or Dhatu will result in intensification or diminution of that properties and thus indulgence in dietary habit or life style having similar properties will cause aggravation of Doshas and vice versa. Properties of Pitta have been described by masters of Ayurveda as follows-

Charak	Sushruta	Vagbhatta
Sasneha (slight unctuous), Teekshna (sharp and piercing), Ushna (hot), Sara (expansile), Drava (liquid) and have Katu (pungent) and Amla (sour) taste and specific odour i. e. Visra Gandhi. ^{viiiixx}	Teekshna (sharp and piercing), Drava (liquid), Ushna (hot), Laghu (light) and Ruksha (dry); it has Katu (pungent) and Amla (sour) taste, having specific odour and colour of blue or yellow ^{xixii} .	Sasneha (slight unctuousness), Teekshna (sharp and piercing), Ushna (hot), Laghu (light), Ruksha (dry), Visra (odour resembling with raw meat), Sara (expansile) and Drava (liquid) ^{xiiiixiv} .

Above delineated attributes of Pitta ostensible in the state of aggravation in specific places of body, which is expounded as seats of Pitta by masters of Ayurveda.

Below is given various seats of Pitta according to compendiums of Ayurveda-

Charaka	Sushruta	Vagbhatta
Sveda (sweat), Rasa (ICF, ECF), Lasika (lymph), Rakta (blood), Aamashaya (stomach). ^{xv}	Yakrita (liver), Pleeha (spleen), Hridaya (heart/brain), Drishti (eyes), Twaka (skin), between Aamashaya and Pakvashaya (large intestine) ^{xvi} .	Sveda (sweat), Rasa (ICF, ECF), Lasika (lymph), Rakta (blood), Drika (eyes), Sparshana (touch), Nabhi (umbilical region), Aamshaya (stomach) ^{xvii} .

Nabhi (umbilical region) and Amasayais conceded as special seat of pitta, which indicates the therapeutic importance of these places in the healing of Pitta born ailments. In purification therapy, which is supposed to be assault on the root cause of diseases, purgative treatment is indicated which acts on AdhoAmasaya, the seat of Pitta ^{xviii}. There is no physical Agni in the body rather it resides in one or other form of Pitta, and is direct indicator of the status of Agni in the body, which gives rise to beneficial or detrimental consequences ^{xix}. Subsequently, Pitta executes Dahana (burning, combustion), Pachana (digestion) tantamount to the action accomplished by Agni; consequently, Pitta is also acknowledged as Antaragni. Whenever Pitta is increased, the Agneya Guna like Dahan (burning sensation), Pachan (pus formation) etc also developed in the body. In mildly augmented state of Pitta, Pittaharadravyas are suggested as SanshamanChikitsa (palliative therapy), consequently, the Agni which is in the form of Pitta is dwindled. Similarly, when Agni Guna are diminished symptoms like Arochaka (anorexia), Agnimandya (loss of appetite) etc. are noticed in the body, which are subdued by administering the Pittavardhak Dravyas like Chitraka, Shunthi. ^{xx}

Doshas are classified on the basis of site, function, physiological and pathological status, etiological factors causing their vitiation, clinical manifestation and mode of treatment. ^{xxi}

Pitta Dosha has also been divided into five types on the above-mentioned basis namely Paachak, Ranjak, Sadhak, Alochaka, Bhrajaka pitta^{xxii}.

Among the five types of Pittas, Pachak Pitta has an important function in digestion and metabolism. It performs its function with the help of Samana Vayu, Prana Vayu (stimulation of autonomic nervous system) and KledakaKapha (mucus secretion by goblet cells) in a utmost coordination^{xxiii}. Agni is responsible for Ahara Pachana. After deglutition of Panchabhautika Ahara. Agni act upon it and ensue the formation of subsistence of all Dhaatus. The ingested food is carried to Koshtha (alimentary canal) by Prana Vayu. The food disintegrates because of the liquids, and further it becomes soft because of the mucous substances. This action is performed by KledakaKapha. The Samana Vayu incites the Pachakagni (digestive enzymes) for proper digestion of the food. Here the Agni is meant for Jatharagni or Pachakagni or Pachaka Pitta. Seat of Pachaka Pitta is the site between Pakwashaya and Amashaya. In this are a different Srotas as secrete various digestive juce. Region of Grahani where Anna Pachanatranspires called as Pittadhara Kala, is stated as the coreplace of Pachaka Pitta.

Digestion is a process which is responsible to breakdown complex food particles into simpler and assimilable form. The process of digestion begins from the mouth itself during the mastication. In stomach complete digestion do not occur rather digestion continues up to small intestine. Maximum absorption of digested food products takes place in small intestine. In Ayurveda Grahani may be compared with duodenum and jejunum where most of the digestion occurs. Various digestive enzyme and hormones help in the digestion of protein, carbohydrate and fat^{xxiv}. Site and functions of Pachak Pitta expounded by masters of Ayurveda is mentioned below^{xxv}-

	Sthan (Location)	Karma (Function)
Sushruta Samhita	Resides in between the Amashaya and Pakvashaya	Digests the food, separate the essence and wastes from it; it supports the other Pittas located in different places
Astanga Hridaya	Situated in the interior of Pakvashaya and Amashaya	Cooks the food, separate the digested food into essence and waste, it strengthens to another Pitta.
Astanga Samgraha	Placed in between Pakvashaya and Amashaya	Digestion, separation of Doshas, Rasa, Mutra, and Purisha, it helps the other Pitta Dosha residing elsewhere in the body by bestowing disposition of fire.

Another imperative function accomplished by Pitta in the body is formation of Rakta Dhatu (blood), which is essential for nourishment and homeostasis. Rakta is considered to be the consequence of colouration of Ras dhatu by a special Pitta known as Ranjak Pitta with the help of Raktagni.

Site and function of Ranjaka Pitta by different preceptorial is mentioned below-

	Sthan (location)	Karma (function)
Sushruta Samhita ^{xxvi}	Yakrit (liver), Pliha (spleen)	colouring of Rasa Dhatu
Astanga Hridaya ^{xxvii}	Aamashaya (stomach)	colouring of Rasa Dhatu
Astanga Samgraha ^{xxviii}	Aamashaya (stomach)	colouring of Rasa Dhatu
Sharngadhar Samhita ^{xxix}	Yakrit (Liver)	Conversion of Rasa into Rakta

The location of Ranjak Pittais Yakrit (Liver), Pliha (Spleen), Amashaya (Stomach), which is well proved by Ayurvedamasters. Liver is storing house for Vitamin B12, Folic acid and iron. It is needed for the maturation of erythrocyte. The intrinsic factor which is secreted from parietal cells of stomach (amashaya) and is required for the absorption of vitamin B12. So, these three structures Yakrit (liver), Pleeha (spleen), and Amashaya (stomach) help in maturation of erythrocyte and proliferation of erythroblastic cells which supports view of Ayurveda.

Reviewing the modern physiology of erythropoiesis, the Raktagnimay be correlated with Growth and differentiation inducers, erythropoietin, norepinephrine, epinephrine, prostaglandin, and testosterone. Functions of Ranjakpittamay be correlated with intrinsic factor, vitamin B12, Folic acid, Iron and copper.

Another imperative Pitta inscribed in classical Ayurvedic treatise is Sadhak Pitta. The word Sadhaka is derived from the root word “sadha” which means to accomplish. It is located in hridaya and is responsible for intelligence, memory, self-esteem, enthusiasm and for the achievement of one’s own aspiration.

Site and functions of Sadhaka Pitta explicated by preceptorials of Ayurveda is as follows-

Name of classical textbook	Sthana (location)	Karma (function)
Charaka Samhita ^{xxx} (Chakrapaani commentary)	Hridaya	Shaurya, Harsha, Moha, Bhaya, Krodha
Sushruta Samhita (Dalhana commentary) ^{xxxi}	Hridaya	Helps to achieve one’s manorath and purushartha (Chaturvargaprapiti) It removes the kapha and tama in hridaya and increases the satwaguna and enables the Manas to perceive the things clearly.
Sushruta Samhita (Dalhana commentary) ^{xxxii}	Hridaya	Ojakrita, Medha
Ashtanga Hridaya (Sarvangasundaricommentary) ^{xxxiii}	Hridaya	To achieve the intended objects with Buddhi (intelligence) Medha (discriminative ability) Abhimana (self-esteem)
Ashtanga sangraha ^{xxxiv}	Hridaya	Person feels enthusiastic in work related to Buddhi (intelligence) Medha

		(discriminative ability) Abhimana (self-esteem), to achieve the fulfillment of desire. In Sashilekha teeka, Commentator Indu has mentioned buddhi is the cause to achieve the Bahyaabhipretartha in the form of memory
Sharangadhara Samhita ^{xxxv}	Hridaya	Responsible for Buddhi (intelligence) Medha (discriminative ability) (Medha pragyankar).
Bhela Samhita ^{xxxvi}	Hridaya	To achieve Chaturvarga (Dharma, Artha, Kama, Moksha) by confirming Shabda, Sparsha, Gandha artha, Kama deva-pitru-rishigana, substrate of this Loka and other by its own Yukti.

What is Hridaya in the context of Sadhak Pitta?

Hridaya is a broad word with different meanings in different contexts. In this context Hridaya as a location of Sadhaka Pitta can be considered as Masthishka or Brain which is located in head region because all the functions what are all attributed to Sadhaka Pitta, which is supposed to be located in Hridaya are under the control of higher centres of brain (Prefrontal cortex). Considering this point Sadhaka Pitta's functions can be better understood by considering the different functions of brain which are directly or indirectly related with brain. (Intelligence, Memory etc.)^{xxxvii}. In fact, functions of Sadhaka Pitta seem to be functions of central nervous system and it is associated with development of mental faculties and emotions. Neurotransmitter and neurohormonal substances like acetylcholine, dopamine, serotonin and norepinephrine are liquid in nature and helps in communication between different structures of CNS, may represent Sadhaka Pitta. From the above discussion functions of Sadhaka Pitta may be correlated with the functions of small molecules, rapidly acting transmitters and slowly acting neurotransmitters or neuropeptides.^{xxxviii}

In the succession of sub type of Pitta, Alochaka Pitta is of another excerpt of Agni or fire element, therefore it is also denoted as Alochaka Agni. Term Alochaka is Sanskrit word which refers to "something which assists in sighting" or "that which supports in thinking. The term Alochaka is derived from the term 'Lochana' which is a synonym of 'eye'. Thus, term Alochanasymbolizes to see. Alochaka Pitta resides in the Drishti, or vision, which empower us to see things around us and observe them in the right sense. This perception materializes in eye. Therefore, eye is theseat of Alochaka Pitta. In one of the classical Ayurvedic treatise known as Bhela Samhita, Alochaka pitta is categorized into two groups, named as Chakshyu Vaisheshika and Buddhi Vaisheshika. ChakshyuVaisheshika is utilized to visualized the things, whereas Buddhi Vaisheshika is employed to distinguish between two or more objects, critic them against

each other, and store data for advanced use^{xxxix}. The insight is executed through this specific Pitta after the unison of Atma, Manas, and Indriyas^{xl}.

Site and the functions of Alochaka Pitta enumerated by masters of ayurveda is computed as below-

	Charaka	Sushruta	Astanga Hridaya	Bhela
Sthana (site)	Netra	Drishti	AntahaTaraka, Drika	Chakshuvaisheshika in netra and Buddhi Vaisheshika in sringataka between bhru
Karya (functions)	Darshana, Adar- shana	Rupa grahana, Teja	Rupaalochana	Chakshuviasheshikf or rupagrahana and Buddhivaishika for minute observation of objects and memorizing the experience for future use.

Chakshyuvaisheshikapitta may be considered as the neurotransmitters involved in the optic pathway, represent alochakapitta. Buddhivaisheshikapitta may be represented as the neurotransmitter responsible for communication between the visual cortex association area, motor cortex, and subcortical region. Again the neurotransmitter that is responsible for communication between the association area of cerebral cortex, sensory cortices, motor cortices and subcortical part such as thalamus, limbic system, reticular formation of the brain for generation of thoughts, memory, and knowledge.

Based on the functions of Alochaka Pitta, it may be compared with variety of chemical factors, based on contemporary medical sciences, are responsible for the same functions. ChakshyuvaisheshikaPitta may be considered as the neurotransmitters viz Rhodopsin, iodopsin, bathorhodopsin, lumirhodopsin, metarhodopsin-1, Metarhodopsin-2, isomerase enzyme and the neurotransmitter responsible for communication between the retina and visual cortex in the optic pathway, represent Alochaka Pitta. Whereas, BuddhivaisheshikaPitta may be epitomized as the neurotransmitter accountable for communication between the visual cortex associated area, motor cortex, and subcortical region. Again, the neurotransmitter that is responsible for communication between the association area of cerebral cortex, sensory cortices, motor cortices and subcortical part such as thalamus, limbic system, reticular formation of the brain for generation of thoughts, memory, and knowledge^{xli}.

Regulation of body temperature is one of the substantial physiological phenomenon in order to maintain the homeostasis eventually the existence of life. Because, affair of the heat generation or temperature regulation is under the control of fire element in the body, which is represented by Pitta^{xlii}. This distinct Pitta is explicated as Bhrajaka Pitta. The term Bhrajaka is derived from root word "Bhrajja" which means, which brings about brightness. Kanti or natural complexion of skin is determined by this sub type of Pitta. Thus, the Pitta which is accountable for the creation of 'bha' i. e. colour and complexion of skin is called as BhrajakPitta or Bhrajakagni.

Seat and function of Bhrajaka Pitta enumerated by masters of Ayurveda-

	Sushruta	Vridha Vagbhatta	Sharangdhar
Sthan (seat)	skin	skin	skin.
Karma (functions)	Skin colour, Metabolize & absorbs the substance used Abhyanga Avasechana, Avagahana and Aalepa ^{xliii}	Same as described by Sushruta	Liabile for colour of skin ^{xliv} .

BhrajakaPitta located in the skin is accountable for creation of normal, abnormal and specific colour of the skin of an individual since birth. It also plays significant role in the normal and abnormal body temperature. Skin which is contemplated as the dwelling place of the Bhrajaka Pitta plays the major role in regulation of body temperature in response to any change in external or internal environment with the help of sweat gland and pigment Melanin. MSH secreted from Pituitary regulates the Melanin production from the Melanocytes located in the epidermis of skin.

Site and functions of Alochaka Pitta by different achary Site and functions of Alochaka Pitta by different achary

Summary and conclusion

Various metabolic and bodily activities like hunger, appetite, digestion of food for supply of nourishment to every cell, colour, complexion, circulation of blood, regulation of body temperature, vision, thought process, anger, aggression, energy and many other things are accomplished under the control of Pitta.

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