

The importance of *Agni* in *Sthaulya Vyadhi* with special reference to obesity – a literature review.

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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 (*Ashta 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* such as *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, obesity.*

Aim - To study the role of *agni* in *Sthaulya* with special reference to obesity.

Objectives

- 1.To study obesity from modern texts.
- 2.To study *agni* and *sthaulya* from Ayurvedic texts.
- 3.Review of literature of the role of *agni* in *sthaulya* with special reference to *Agni*.

Methodology

Literature from Ayurveda, modern texts, Research papers and articles from journals.

Type of study - A literary study

INTRODUCTION

Agni is present in the entire body and responsible for many bio-transformations which are carried out in living body. Modernization, sedentary lifestyle, unhealthy dietary habits and advancements in science has increasingly led to health problems. *Sthoulya* (obesity) is one of them which affects the physical, social and mental, health of the person. *The affected individual has excessive fat (meda) accumulation, causing a disproportionate enlargement of the buttocks (sfik), breasts (stan), belly (udara) and with no subsequent increase in energy (sharira bala).*

The equilibrium of three *doshas* i.e. *Vata, Pitta* and *Kapha* indicates the individual as

healthy as per *Ayurveda*. *Agni* plays an important role in maintenance of health. Healthy person (*swasthapurush*) has normal *Jadharagni*, normal functioning of *sapta dhatus* i.e. *Rasa, Rakta, Mansa, Meda, Asthi, Majja, Shrukra*, normal state and function of *trividha Malas* i.e. *Purish, Mutra* and *Sweda*. [1]

Sthula purusha comes under the *ashtanindita purusha* according to *Ayurveda*. According to *Charakacharya* the person having *sama mansa dhatu, samapraman, samasamahana* and *Dhridha Indriyasis* considered as *swastha purusha*. 21-18/19^[2].

We can correlate *Sthaulya vyadhi* with obesity. Obesity is diagnosed with clinical features like excessive body fat, abdominal adiposity resulting in intra-abdominal fat deposition. It is the sign of the metabolic syndrome. It is today's most neglected public health problem most commonly seen according to WHO. The World Health Organization has described obesity as one of the today's most neglected public health problem affecting every region of globe.^[3] *Sushruta* emphasized on metabolic disturbances (*dhatwagnimandya*) in the etiopathogenesis of *Sthaulya*. *Sthaulya* patient is described as a person with *sphik* [hip] - *udar* [abdomen]- *stana* [chest] *lambanam* due to excess deposition of *meda* [fats] according to *Charakacharya* and *Madhav Nidan*.

In *ayurveda*, *charaka* has described *sthaulya* among the *ashtanindita* [ch.su.21]. It also comes under *santarpanjanita roga* as it is *kapha dosha pradhan* and *medodhatu dushtijanivikara*. *Sthaulya* is included under eight undesirable conditions *Ashta Nindita, Shleshma Nanatmaja, Samtarpana Nimittaja, Atinindit, Ati Brihmana Nimittaja*

and *Bahu Dosha Janita Vikara*. [4] [ch.su.23].

Moreover *Sushruta* emphasized on metabolic disturbances (*dhatwa agnimandya*) in the etiopathogenesis of *Sthaulya*. [5] In *ayurveda*, *charaka* has described *sthaulya* among the eight most unwanted disease [ch.su.21] and *santarpanjanita roga* [ch.su.23]. [6] According to *Bhawprakash*, a person having heaviness and bulkiness of the body due to excessive growth, especially in abdominal region is termed as *Sthaulya*. [7] The patient of *sthaulya* has excessive appetite due to hyper functioning of *Jatharagni*. The patient also suffers from *Alasya* i.e. laziness due to *kapha-dosha bahulya*. The excessive production of *apachitameda dhatu* due to *dhatwa agnimandya* is an important event in the etiopathogenesis of *Sthaulavyadhi*.

Classification according to World Health Organization (W.H.O).

BMI is defined as a person's weight in kilograms divided by square of his height in meters (kg/m²). A BMI greater than or equal to 25 is overweight and BMI greater than or equal to 30 is obesity according to WHO. [8]

The person with BMI 18.50-24.9 is normal with negligible risk of morbidities. The person with BMI 25 -29.9 is overweight with mildly increased risk of morbidities. The person with BMI 30-34.99 is obese class one with moderate risk of morbidities. The person with BMI 35 to 39.99 is obese class two with severe risk of morbidities. The person with BMI > 40 is obese class three with very severe risk of morbidities.

Obesity is a metabolic syndrome causing many complications like brain stroke; heart diseases, diabetes, abnormal lipid profile, high blood pressure; hyperlipidaemia, hypercholesterolaemia, fatty liver diseases; polycystic ovarian disease in females. The other complications of obesity are pancreatitis; gallstones; infertility; osteoarthritis; gout etc. [9] Obesity is leading preventable cause of death worldwide, with increasing rates in adults and children.

The prevalence of obesity in India varies due to age, gender, geographical environment, socio economic status etc. This problem of obesity can be preventable by spreading public awareness about obesity. Governmental agencies should promote the benefits of healthy life style, food habits and physical activity.

IMPORTANCE OF AGNI

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. 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, *Ojas*, *Tejas*, other varieties of *Agni* and *Prana*. [10]

Types of Agni

Charakacharya has mentioned thirteen *Agni* which includes one *Jatharagni*, five *Bhutagni*, and seven *Dhatvagni*. *Sushrutacharya*, has mentioned five types of *agni* which are *Pachakagni*, *Ranjakagni*, *Alochakagni*, *Sadhakagni* and *Bhrajakagni*. *Acharya Vagbhata* has described different types *Agni* as five types of *Bhutagni*, seven types of *Dhatvagni*, three types of *Dhoshagni* and three types of *Malagni*. *Acharya Sharangadhara* has mentioned five types of *pitta* as types of *Agni* such as *Pachakagni*, *Bhrajakagni*, *Ranjakagni*, *Alochakagni* and *Sadhakagni*.

In *Ayurveda*, *Agni* is important for foundation of health, and is responsible for several metabolic activities in the body. Amongst all the types of the *Agni*, *Jatharagni* is primary, which monitors and supports the functions of *Bhootagni* and *Dhatvagni*.

Jatharagni which is also called *kayagni* is considered as the *Pradhana* (chief) of all *Agnis* and present in the *Amashaya*. The metabolism of all the tissues of the body depends upon the *Jatharagni*. The function of *agni* is judged by the *jaranshakti* (digestive power) of the person. *Samagni*, *Vishamagni*, *Teekshanagni*, and *Mandagni* are four types of *Agni* according to *Dosha* predominance. *Samagni* is normal digestive fire, which denotes the equilibrium of *Tridoshas* and a healthy digestive system. *Vishamagni* is due to *vatadosha* and in person with this type of *agni*, food is digested normally on sometimes and poorly digested other times even after taking healthy food. The person with *tikshanagni*

suffers from excessive hunger and it is due to predominance of *Pittadosha*. *Mandagni* due to *kapha* dosha and the person with this type of *agni* has poor digestive power. *Bhootagni* is responsible for the digestion of the *Pancha mahabhoota* factors present in the food and it is of five types which are *parthivagni*, *apyagni*, *agneyagni*, *vayavyagni*, *nabhasagni*. These *Agni* nourishes the food having elements similar to that *mahabhoota*.

Dhatvagnis are of seven types which are *Rasagni*, *Raktagni*, *Mansagni*, *Medo agni*, *Asthyagni*, *Majjagni*, *Shukragni* which are present in the *dhatu*s which help them to absorb required nutrients. *Oja* is produced as *dhatu sara* as a result of proper digestion. The proper formation of particular *dhatu* depends upon its particular *dhatvagni* alongwith *jatharagni*. Indigestion will lead to improper formation of *dhatu*s, which may lead to many diseases. Improper *agni* is also responsible for production of *ama* causing various *Amaj vyadhi* in the body.

Relation between *agni* and obesity

Sthoulya (obesity), is an increasing global health problem. It is due to the impairment of *Agni* which causes excess accumulation of *Medadhatu* (fat) in the body. It causes many complications like hypertension, diabetes, infertility, heart diseases and also disturbs physical, mental, and social health of the person. *Agni* is responsible for the maintenance of health and for producing diseases. Due to *meda dhatu vrudhi*, all the premonitory symptoms of *Prameha* (*prameha purvarupa*), obesity and its complications are caused. Vitiating *vatadosha* mainly in the alimentary tract,

increases digestion resulting in increase of hunger. The status and maintenance of *Agni* is essential in the treatment of *medo dhatujanya vyadhi*. In Ayurveda, obesity is regarded as *Medoroga*, causes due to disturbances in *Meda Dhatu*, which includes fat tissue and fat metabolism. It starts with imbalanced *Doshas* (*Vata*, *Pitta*, and *Kapha*), *Agni* (digestive fire), *Malas* (waste products) and *Strotas* (circulatory channels). The excess weight is the result of these imbalanced and improper function of *Dosha*, *Dhatu* and *Mala*.

Staulya Vyadhi nidana

Madhava Nidana states *Avyayama* (lack of exercise), *Divaswapna* (sleep during day time) and *kaphaja Ahara Sevana* (unctuous food intake) are the main *nidanas* of *Sthoulya*.

The *nidanas* of *sthoulya* can be broadly divided into *Aharaja nidana*, *Viharaja nidana*, *Manasika nidana* and *Bija doshas wabhavajanya*. ***Aharaja nidanas*** include intake of *sleshmakara* (unctuous food), *madhura annasevan* (food having sweet tastes), *adhyashana* (overeating when the previous food is not digested), *ati-sampurana* (over nourishment), excessive intake of *guru ahara* (heavy), *sheetaahara* (cold food items), *snigdha ahara* (unctuous food), *pichchila ahara* (slimy food items), *navanna* (newly harvested grain), *navamadya* (freshly prepared wine), *anupa* and *varijamamsa* (flesh of marshy and aquatic animals), *gorasa* (cowmilk), *goudika anna* (sugar candy preparations), *paishtika atimatrasevan* (excessive intake of pastries).

Viharaja nidana are *Avyavaya* (lack of sexual activities), *Avyayama* (lack of exercise), *Divaswapna* (sleep during day time), *Shayya-sukha* (Happy and comfortable sleep) *shayya* (lying down) and *asana* (sitting for long time), *Achintha* (Restraining thoughts), *Nithyahasra* (continuous joy).

Etio-pathogenesis of *Sthoulya*

Due to *nidana sevana* like *adhyashana*, *ati-sampoorana* etc. *meda* (fat) is excessively gets accumulated in the body. This *meda dhatu* obstructs the *strotas* (channels). As a result, *vata dosha* gets obstructed from its normal movement (*gati*) and confined only to *kostha*. *Vata Dosha* is aggravated in the *Koshta* due to the obstruction of *Srotas* by *Meda dhatu*. This *vayu* increases the digestive fire (*agni prajwalana*) which further lead to increased hunger (*kshudha vrudhi*). It digests the food fast so the person will feel hungry and consume food more frequently. If the person delays to take the food, the increased *agni* can affect the *dhathu* production which may lead to many diseases.[11] Due to the obstruction of the *strotas* (channels), the *dhathus* only upto *meda* are nourished and other *dhathus* remain unnourished. *Acharya Charaka* has given a good example in this context. Vitiated *vata dosha* and increased *agni* has the power to cause complications (*upadrava*) as if a forest fire can burn the whole forest. *Susruthacharya* has explained it in other words. The *hetu-sevan* leads to *apakwaahar rasa* (*Ama*) that will acquire *Madhuratva* along with the *Snehansha* present in the body producing *Vikruta* (*apachita*) *Meda* leading to *meda vrudhi*.

The symptoms that initially manifest are *Atinidra, tandra, alasya, visra, shariragandha, anga-gaurava, shaithilya* etc. can be considered as the premonitory symptoms or the *Poorvarupas* of *Sthoulya*. [12]

Sthoulya lakshana

Medo-mamsa-athivridhi in *sphik, udara* and *sthanapradesh* with *ayathopachaya* (disappropriate growth of fat) and *utsaha-hani* (diminution of enthusiasm). The *lakshanas* of *sthoulya (ashta dosha)* as explained by *Charakacharya* are *ayusho-hras* (diminution of lifespan), *javoparodha* (lack of enthusiasm), *krichra-vyavaya* (sexual act difficulties), *dourbalya* (weakness), *dourgandhya* (foul smell of body due to *atisweda*), *sveda-vruddhi* (excessive sweating), *ksudhaati-matratah* (excessive hunger), *pipasa-ati-yoga* (excessive thirst). *Shaithilya* (impaired bodily movements due to looseness), *gurutvat-medasah* (heaviness due to fat), *saukaumarya* (tenderness of body), *sweda-vruddhi* (increased sweat) are also some symptoms. *Tikshnagni* (sharp digestive power), *vyayama-asahatva* (exercise intolerance). [13] *Ashakthu-sarva-karma* (not able to work), *kshudra-shwasa* (dyspnea), *trisha* (thirst), *moha* (confusion), *swapna* (excess sleep), *kradhana* (snoring), *sadana* (body pain), *alpa-prana* (less lifespan), *alpa maithuna* are some other *lakshanas* explained by *Madhava nidana*. [14]

DISCUSSION

Sedentary 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 dhatvagni*) 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 *Kapha*. On the other hand, when *Ama* blocks the channels of all body tissues, this creates imbalance in *Vatadosha*. *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 dhatvagnimandya* (weak fat metabolism), improper, abnormal *Meda dhatu* is formed, which is the root cause of obesity and chain starts again. Causes of obesity are changing now a days as increasing stress, dependability on machine for most of the works, lack of maintaining good dietary habits. *Sthoulya* is the *dushya* dominant disorder. *Medo dhatwa agnimandya* causes excessive formation of improper *Medo dhatu* and ultimately results into obesity.

The strengthening digestion (balance *Agni*), removing *Ama*, improving dietary habits and maintaining good appetite, ensuring regular bowel movements are recommended from which *Agni* remains stable and food is digested properly without any hurdle due to *Agni vikruti*.

The concept of *agni*, and its inter-relation with *sthoulya* is important and are to be studied in detail for wellbeing of a person. Most common pathogenic factor for *Medo-vruddhi* is *ahara*. Among the four different states of *agni*, *samagni* is considered as normal one, all others are considered as abnormal. [15] This can be explained by a

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 maintaining *samagni* is one of the target while maintaining health.

CONCLUSION – Obesity has become a global epidemic which is threatening people with its serious complications. It is mainly due to the junk food meals with high calorie and sedentary lifestyle which makes them unhealthy. *Agni* plays an important role in digestion and metabolism on cellular level. Improper *agni* causes indigestion and produces *Ama* which is responsible for manifestation of many diseases which includes *Sthaulya*. Obesity comes under metabolic syndrome which is a lifestyle disorder. The unhealthy diet consumption and sedentary lifestyle adaption is causing imbalance of *Agni*. So, the prevalence of *sthaulya*(obesity) is increasing day by day. As *Agni* plays a vital role in manifestation of *Sthaulya vyadhi*, it is necessary to follow healthy lifestyle to maintain the balance of *Agni* and prevent *sthaulya* (obesity).

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