Indian J. Applied & Pure Bio. Vol. 39(3), 1721-1724 (2024). **ISSN: 0970-2091**
A web of Science Journal

A review on understanding of agni on its physiological and pathological aspects

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Abstract

Agni is the creator if maintained wise fully or an ultimate destroyer if left alone. *Agni* should be understood in the level of digestion and metabolism. Classical textbooks like *Samhita*'s and modern text books, scholarly articles were referred, reviewed and analysed. Physiological and pathological aspects of *agni* is reviewed and highlighted. The prime importance of *jataragni* is to be under consideration, because *jataragni* is the one which helps in the primary breakdown of complex food substance to simpler ones and to get assimilated in the body. The vitiation of this *agni* leads to production of *ama*, *srotodushtilakshana* and morbidity. Understanding of basic concepts of *agni* is essential for diagnosis and selection of proper treatment procedures.

Key words : *Agni*, Digestion, Metabolism, *Srotodushti.*

Ayurveda, the holistic system of Indian medicine that helps the body to maintain a constant internal environment by balancing the tridosha and agni. Human body is a strong machine which can work non-stop for years, if proper maintenance is done.The digestive system contributes to homeostasis by breaking down food into simpler forms that can be assimilated, absorbed and fueling the body cells and eliminates wastes from the body.

Digestive system extends from the mouth to the anus forms an extensive surface area, in contact with internal and external environmentand is closely associated with the cardiovascular system. In classical references, the importance of *hrudaya* as *adhisthana* of *rasa dhatu* and *vyanavayu* is emphasized which helps in propulsion and circulates all over the body.

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Metabolism is the set of life sustaining chemical transformations within the cells of living organisms. In each fraction of second, *dhatu* undergoes changes through metabolism which influences the core temperature of our body. *Ayurveda* addresses the role of *ushma* in every transformations.

For interpretation of digestion and metabolism, a better understanding of *jataragni, dhatwagni* and *bhootagni* mentioned in our classics is essential.

Classical textbooks of Ayurveda like *Samhita's* and modern text books, scholarly articles were referred, reviewed and analysed for better understanding.

The word alimentary stands for 'nourishment'. Alimentary canal or GI tract is a continuous tube that extends from the mouth to the anus through the thoracic and abdominal pelvic cavities. The accessory digestive organs include the teeth, tongue, salivary glands, liver, gall bladder and pancreas. The secretions that flow into the digestive canal through the duct aids in chemical breakdown of food[14]. *Acharya* included all these under *abhyanatara rogamarga* based on the area of disease production and for the purpose of selection of line of treatment.

In *Ayurveda*, division of *kukshi* is done in such a way that aregulation is to be maintained in the intake quantum. Even if division of space is done; it is told in particular that they are not equally divided. Major portion is for solid, liquid food and a space is left for the three humors[2] Location of *doshas* are at various levels in gastrointestinal tract but all together they should be given a minor space at their area of action. The food items difficult to digest to be taken half of satiation and easily digestible food items intake to be stopped before attaining complete satisfaction[11].

Prana vata helps in ingestion and propulsion till *ushmasthana. Samanavata* helps in *agniuttejana*,otherwise proper heat will not be maintained for the needed time. *Kala* is also told with importance as food if stays for short time transformation will not happen and if it stays for long time stasis leads to *shuktata*. *Sneha* the water element helps to make the complex food molecule soft for disintegration[7]. *kledaka kapha* in *amashaya* help to make it a chyme by *bhinnasanghata*. In *avasthapaka, kaphadiudeerana* helps in proper formationof *tridosha* in body.

In each step most complex is converted to less complex then to simpler.The prime importance of *jataragni* is to be under consideration, because *jataragni* is the one which helps in the primary breakdown of complex food substance to simpler ones and to get assimilated in the body. After completion of this process further *dhatwagni* and *bhootagni* take its role. This is the reason why it is told *dhatwagni* is much influenced by *kayagni*[12]. In all *dhatu* five *bhootagni's* are present but in different proportions. So after the action of *jataragni* it reaches each *dhatu* where *bhootagni* takes the *prakrutamana* (quantity) of each *guna* needed for growth and maintenance of that *dhatu*. Thus through *gunaposhana, dravyaposhana* happens.

Ashraya for *agni* is *grahani*[8]. They both influence each other. Thus *grahanidushti* can affect *agni* and *agnivaishamya* results in *dushti* of its *adhishtanagrahani.* The root cause for all *roga* is told as *mandagni* and *ama*[13]. This *ama* in broad sense is the entity which is not undergoing assimilation to get

converted to body nutrients used for growth and repair. Thus *Acharya* mentioned *ama* is to be understood as *anna rasa*- the non absorbed substrate, *mala sanchaya*- which not getting expelled at proper time and *prathama dosha dusthi*-first moment of deviation from homeostasis[7].

Initially in *kriyakala* the *dosha dushtilakshana* in the level of *kukshi* is told by *Acharya* as the unwholesome food and regimen results in generation of abnormal *dosha* formation in *koshta* in *avasthapaka* and the similar *dosha* related disease an individual will suffer in the near future. From the stage of *prasara* till the vitiated *dosha* take abode in a *dhatu* or *srotas* based on *kha vaigunya* to produce a particular disease where the signs and symptoms featured may past the limit of *koshta*[2]. So an intelligent *Vaidya* will identify the same in initial stages of *kriya kaala - sanchayaprakopaprasara* and provide treatment by seeing the *dosha dushtilakshana* with all unique consideration of *agnibala*.

As *agni* is difficult to understand through *pratyakshapramana* as the appetite and quantum of food intake is a subjective assessment, so classics used *anumanapramana* for the same.*Charaka* in *vimana sthana* while explaining *dashavidha pareeksha*[5], mentioned the assessment of *agni* through *abhyavahara-nasakthi*-the quantum of intake and *jarana shakti*-presence of features of proper digestion like no heaviness and distenstion of abdomen, feeling of lightness, attainment of appetite at proper time, evacuation of wastes etc[3]. Vaidya should compare this *lakshana* of *agni* in every patient in their *prakruta* and *vikrutaavastha* for generating a scale from *avara* to *pravara*. In the context of *sara pareeksha*, a metaphor quoted that never estimate the strength of ant by size as it is able to carry things more than its size[6]. Same way by seeing the external appearance the health status of *dhatu* and *agni* can never be assessed.

Currently without assessing the *agni* the practice of fasting if followed may land up in *Ojakshaya* and *vatavyadhi*[11].

The *samhanana*- consistency and firmness of each *dhatu* is different. If the *dhatwagni* or metabolic fire is *manda* then the improper transformation affect the *samhanana* of *dhatu*, we call its as *dhatu shaitilya*, reflected as functional disturbances in body. Once consistency and firmness deranged then it results in abnormal increase in *dhatu* due to presence of *saama*[12].

Srotodushti can be produced due to *atyagni* of *dhatu* and *mandagni* of *dhatu*. In *asthidhatwagnimandya* there will be excessive abnormal growth of bone is the presence of osteophytes deposited spur formation etc. In its *atyagni* increased bone mineral resorption and calcium loss through kidney seen. Thus patient suffer with reduced bone density, osteoporosis and increased fracture rate[9].

The same we observe in *vatakala* of an individual life or old age, where naturally there will be a reduction in *agni*. Still we observe osteoporotic changes resembling *atyagni.* Here the pathogenesis is not *atyagni* instead in ageing a shift is observed from osteoblast genesis to predominant adipogenesis in the bone marrow, which has a lipotoxic effects that affects matrix formation and mineralization.

Thus in ageing bone deteriorates in composition structure and function which predisposes to osteoporosis[10].

Understanding of basic concepts of *agni* is essential for diagnosis and selection of proper treatment procedures. In this scenario a normalcy of *agni* will provide longevity, good complexion, strength, health, enthusiasm, lustre and immunity. Thus *agni* is seen as duo, in normalcy maintain homeostasis and on derangement as culprit for all the diseases. So munch moil but maintain *Agni*.

Ethical Approval.

Not applicable

Availability of data and materials

Not applicable

Conflict of interests

There is no conflict of interests

Funding

Research work had not funded

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