

ROLE OF AGNI IN *STHAULYA* (OBESITY) – A REVIEW ARTICLE\*<sup>1</sup>Vd. Komal Wasudevrao Bele and <sup>2</sup>Vd. Anil Pansambal<sup>1</sup>PG Scholar, Dept. of Kayachikitsa, SVNHT's Ayurved Mahavidyalaya, Rahuri. Tal- Rhauri, Dist – Ahamednagar.<sup>2</sup>Guide, Reader, Dept. of Kayachikitsa, SVNHT's Ayurved Mahavidyalaya, Rahuri. Tal- Rhauri, Dist – Ahamednagar.

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## ABSTRACT

Obesity is one among the major diseases of modern era, increasing in prevalence. *Sthaulya* (Obesity) is well known from the *Samhita* period and is considered to be one of the eight undesirable conditions (*Ashtau Nindita*). It can be caused due to *Mandagni* as *Agni* is considered to be responsible for metabolism. Thus, a formed moves within body, further causing *Medovruddhi*, which produces excessive stoutness. According to modern science, among the many causes one of the causes for obesity is sedentary lifestyle, where there is more intake of fast food and less physical activity as compare to intake. *Agni* is sole cause for existence of life and its extinction leads to death; its proper maintenance helps to live a long life. It is also cause for colour, strength, health, enthusiasm, plumpness, complexion ojus tejus and various verities of *agni* and *pran*. There are four different states of *jatharagni*. *Visham* (irregular), *teekshna* (intense), *Manda* (weak or less powered) and *Sama* (well maintained and regular) states. Among the four different states of *Agni* *Smagni* is considered as normal one, all others are considered as abnormal. *Ashtau Ahara Vidhi Vishesh Ayatanas* (eight rules for eating) explained in *Ayurveda*, is only carried out by *Samagni*. *Agni* is one of the important and basic phenomena of the life. It should be maintained at any cost to live a disease free life. State of *Agni* is having dominant role in the manifestation of lifestyle disorders as obesity is considered as one of the life style disorder. Maintenance of *Smagni* is essential for the disease free life especially for diseases associated with lifestyle such as *sthaulya*.

**KEYWORDS:** *Agni*, *Sthaulya*, Health, *Meda-roga*, Imbalance.

## INTRODUCTION

The Nature has taught the man many things, and one of them is how to be healthy before the science has discovered the laws of health. But, it is an irony of the fate that on the earth don't get enough food and roam in skeletal appearance while on the other hand, there are many more who besides over eating leads a sedentary life to march towards an untimely death.

The qualities of healthy individuals are narrated In *ayurveda* as equilibrium of all three *doshas* Viz. *Vata*, *Pitta* and *Kapha*. Normal state of *Jadharagni*, normal state and function of *Dhatus* Viz. *Rasa*, *Rakta*, *Mams*, *Meda*, *Asthi*, *Majja*, *Shrukra*: normal state and function of *Malas* viz. *Purish*, *Mutra* and *Sweda*.<sup>[1]</sup>

In *Ayurveda*, *sthula purusha* is considered as one of *nindita purusha*. *Acharya Charaka* has explained the *Swastha purusha* as *sama mamsa*, *sama praman*, *sama samahana* and having *Dhridha Indriyas* but *sthul* person is not having such qualities. Regarding this explanation is available in *ayurvedic* classics ch. Su 21-18/19.<sup>[2]</sup>

**Sthaulya (Obesity)**

*Sthaulya* can be correlate with obesity. Excess body fat, abdominal adiposity increases intra -abdominal fat. obesity can be seen as the first wave of a define cluster of non- communicable disease called as 'New world syndrome' The World Health Organisation has described obesity as one of the today's most neglected public health problem affecting every region of globe.<sup>[3]</sup>

*Sthaulya* is included under eight undesirable conditions *Ashtau Nindita*, *Shleshma Nanatmaja*, *Samtarpana Nimittaja*, *Atinindit*, *Ati Brihmana Nimittaja* and *Bahu Dosha Janita Vikara*.<sup>[4]</sup> Moreover *Sushruta* emphasized on metabolic disturbances (*dhatwagnimandya*) in the etiopathogenesis of *Sthaulya*.<sup>[5]</sup>

*Acharya Charaka* and *Madhava* has described *sthaulya* as A person having pendulous appearance of *sphik* [hip] *udar* [abdomen], *stana* [chest] due to excess deposition of *meda* [fats] along with reduced zeal towards life called *atisthula*.

In *ayurveda*, *charak* has described *sthaulya* among the eight most unwanted disease [ch.su.21] and *santarpanjanitaroga* [ch.su.23].<sup>[6]</sup>

The patient of *sthaulya* exhibits very strange phenomenon. The patient of *Sthaulya* requires excessive appetite whatever they eat is quickly digested, this happens due to hyper functioning of *Jatharagni*.

Besides this, the patient suffers from laziness, may be due to under supply of energy, which may due to hypo functioning of *Bhutagni*. Further *Dhatwagni* also seems to be disturbed, as in *Sthaulya* patient mainly *Medodhatu* is formed and there is deficiency of other *dhatu*. The patient of *Sthaulya* may suffer from *Tikshna Jatharagni*, *Manda Bhootagni* and disturbed *Dhatawagni* in their respective functions. According to *Bhawprakash*, a person having heaviness and bulkiness of the body due to excessive growth, especially in abdominal region is termed as *Sthaulya*.<sup>[7]</sup>

Abnormal or excessive fat accumulation that may impair health. Body mass index (BMI) is a simple index of weight-for-height that is commonly used to classify overweight and obesity in adults.

#### Classification of World Health Organization (W.H.O) and international task force.

Classification	BMI	Risk of morbidities
Normal Range	18.50-24.9	Negligible
Overweight	25.00-29.9	Mildly Increased
Obese class I	30-34.99	Moderate
Obese class II	35 to 39.99	Severe
Obese class III	>40.00	Very Severe

BMI is defined as a person's weight in kilograms divided by square of his height in meters (kg/m<sup>2</sup>).

The WHO defines obesity as follows;

A BMI greater than or equal to 25 is overweight.

A BMI greater than or equal to 30 is obesity.<sup>[8]</sup>

In India, more than 135 million individuals were affected by obesity.

The prevalence of obesity in India varies due to age, gender, geographical environment, socio economic status etc.

Various studies have shown that prevalence of obesity among women were significantly higher as compared to men. Obesity is one of the main medical and financial burdens for the government. This problem of obesity can be preventable by spreading public awareness about obesity and its health consequences. Governmental agencies should promote the benefits of healthy life style, food habits and physical activity.

Obesity can causes many medical complications by affecting many body parts : brain (stroke); throat (sleep apnea, snoring); lungs (lung disease, asthma, pulmonary blood clots); heart (heart disease, diabetes, abnormal lipid profile, high blood pressure); liver (liver diseases, fatty liver, cirrhosis); pancreases (pancreatitis); gall bladder (gallstones); uterus (female disorders , abnormal menstrual cycle, infertility); knees (arthritis); claves (inflamed veins, often with blood clots); feet (gout); breast, uterus, colon, oesophagus, pancreas, kidney , prostate (cancer).<sup>[9]</sup> Obesity is leading preventable cause of death worldwide, with increasing rates in adults and children. Authorities view it as one of the most serious public health problems of 21<sup>st</sup> century. Obesity is stigmatised in much of the modern world (particularly in western world), though it was widely seen as a symbol of wealth and fertility at other times in history and still is in some parts of the world. In 2013, the American Medical Association classified obesity as a disease.

#### AGNI

*Agni* is praised as God itself in *Ayurveda*. *Agni* converts food in the form of energy, which is responsible for all the vital functions of our body. *Agni* is given prime importance in the maintenance of health as well as causation of lifestyle disorders. Food which is consumed by the person is the major responsible factor for the state of health and manifestation of diseases.<sup>[10]</sup> Metabolic transformation takes place in consumed food in digestive system. After the process of digestion, it will produce effects on the body which may be agreeable or disagreeable. Mainly *Agni* carried out process of digestion. The food provides nourishment to bodily tissues which is reached to end organ by the action of *Agni*. It is the *Agni* that plays a vital role in this connection because tissue elements like, *rasa* etc. cannot originate from undigested food particles. *Agni* is the sole cause for existence of life, and its extinction leads to death; its proper maintenance helps to live a long life, and its impairment gives rise to diseases. It is also cause for colour, strength, health, enthusiasm, plumpness, complexion, *Ojus*, *Tejas*, other varieties of *Agni* and *Prana*.<sup>[11]</sup>

#### Sites of Agni

The sixth *Kala* is called *Pittadhara –Kala* situated in between *Amashaya* and *Pakvashaya* considered as the site of *Agni*.<sup>[12]</sup>

#### Types of Agni

*Agnis* varies in various classical *Ayurvedic* texts, as shown below

\**Charaka* has indicated about 13 *Agnis*.

*Jatharagni* – 1, *Bhutagni* – 5, *Dhatvagni* – 7.<sup>[13]</sup>

\**Sushruta*, has indicated (5) *Agnis* viz.

*Pachakagni*, *Ranjakagni*, *Alochakagni*, *Sadhakagni* and *Bhrajakagni*. However, there is an indirect reference of five *Bhutagnis* underlying in the brief description made to the transformation of food stuff.<sup>[14]</sup>

\*Vagbhata has described different types Agni, viz. *Bhutagnis* –5, *Dhatvagnis* –7, *Dhoshagni* –3 and *Malagni* –3.

\*Sharangadhara has described five pitta only (*Pachak*, *Bhrajak*, *Ranjak*, *Alochaka* and *Sadhak*).<sup>[15]</sup>

\*Bhavamishra has followed Acharya Charaka and Vagbhata.<sup>[16]</sup>

**Agni has been divided into 13 types according to the function and site of action. These are.**<sup>[17]</sup>

Types of agni	Numbers
Jathragni	1
Bhootagni	5
Dhatwagni	7

### Jathragni

This is the Agni which considered to be the *Pradhyantam* (principal fire) of all Agni. *Jatharagni* is also called as *kayagni* because it is present in the body. The metabolism of all the tissues of the body depends upon the *Jatharagni*. This Agni is present in the *Amashaya*. The functional variations of digestive power can only be inferred by the digestive capacity of the individual. Agni is classified into 4 according to *Dosha* predominance.<sup>[18]</sup>

1. *Samagni*; *Samagni* is normal digestive fire, which denotes the equilibrium of *Tridoshas* and a healthy digestive system. *Samagni* is largely responsible for human body nutrition.
2. *Vishamagni*: Food gets digested normally on some occasions and poorly digested in other occasions though the food is taken normally. This occurs due to variability in *Vata*. Persons suffering from this type of Agni are more prone to *Vata Vyadhis*.
3. *Teekshanagni*: The person suffers from excessive hunger and thirst and is more prone to *Pitta* diseases as it occurs when there is predominance of *Pitta*. In the absence of food it start consuming body's own tissues.
4. *Mandagni*: the digestive power is very poor, and it is disturbed by dominance of *Kapha* that the person cannot digest even a small quantity of food. Persons with this type of Agni are more prone to *Kapha Vyadhis*

### Bhootagni

The word *Bhoot* represents here *Panchamahabhootas*. *Bhootagni* is responsible for the digestion of the 5 *Pancha mahabhoota* factors present in the food. The *agni* acts on cellular level of body. Human body made up of *Panchamahabhootas* which are *Akasha*, *Vayu*, *Agni*, *Jala* and *Prithvi*. This Agni is divided into 5 types, they are as follows- *Parthivagni*, *Apyagni*, *Agneyagni*, *Vayavyagni*, *Nabhasgni*. Each body cells and tissues are made up of these Agni. These Agni work on only same part of food elements which is consisting of same Agni particle. After digestion of elements in food it specifically nourishes its own *Bhootas* present in the body.<sup>[19]</sup>

### Dhatwagni

*Dhatvagni* here refers to the Agni present in the *Dhatu*s i.e. the tissues which help them to absorb required nutrients. It is subdivided into 7 types. *Rasagni*, *Raktagni*, *Mansagni*, *Medo agni*, *Asthyagni*, *Majjagni*, *Shukragni* which ultimately form immunity of body.

These all Agnis has different *Strotus* for their functioning. Each Agni represent a *Dhatu*. As follows *Rasagni-Ras Dhatu*, *Raktagni-Rakta Dhatu*, *Mansagni-Mansa Dhatu*, *Medo agni-Medo Dhatu*, *Asthyagni-Asthi Dhatu*, *Majjagni-Majja Dhatu*, *Shukragni-Shukra Dhatu*. *Dalhan* has mentioned that at the end all *Dhatu*s sara is *Oja* i.e. immunity in modern.

Acharya Charaka has explained the 7 *Dhatu*s that are a support of the body contain their own Agni, and by their own Agni they digest and transform the materials supplied to them to make the substances alike to them for assimilation and nourishment.<sup>[20]</sup> The food that we take should be properly digested by the power of digestion – the Agni that could help in proper formation of the composition of the body. Improper digestion will lead to improper formation of *Dhatu*s, which further lead to many diseases in the body. Moreover, if digestion is good, only then proper assimilation and absorption of food can happen.

### Relation Between Agni And Obesity

*Ayurveda* is ancient and has a holistic approach to life. In *Ayurveda*, obesity is regarded as *Medoroga*, causes due to disturbances in *Meda Dhatu*, which includes fat tissue and fat metabolism. According to *Ayurveda* obesity started with imbalanced *Doshas* (*Vata*, *Pita*, and *Kapha*), *Agni* (digestive fire), *Malas* (waste products) and *Shrotas* (microcirculatory channels). The excess weight is the result of these imbalanced and improper function of *Dosha*, *Dhatu* and *Mala*. The key cause is found in lifestyle and diet choices that disrupt balance. Views weight imbalance and obesity as something that should be corrected before it can contribute to other health problem. Tissues or *Dhatu*s and leads to a tissue imbalance that we experience as excess weight. In *Ayurveda* word for digestion and metabolism is *Agni*. *Agni*, when loosely translated means fire. It is not just a fire but it signifies the idea of powerful functioning. *Agni* has remarkable transformative qualities. All the food we take in must be transformed into that which can be made useful by the body (nutrients) & that which is not needed (waste). The nutrients, or most refined products of our *Agni*, are used to create the body's tissues (*Dhatu*s). If *Agni* fails to do its proper work mainly on *Medo Dhatu*, one can lead into obesity which explained further in this article.

### Pathogenesis of Obesity

From an Ayurvedic perspective, the cause of weight gain is cyclical. According to, *Ayurveda* as with any other disease obesity begins with the intake of incorrect food or acceptance of improper dietary habits and unhealthy

lifestyle causes problems with the digestive fire, which in turn increases *Ama*. Once *Ama* gets increased it disturbs metabolic processes to form more fatty tissue (*Meda Dhatu Agni*) and blocks the formation of the furthest tissues such as *asthi* (bones). The poorly formed tissue layers increase unwanted *Meda Dhatu* (fats) and cause disturbances in the functions of *Kpha*.

On the other hand, when *Ama* blocks the channels of all body tissues, this creates imbalance in *Vata*, *Vata* keeps stimulating *Kpha*.

On the other hand, when *Ama* blocks the channels of all body tissue, this creates imbalance in *Vata*. *Vata* keeps stimulating the central digestive fire (*Jatharagni*), which causes an increase in appetite so the person eats more and more and can't satisfy his hunger. However, due to *Meda Dhtwagni Mandya* (weak fat metabolism), improper, abnormal *Meda Dhatu* is formed, which is the root cause of obesity and chain starts again.

To break the chain, the *Acharayas* determines the unique nature of the individual (*Prakriti*) and the nature of imbalance (*Vikriti*). The essence of recommendation is generally comes down to addressing a few core issues: strengthening digestion (balance *Agni*), removing *Ama*, improving dietary habits and maintaining good appetite, ensuring regular bowel movements from which *Agni* stabilizes so that *Ahara Pachana* occurs properly without any hurdle due to *Agni Vikrit*.

## DISCUSSION

In *Ayurveda* relation between *Meda-Roga & Agni* is not quoted directly as in *Manda* or *vishma Agni*, if it quoted indirectly (*Anukta*) elsewhere in *Ayurvedic* texts then it should be enlightened. Hence the concept of *Agni*, *Sthoulya* its inter-relation is important factors which are to be studied in detail for wellbeing of a person. Most common pathogenic factor for *Medovridhhi* is *Ahara*. Among the four different states of *Agni*, *Samagni* is considered as normal one, all others are considered as abnormal.<sup>[21]</sup> By seeing the basic characteristics of different states of *Agni* the *Teekshnagni* should be the best because it is capable of tolerating all types of irregularities. It seems that *Teekshnagni* is better when compared to *Samagni* as *Samagni* will get disturbed even by small irregularities. But it is not true because the normal bodily functions can't be carried out with *Teekshnagni*. Also it indicates the *Doshas* are not in a balanced status. This can be explained by an example of cooking food. When the fire is at normal level then only the food get cooked properly. In contrary supplying high level of fire will burn off the food. Thus maintain *Samagni* is one of the target while maintaining health.

In chapter *Austhaunindita*, *Sthaulya* is described by *Acharya Charaka* explained as metabolic disorder. In this he specify causes like, *Adhyashana*, *Diwaswapa*, *Achintana*.

Causes of obesity is changing now a days: Increasing stress, dependability on machine for most of the works, lack of maintaining good dietary habit.

*Sthaulya* is the *Dushya* dominant disorder.

If *Medo dhatwagni* mandya occurs it causes excessive formation of improper *Medo Dhatu* and ultimately results into obesity.

## CONCLUSION

In this article, After the brief discussion on relation between *Agni* and *Sthaulya*, it shows that *Agni* is important for digestion and metabolism on cellular level. By the indigestion due to imbalance of *Agni* they produce *Ama*, which is responsible for production of further diseases and it also includes *Sthaulya*. In the present scenario of the developed countries, due to urbanization, change in life style, life style disorders are having more prevalence rate than infectious diseases. Dominant role in the manifestation of lifestyle disorder is played by state of *Agni*. Hence a healthy lifestyle is mandatory for normal *Agni* and prevention of *Sthaulya* which is also a life style disorder through vitiated *Agni*.

Being healthy throughout the life span is not only the need of a person, also a basic right of a person.

## REFERENCES

1. *Sushruta, Sushrutasamhita, Nibandasangraha* commentary sutra, 15/41, ed: *Chaukhambha Sanskritsansthan*, Varanasi, 2010; 75.
2. *Charaka Samhita*, Shastri K, Chaturvedi G., editors. Varanasi: Chaukhamba Bharti Academy; Cha. Su., 2004; 21/18-19.
3. Dr.Sanjay kalra, A.G unnikrishan, Journal of medical Nutrition and Nutraceuticals; obesity in India, the weight of nation, 2012.
4. *Agnivesha, Charaka, Dridhabala, Charaka Samhita, Sutrasthana, Astauninditiya Adhyaya, 1/21/3*, edited by Rajeshvardatta Shastri. Varanasi: Chaukhambha Bharati Academy, 2005; 320- 432.
5. *Sushruta, Sushruta Samhita, Sutrasthana, Dosha Dhatu Mala Kshaya Vriddhi Vijnaniyam Adhyaya 15/32*, edited by Vaidya Yadavji Trikamji Acharaya and Narayan Ram Acharaya. Varanasi: Chaukhambha Orientalia, 2007; 73.
6. Dr. Brahmanand Tripathi *charak samhita (poorvardha) sutrasthan 21/9*. Vol 1. Chaukhamba surbharati prakashan, Varanasi Reprinted, 2001; 401.
7. Bapalal, Nighantu Adarsha. Vol.2. Varanasi: Chaukhambha Bharati Academy; (B.P.39 Vimarsha), 2005; 251.
8. <http://www.who.int/mediacentre/fastsheets/fs311/en/index.html> India: World Health Organization, 2012. (updated 2011 March cited 2012 Mar3). Available from: <http://www.who.int/en>.

9. <https://www.cdc.gov/vital/signs/adultobesity/infographic.html>: Centers for Disease control and Prevention, last, reviewed aug3, 2010.
10. *Agnivesha, charakasamhita, Ayurveda deepika sutra*, 28/45, ed: chaukhambha surbharati prakashan, Varanasi, 2005; 171.
11. *Sushruta, Sushrutasamhita, Nibandha Sangraha* commentary chikitsa, 15/3, ed: Chaukhambha Sanskrit sansthan, Varanasi, 2010; 512.
12. Kunte AM, Navre KR. *Ashtanga hridaya* (A Compendium of the Ayurvedic System) of Vagbhata, 'Sarvangasundra' of Arunadatta and 'Ayurvedarasayana' of Hemadri. Varanasi: Chaukhamba Surbharti Prakasan, 2002; 394. (As.Hr.su. 12/10).
13. *Charaka S*, Sashtri Kashinath Pt, Chaturvedi Gorakhnath Dr, Varanasi: Chaukhamba Bharti Academy. Chikitsasthana, 2004; 15/38.
14. *Sushrut Samhita*, Shastri A., editors. Varanasi: Chaukhamba Sanskrit Sansthan; Su.Su21/10, 2005; 56.
15. Tripathi B, editor. *Sharngadhara – Samhita* of Pandit Sharngadhara Charya 'Dipika' hindi. Varanasi: Chaukhamba Sanskrit Sansthan; (Sha.Sa.Pu.Kh.-5/32), 1994; 41.
16. Shastri BS, Vishya RL, editors. Bhavaprakasha of Shri Bhava editors. *Bhavaprakasha* of Shri Bhava Mishra, the 'Vidyotini' Hindi Commentary, Notes and Appendix. Varanasi: Chaukhambha Sanskrit Sansthan; Bh.Pu.Kh.-3/169,180.P.P.37, 1999.
17. *Vagbhata, Astanga Hridayam, sharira*, 3/70-72, ed: Chowkhamba Krishnadas Academy, Varanasi, 2011; 411.
18. *Charaka Samhita*, Shastri K, Chaturvedi G., editors. Varanasi: Chaukhamba Bharti Academy; Ch.Chi. 15/51, 2004; 461.
19. *Vagbhata, Astanga Hridayam- Srwang Sundar* Comm. *Arunadatta*, edited by pt. Hari Sadashiva sastri prasadakara, Chukhamba Surbharati Prakashan, Varanasi, reprint; Sutrasthana, 2014; 12/8.
20. *Charaka Samhita*, Shastri K, Chaturvedi G., editors. Varanasi: Chaukhamba Bharti Academy; Cha. Su. 28/15, 2004; 452.
21. *Sushruta, Sushrutasamhita, Nibandha Sangraha* commentary sutra, 35/24, ed: Chaukhambha Sanskrit sansthan, Varanasi, 2010; 154.