



A REVIEW OF FACTORS INFLUENCING DIGESTION AND METABOLISM MENTIONED IN ANCIENT INDIAN MEDICINE

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ABSTRACT

The most ancient system of medicine in Indian subcontinent is the rich science of *ayurveda*, which is popular as traditional medicine of India. *Ayurveda* being a holistic science is a treasure of measures of life, health and diseases. The fundamental principles of *ayurveda* were the outcome of many observations and repeated experimentations by ancient seers. The process of digestion and absorption has been conceived in the form of *agni siddhant* in ancient system of medicine. If the capacity of digestion and metabolism is to be examined or estimated in diseased or healthy condition, multiple factors are required to be investigated to draw out conclusion. These are *doshika* predominance, *prakriti*, *ritu*, diet and rules of dietetics, exercise, daily routine, sleep habits, mental health status and many others. It has been discussed in this article that how these factors enhance or diminish the digestive strength of an individual.

Keywords: *Agni*, ancient system, Indian medicine, metabolism, digestion

➤ INTRODUCTION

i. The Concept of Digestion and Metabolism in *Ayurveda*

Agni is a basic element which has been enumerated under nine *karana dravyas* (causal factors) which are essentially required for the genesis of other factors¹. It was also pondered upon by Indian philosophers from a very wide perspective. The various transformations in any substance were considered due to the presence of *agni* only in that particular object. This concept simultaneously got developed in system of medicine also and became an important parameter for assessment of health and diagnosis of diseases.

Agni has an important role in maintenance of health, as evident in definition of health given by *Acharya Sushruta*². The digestion and absorption of food are among the parameters of health. It has been clearly stated that in the absence of *agni* human being perishes and in its balanced state

he remains to be in a state of good health. Derangement of the same leads to many diseases. Hence, it is an important factor for vitality, maintenance of life and health³. As per *Acharya Charaka* the following are the outcomes of proper *agni* in body-

Ayu (life), *varna* (luster, complexion), *bala* (physical and mental strength), *swasthya* (health), *prana* (vitality), *uthsah* (capacity to do difficult tasks), *upchaya* (nourishment of the body), *prabha* (lustre), *oja* (immunity), *teja* (vital radiance/ aura), *dhatvagni* and *bhutagni* are all dependent upon *dehagni* or *jatharagni*⁴. It has been clearly mentioned in *Charaka Samhita* that food provides nourishment to the *deha-dhatu*s (tissue elements of the body) and *ojas* (vital essence), *bala* (strength) and *varna* (complexion), but, in fact, it is the *agni* (digestive capacity) that plays a vital role in this connection because *dhatu* (tissue elements) like *rasa*, etc, cannot originate from undigested food particles⁵. Hence, the digestion of food is properly dependent upon *agni*.

Agni has been considered under *pitta dosha* in the body. The *ushma* of *pitta* is referred as *agni*⁶.

ii. Classification of *Agni* and Significance of *Jatharagni*⁷

It has been classified as *jatharagni*, *bhutagni* and *dhatvagni* as per the different levels of its functions. *Jatharagni* is responsible for digestion occurring in stomach leading to breakdown of food at a gross level. *Bhutagni* are five different *agni* responsible for breaking down of five types of food components such as *akashiya*, *vayavya*, *agneya*, *aapya* and *parthiva*. *Dhatvagnis* are seven referring to seven *dhatu*s and their function is formation of different *dhatu*s. *Jatharagni* is chief among all the categories of *agnis* as *bhutagnis* and *dhatvagnis* are dependent upon it. Aggravation or diminution of *jatharagni* results in the aggravation or diminution respectively, of *bhutagnis* as well as *dhatvagni*.

Apart from these three major types, there are *doshoshma* and *maloshma* as per *Vagbhata*. The word *ushma* here means *agni* as per commentator *Arundutta*. So there are three *dosha agni* namely-*vatagni*, *pittagni*, *kaphagni*. *Maloshma* is related with *mutra*, *purish* and *sweda*. Hence, there are three *malagni* namely *mutraagni*, *purishagni* and *swedaagni*⁸.

➤ FACTORS INFLUENCING DIGESTION AND METABOLISM IN HUMAN BEINGS

There are a number of factors which influence the digestion and metabolic capacity of an individual. These factors should be taken into consideration while diagnosing or treating a disease.

i. *Agni* and *Doshika* Predominance

Jatharagni is also classified into four categories according to its performance of digestion in the human being⁹ namely *samagni*, *vishmagni*, *tikshnagni* and *mandagni*. *Samagni* is seen when three *doshas* (*vata*, *pitta*, *kapha*) are in normal stage. When the *pitta* is higher than normal, the condition is known as *tikshnagni*. When *kapha* is higher than normal, the condition is known as *mandgni*. When *vata* is higher than normal, the condition is known as *vishmagni*.

Samagni

The *samagni* digests and assimilates food properly at the proper time. This thus increases the quality of the *dhatu*s (supportive tissues of the body). Persons having *samagni* are always hale and healthy.

a) Vishmagni

This type of *agni* shows irregularity in digesting food (sometimes quickly and sometimes slowly). If not taken care of, it leads to different types of diseases like *gulma* or *udargata roga* (abdominal disorders).

b) Tikshnagni

Tikshnagni means very quick/very sharp/very fast. *Tikshnagni* is a state of very quick digestion of food, regardless of the type of food. *Acharya Sushruta* states that when the power of digestion is increased from normal to above normal, food get digested very quickly and produces hunger or the desire for food frequently. When food is digested, the throat, the mouth cavity and the lips become dry with a burning sensation.

c) Mandagni

“*Manda*” means slow in action. The meaning of the *mandagni* is slow digestive power or digestive capacity. Those who are having *mandagni* eat very little and are unable to digest the smallest amount of food. *Agni* digests the least amount of food in the greatest amount of time.

ii. Agni and Prakriti of a Person

The *prakriti* of an individual show a relation with the state of *agni*. *Kaphaja prakriti* person usually have *mandagni* that’s why they have small quantity of food, may take time to digest the food, they may be little slow in their activities. *Pittaja prakriti* individual has comparatively good strength of *agni*, his hunger is very good and he can have large quantity of food frequently. *Vataja prakriti* person shows irregularity, it has uncertainty about the strength of *agni* i.e sometimes weak sometimes good¹⁰.

iii. Agni and Age

In middle age or young age, it is highest as compared to childhood phase and old age. It is the reason behind use of *rasayana* therapy in middle or young age. The physical and mental strength is also very high which is also dependent upon *agnibala*. Thus, the physician may have wide variety of drugs for the treatment of the diseases in this phase of life. In old age gradual diminution of *agni* is seen leading to demise. Correction of *agni* should always be kept in mind while treating old age individuals.

iv. Agni and Seasonal Variations

In the *aadana kala* (*summer, rainy and autumn season*) the *agni* of the individual gets weakened¹¹. In *hemanta ritu* (winter season) season the *agnibala* is very high. As the climate is very cold outside, the body heat is conserved and does not come out from the inside of body, it gets very sharp and is capable of digesting every *guru* type of food in large quantity. When it does not get food it starts destroying the body tissues¹². Hence *snigdha* and *guru* food should be taken in this season. In *vasanta ritu* (spring season) because of the harsh sun rays, the accumulated *kapha* starts liquefying and thus diminishes *kayagni*. The use of word *kayagni*

signifies no affliction at *dhatvagni* level. In rainy season, the *agnibala* is very less as a consequence of *aadana kala*. It is vitiated by all *doshas*. This diminished *agni* is further suppressed by *vayu* (air), *megha* (clouds) and *varsha* (rain). *Pitta* gets aggravated by *amla vipaka* of *jala*. *Agni mandya* is further responsible for *dashopprakopa*. The *apaka* (hampered digestion) and *vipaka* (altered or improper digestion) leads to *kapah-pitta dushti* which leads to improper *dhatu poshana* and hence *dhatu kshaya*. This *dhatu kshaya* again increases *vata dosha*. Hence for the protection of *agni* barley, wheat, *shali* rice, meats of animals should be used along with honey¹³. In *grishma* (summer) and *sharada* (autumn) season also, it should be taken care of by choosing proper diet.

v. *Agni, Diet and Rules of Dietetics (Nature of Substance and Agnibala)*

Diet in relation to *agni* should be considered from two points i.e type of diet and quantity of diet. *Guru* diet (which takes longer time for digestion) diminishes the *agni*, *laghu* (light diet which takes comparatively less time to get digested) types of diet increases *agni*¹⁴. The quantity of one's diet depends upon the *agnibala*. If the *agnibala* is good the quantity will be more. *Guru dravyas* should be taken one-third or half of the capacity of stomach. *Laghu dravyas* should also be not taken to full capacity of stomach. This leads to maintenance of *agni* in the body. Examples of *laghu dravya* are *shali* rice, *sathi* rice, *moong* pulse, meat of *lava*, *kapinjala*, black deer, *sambhar* deer and rabbit. All of these kinds of food expect adequate quantity but not very high. *Guru dravyas* like *pishta*, preparations of sugarcane and milk, sesame, black pulse, meats of animals of marshy lands and aquatic animals also expects adequate quantity. They should always be avoided in large quantities. So, both *laghu* and *guru dravya* are dependent upon quantity. *Laghu dravyas* are dominant in *vayu* and *agni guna* and on the other hand *guru dravya* are dominant in *prithvi* and *soma guna*. Because of *vayu* and *agni guna* in *laghu dravyas* stimulate *agni* so if ever taken in large quantity, they do not cause much discomfort or problems. *Guru dravyas* because of *prithvi* and *soma guna*, they do not stimulate *agni* because of being opposite in quality. So when taken in large quantities they aggravate *doshas* and cause disease. But the people who are habitual to exercise and whose *agni bala* is high, *guru dravyas* do not cause much problem¹⁵.

The dietary habits for e.g. taking food in time, taking hot and unctuous food, taking beneficial food, taking fresh food, and taking food in cool mind state of mind increases the *agni*¹⁶ and in opposite factors like *akala bhojan* (untimely meal), *ruksha* and *sheet* (dry and cold) food, stress, anxiety decreases the *agnibala*.

vi. *Agni and Exercise (Physical Activities)*

Sedentary life style and excessive sleep decreases *agni* and appropriate exercise alleviates the same^{17, 18}. *Diwaswapa* (day sleeping) decreases *agni* and *snana* (bath) increases the *agni*.

Physiological factors like mental tension, emotional instabilities like anger, anxiety, fear, lust, greed, jealous, depression etc. also diminishes the digestive strength¹⁹.

CONCLUSION

Each and every individual is different and so is his physiology. One of the basic system is digestive system on which the growth and development of body is dependent upon. The ancient Indian system of medicine emphasizes that the digestion and metabolic capacity of an individual is influenced by *doshika* predominance, constitution or temperament, seasonal variations, dietary factors, mental health, exercise and many other factors. Hence while treating a patient all these factors should be taken into consideration. The dose, pharmaceutical preparation for a particular person should be decided as per *prakriti*, the mental health and seasonal variations as well. Healthy person also should take care of all these factors for maintain his health.

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