ABSTRACT
Ayurved has described agni as an important factor for digestion and metabolism in human body. There are three sets of agnies help in the process of digestion at their own level. Aahar is one sub-supporters needed for daily life. After the digestion of aahar by jatharagni it turns into aahar rasa and kitta. Samana vayu brings the aahar rasa in to hridaya. From the heart vyana vayu ejects the aahar ras forcefully continuously and simultaneously to the whole body. Bhutagni helps in transformation and dhatvagni for the synthesis and breakdown of tissue. So all these physiological process depends upon the agni. It is basically important to our overall health. Disturbance of agni lead to formation of aam which will cause diseases. In the present article there is some review with the help of references available in the classics that may be helpful to all.

KEYWORDS
Aahar, Jatharagni, Dhatvagni, Bhutagni
INTRODUCTION
In Ayurveda health is a state where the dosha, agni, all the body tissues and components, all the physiological process are in balanced state and soul, sense organs and mind are in a state of total wellbeing. So agni has an important role for maintenance of health in an healthy individual. Agni is the key factor for transformation. It is of 13 types. Jatharagni is the principal agni and the causative agent for normal lifespan, complexion, strength, health, enthusiasm, growth, complexion, ojas (energy/vital essence), luster, other forms of agni and even responsible for existence of an individual. Bhutagni turns all the vijatiya panchabhouyika dravyas consumed to sajatiya panchabhouyika dravyas. Dhatvagni is in charge for synthesis and breakdown of dhaatus.

TYPES OF AGNI:
Acharya Chakrapani has mentioned about 13 types of Agni’s. Jatharagni–1, Bhutagni–5, Dhatvagni–7. According to Sushruta, five types of Agnis are illustrated, viz. Pachakagni, Ranjakagni, Alochakagni, Sadhakagni and Bhrajakagni. However, there is an indirect reference of five Bhutagnis about the transformation of food stuff.

Acharya Vagbhata has described different types of Agni’s, viz. – Aaudaryagni-1, Bhutagnis–5, Dhatvagnis–7, Dhoshagni – 3 and Malagni–3, Pitta -5. Sharangadhara has described five types of pitta. They are Pachak, Bhrajak, Ranjak, Alochaka and Sadhak. Bhavamishra has followed Acharya Charaka and Vagbhata.

JATHARAGNI-THE PRINCIPAL AGNI
Jatharaagni in its inactive form leads to death of an individual, if it is in active form increases lifespan and diseases free life. If it is in abnormal form it causes various diseases. Therefore jatharagni is considered to be the root or chief among all the categories of agni. Aggravation and diminution of jatharagni results in the aggravation and diminution of other agni because they are dependent on jatharagni. The appropriate type and amount of fuel in the form of food and drink helps to maintain jatharagni in equilibrium condition because life and strength of an individual are dependent upon it.

BHUTAGNI: THE TRANSFORMER OF MAHABHUTAS
Consumed foods undergo metabolic transformation by the action of jatharagni, bhutagni, and dhatvagni. Initially jatharagni kindles the bhutagni. So in the
gastrointestinal tract (GIT) both jatharagni and bhutagni acts simultaneously in the food materials.

After the digestion of food by jatharagni in the GIT, bhutagni’s action still continues and it transforms vijaatiye panchbhautic elements of aahar rasa in to sajaatiye panchbhautic elements which nourishes their own specific bhautili elements of the body\textsuperscript{15}. This ultimate change in aahar ras that occurs at the end of digestion of jatharagni paka is performed by bhutagni. This process is called vipaka\textsuperscript{16}.

Bhutagni is five in number. They are innate in the food articles\textsuperscript{17}. Every panchbhoutik dravya has five basic elements and has their respective five bhautika agnies. One bhoutika agni is present in each element and are named accordingly. Bhoumyagni (agni of prithvi element), apyaagni (agni of apya element), taijasaagni (agni of taijasa element), vayavya agni (agni of vayavya element), akasheeya agni (agni of akasha element)\textsuperscript{18}.

**BHUTAGNI AND JATHARAGNI: A CONTREVERSY**

Human body consists of 100 trillions of cells\textsuperscript{19} and every cell in our body is composed of five mahabhutas\textsuperscript{20}. Naturally each cell also consists of these five bhutagnies. As the dravya present in the world that we consume also consist of same five basic elements with their respective bhutaagni\textsuperscript{21}.

The body sustaining element which are seven in number undergo metabolic transformation into two different ways viz. kitta bhag (transformation of waste product) and prasada bhag (transformation of nourishing material). This process occurs with the help of seven dhatvagni corresponding to its own dhat\textsuperscript{22}. This transformation process supports Ksheer Dhadhi Nayaya given by Chakrapaani\textsuperscript{23}. Jathargni acts upon food which leads to the formation of aaharras. After that rasagni acts upon these aaharras and leads to formation of rasa dhatu which is panchabhoutik in nature\textsuperscript{24}. Every material in the universe is panchabhoutik in nature and each material is having five individual bhutagni inside it. In general bhutagni remains present inside the panchabhoutik dravya in dormant form. These bhutagni inside the dravya got activated after getting activation energy from external sources in two ways.

1. In one way the bhutagni inside the unripened dravya got activated after getting energy from sun light as external sources and transform that unripened dravya into ripened dravya. On the other hand, if the fruits are remain unused for further purpose then the fruits started to decompose because once the bhutagni is activated it transforms
the panchbhautik dravya into its individual component.

2. In another way, during cooking, by using external heat in the form of fire, the bhutagni inside the panchbhautik dravya gets activated that ultimately results in breakdown of composition of panchbhautik dravya.

This proves that the activation of bhutagni depends upon both external and internal source of agni. In cooked panchbhautik dravya, bhutagni is already in activated form and after ingestion when cooked panchbhautikdravya reaches to grahani, jatharagni comes in action with the help of saman vayu and converts it into the most nutritious part called sara and waste part calledkitta. In lok when an individual dies, panchbhautik sharer starts to decompose and decomposition processes continue until it is converted into basic five elements. This is because when dehagni stops functioning, the individual dies but the bhutagni inside panchbhautik sharer is still in activated form and it remains in active form until panchbhautik sharer is decomposed in to individual panchbhautik component i.e. from sajaatiye to vijaatiye dravya. Decomposition of panchbhautik sharer there after contradictory to the part that bhutagni depends upon jatharagni.

**Dhatvagni:** The Synthesizer of Dhatus

Dhatvagni is the most important agni in human body. It is responsible for the formation of dhatuas well as increase or decrease of dhatu. When the dhatvagni is in normal stage it leads to the formation of proper dhatu. The nutrient portion of rasa provides growth and nourishment to subsequent rakta dhatu, rakta to subsequent mamsa, mamsa to subsequent meda dhatu, meda to subsequent asthi dhatu, asthi to subsequent majja dhatu and the nutrient fraction of majja provides nourishment to subsequent sukra dhatu26.

Tej portion of rasa dhatu, undergoes transformation by the usmā of pitta and gets converted into rakta dhatu. Due to the action of usma of rakta along with the vāta, ambu (water) and tejas, rakta attains compactness and get transformed into mamsadhatu after being acted upon by mamsadhatvagni27. These vayu, ambu and teja are the abhyantara mahabhuta which are formed by the action of panchabhatagni. So the bhutagnipaka is important among the pakas because it provides raw materials in the form of vayu, ambu and tejas etc for dhatu formation. Malfunction of bhutagni causes malformation of mahabhuta (substrate) and subsequent malformation of dhatu. Dhatu
is an important basic component of *shareer*. *Shareer* develops because of nourishment of seven *dhatu* which are also a combination of *panchamahabhutas*.

Health of living beings depends on wholesome food and disease is caused by unwholesome food. Intake of delicious and wholesome food associated with smell, taste, color, touch and sound nourishes the olfactory, gustatory, optic, tactile and auditory sense organs in the body, respectively. These functions are happened with the help of *bhutagni*\(^{28}\).

Generally all diseases are produced by *mandagni* (weak digestive activity) especially so the *udara* (enlargement of the abdomen)\(^{29}\). *Aahar rasa* formed because of *mandaagni* is not fit for subsequent *dhatu* formation. The first *dhatu*, *rasa* which has not been transformed properly due to *mandaagni* (of digestive fire) and which is vitiated and remains in the *amasaya* is known asaam\(^{30}\). These free radicals are present in body due to disturbances in *bhutagni* as well as *jatharagni* as *bhutagni* principally depends upon *jatharagni*.

**DHATU POSHANA NYAYA AND AGNI:**

Heart ejects the essence part of *aahar rasa* along with *rasa-rakta* simultaneously, continuously and forcefully so that it is circulated all over the body and reaches to the level of *dhatu* as per *kedarikulya nyaya*. According to the *khalekapota nyaya* the nourishment of *dhatu* takes place by selective absorption. The nutrient portion travels through different channels. Different *dhatu* get nourished by its specific nutrient portion at different stages. Nutrient portion leaks from the capillaries during circulation and reaches to the level of tissue fluid. Required nutrients are selectively absorbed by active absorption. This requires expenditure of energy.

Similarly *rasa* flow to each *dhatu* and uptake of *poshya dhatu* is regulated depends on the metabolic needs of the particular *dhatu*. For example in the formation of *rakta dhatu*, iron, vitamin B\(_{12}\) and folic are required. This theory can also explain the transport of different particle across the cell membrane with the expenditure of energy. This is because the pigeons in the above example have to spend energy to procure the grain.

The seven type of *dhatvagni* specific to their *dhatu* are *rasagni*, *raktagni*, *mamsagni*, *medagni*, *asthagni*, *majjagni*, and *sukragni*. *Dhatvagni* is essential factor for *dhatu* formation, maintainace and growth of *dhatu*. Within physiological limit if *kayagni* is strong, *dhatvagni* become strong. If *dhatvagni* is strong it will utilize the substrate of *aahar rasa* and if not
satisfied begins to destroy the dhatu itself which leads to dhatukshyaya. Hence both vridhhi and kshyaya of dhatu are mainly due to weak and powerful dhatvagni, respectively. The amount of food that a person ingests is determined principally by intrinsic desire for food called hunger. The type of food that a person preferentially seeks is determined by appetite. So one should take proper quantity of food because the quantity of food is determined by agni bala (power of digestion and metabolism). The agni bala also varies according to season as well as age of an individual. Thus it depends upon number of factors. The amount of food should be taken in proper quantity so that it will get digested as well as metabolized in proper way.

Little amount of food intake or starvation for long time causes weight loss. In this condition jatharagni is not functioning well because of little or no intake of food. So mandagni leads to manda dhatvagni which should increase the dhatu. But here gradual loss of dhatu begins which is a contradiction. Khalekapotanyaya explains the transport of different particles across the cell membrane which requires expenditure of energy. Likewise with the help of specific enzyme the transformation in the metabolic pathway can be understood by ksiradadhānaya. Food is hydrolyzed the alimentary tract into such a simple that it can be absorbed into blood. Then saman vayu brings the aahar rasa into heart. After that it is distributed to all other parts of the body by the help of vyana vayu.

**AAHARA AND VIHAR: THE CAUSATIVE FACTOR FOR DISTURBANCE OF AGNI**

Excessive fasting or over eating causes mandagni, as like fire in environment is extinguished if there is no fuel supply or if excessive fuel covers the agni. One should take the right quantity of food always since it is the quantity which helps to maintain proper digestive power and also provides strength, complexion, happiness and longevity to the person without disturbing the normalcy.

Meals even if suitable and taken in proper measure does not get digested properly if the person suffers from anxiety, sadness, fear, anger and has undergone uncomfortable sleep and has remain awake for a long period. Psychological attitudes like envy, fear, anger etc are the causative factors of indigestion. So strength of agni depends upon the proper diet and mental factors.

**AGNI AND METABOLIC DISORDER:**
All the transformations in the body are catalyzed by *Agni*, if *agni* is impaired, the proper transformation of food into *Dhatus* and Malas are also impaired and this will lead to accumulation of waste products in the body.

Lack of exercise, sleep during daytime, excessive intake of fat & alcohol rich diet leads to vitiation of *medavaha srotas*.

Following such kind of excessive life style and dietary habit leads to accumulation of *medodhatu* in *medovaahi srotas* which causes obstruction (sang) in *medovaahi srotas*. Obstructed *medovaha srotas* causes more synthesis and accumulation of *medo dhatu* in medovaha srotas which prevents further synthesis of subsequent *dhatus* of *asthi, majja* and *sukra dhatu*.

As per the principles of *pratisrotomargnyaayena* excess of meda *dhatu* in the medovaha srotas leads to excess formation of previous *mamsa dhatu*, likewise excess of *mamsa dhatu* leads to excess formation of previous *rakta dhatu*, excess of *rakta dhatu* leads to excess formation of *rasa dhatu*.

Further as per the principles of *Kshir Dadhi Nyayya* excess of *rasa dhatu* leads to excess synthesis of consequent *rakta dhatu*, excess of *rakta dhatu* into *mamsa dhatu* and excess of *mamsa dhatu* into medo *dhatu* and further the principles of *pratisrotomargnyaayena* takes place and ultimately excess of abnormal *medo dhatu* is formed.

**DISCUSSION:**

Within physiological limits, if *kayagni* is strong then *dhatvagni* becomes strong. If *dhatvagni* is strong then it leads to *dhatukshyaya*. Similarly if *kayagni* is weak then *dhatvagni* becomes weak and leads to *dhatu vriddi*. But beyond physiological limit in case of low intake or starvation for long time is an exception to the concept described in *Samhita*. If *agni* is in equilibrium state it maintains normal healthy life. Proper quantity of *aahar* keeps the *agni* in equilibrium or within physiological limit. If *aahar* is not in proper quantity, the equilibrium of *agni* is not maintained. Improper quantity of food can be classified in two categories.

In first category when the quantity of food intake is less for a long time as in case of starvation causes *mandagni* and ultimately *dhaatu kshyaya* which is an exception.

In second category when quantity of food is more, as in case of overeating, it also causes *mandagni* which further decreases the strength of *dhatvagni* and the ultimate result is *dhaatu vridhi*. In case of *tikshnagni* equilibrium of *dhaatu* is maintained by the use of guru *aahar* at short intervals. If *aahar* is not given it causes *dhaatu kshyaya*. 
Intake of unwholesome food alone is not only the causative factor for a disease. Apart from unwholesome food, there are many other etiological factors that lead to a disease, such as changes in season, intellectual errors, excessive, wrong and overutilization of senses of sound, touch, vision, taste and smell. These etiological factors can cause diseases in an individual despite wholesome intake of diet.

Among all the three agni, bhutagni has an important role in the digestion and metabolism. Bhutagni provides substrates and helps in the formation of dhatu. Dhatu is an important basic component of shareer. Shareer develops because of nourishment of seven dhatu which are also a combination of panchamahabhutas. Bhutagni paka provides raw materials in the form of vayu, ambu and tejas etc for dhatu formation.

**CONCLUSION:**

It may be concluded that Agni is responsible for digestion and metabolism in human body. The healthy state of agni depends upon nature and quantity of food intake. A wholesome diet is essential for good health and prevention of disease. Malfunction of agni occurs due to intake of unwholesome and improper quantity of food intake and other factors which leads to formation of aam. It causes sroto dusti and leads to several diseases. So wholesome combination and appropriate quantity of food should be taken. Yoga and meditation should be done in mental disturbances.
REFERENCES


