



## LITERARY REVIEW OF STHOULYA IN AYURVEDA WITH SPECIAL REFERENCE TO OBESITY

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### ABSTRACT

Sthaulya is discouraged by the society for as well as medical reason. Obesity is the most common nutritional disorder in affluent societies. The incidence of Diabetes mellitus, hypertension, angina pectoris, and myocardial infection is higher among obese individuals. Commonly obesity is due to excessive eating and lack of adequate exercise. Acharya Charaka quoted a Sthaulya under the eight varieties of impediments which designated as Nindita Purusha. Ati-sthauya comprises one of them. Acharya Charaka also list this problem under Santarpanajanita vyadhi. He listed eight defects underlying-Sthaulya purusha, Ayuhrasa, Javopradha, Alpa-vyavayita, Daurbalya, Daurgandhya, Swedabadha, Ati-trishna, Ati-Kshudha. Dalhana seems to be more explicit while commenting on a medo Roga specified that Agni which is involved in pathogenesis of the disease viz. Dhatvagnimandya. The main causes have been described in modern literature viz. 1) Dietetic, 2) Genetic, 3) Hormonal. Sthaulya is a typical involving the Medovridhi with which this study deals with typical obesity, not with the reasonable adiposity, which is a reflection of endocrine imbalance. The term Medasvi is suggestive of nutritional status of the individuals indicating a well nourished disposition rather than disease. Obesity is one of the common disorders in the Luxurious and industrialised society.

**KEYWORDS:** Obesity, Ayurveda, Medorog, Sthaulya, Ancient Literature.

### INTRODUCTION

Ayurveda, the eternal science is the ocean of knowledge about life is not only system of medicine for curing disease but also way of life that teaches us how to maintain and protect, mental and physical health and achieve longevity.

In Ayurveda, Sthaulya had been described by Acharyacharak, vagbhat and also in madhav- nidan, Bhavprakash, Yogaratnakar.

A person is said to be very obese when his buttocks, abdomen and breasts begin to show movement (during activity) due to accumulation of fat is those places and when his body build and Enthusiasm are found to be disproportion (to his age).<sup>[1]</sup>

In Ayurveda, Sthaulya is referred as “Medoroga” which which is primarily caused by malfunctioning of meda-dhatwagni and is including in “Ashutau-nindit-purusha” by Acharya Charaka meaning who are been criticized by the society due to their inappropriate body parameter. It is also counted as one amongst the “Kapha-Nanatmaja Vikaras” and is Santarpanajanya Vyadhi.

According to Bhavprakash a person having heaviness and bulkiness of the body due to extensive growth, especially in abdominal region is termed as sthula and the state of Sthaulata is called as Sthaulya.<sup>[2]</sup> Management of Sthaulya is quite difficult because both Agni and Vayu are in aggravated other Dhatus. So the principle for the treatment of Sthaulya is “Guru Atarpana”.<sup>[3]</sup>

Sushrutacharya mentioned three types of deha as Sthula, Krusha and Madhyam. Out of these three deha, Madhyam deha is considered as best and it was advised by Sushruta that one should always try to maintain the Madhyam deha.

### MATERIALS AND METHODS

#### Sthaulya In (Ancient Literature) Ayurveda Vedic Period

Rigveda:- In the Mandal 1, Adhyaya 21, Sukta 152. Mantra 1 (M 1/21-152/1) of this veda, the term “Peevasa” clearly indicates the Sthula. The term „Sthavira” is also mentioned in the Mandal 1/24-182/7 which refers to sthula.<sup>[4]</sup>

**Samveda:-**In the Adhyaya 11/1853/2 of this Veda, the term sthavira is used for sthula.<sup>[5]</sup>

**Yajurveda:** The terms Peervarim“ ad Upacita“ used in this veda, refers to sthaulya.

**Atharvaveda:** The Atharva Veda, some scattered references are available by the terms “Medas”, “Medaswita”, “Apacita”, “Medine” and “Sthula”.<sup>[6]</sup>

**Upanisad:** The term “sthula” is mentioned in the chapter 5/12 of Swetaswatar Upanisad. Here the term sthulani refers to the sthula sharira.

**Bhagavata:** The term used “stabistha” refers to “sthula sharira”.

**Puranas:** In Agni Purana 3 types of sharira are described- sthula sharira, kshaya sharira and Madhya sharira. In Vayu Purana the term „Mahakaya suggests Sthula body.

#### **Samhita Period Charaka Samhita**

Various references are available in this samhita regarding Sthaulya. Acharya Charaka has described in detail the causative factors, sign and symptoms, prognosis and management in the chapter “Ashtaunindeetiya”.<sup>[7]</sup>

Atisthaulya is also described in the reference of Nanatmaja vikara of kapha. Acharya Charaka has also given concept of Bandha and Abaddhameda in reference to sthaulya.

**Baddhameda-** Refers to the solid or obvious fat of the body.

**Abaddhameda-** Refers to free or mobile fat.

#### **Sushruta Samhita**

“Sthaulya” is counted as “Darun Vyadhi” (Dreadful disease) under the chapter Mahakustha of chikitsa Sthan 10/3. In this Samhita its aetiopathogenesis is described on the basis of dhatvagni mandya. In chapter 15, Rasa, (Aaharrasa) has been told to be the productive cause for obesity and emaciation.<sup>[8]</sup>

**Bhela Samhita:** Sthaulya is described in the “Medovyapatijanya Roga” of Sutra 11/11.<sup>[9]</sup>

**Ashtang Sangaraha And Ashtang Hridaya:-** Acharya Vagbhata has described the Sthaulya in “Atibrimhan janit Vyadhi”. He has considered “Ama” as causative factor of Sthaulya. He also narrated “Rasanjana” as an effective drug for Sthaulya.<sup>[10]</sup>

**Madhav Nidana:-**Madhavakara has elaborated the pathophysiology of Sthaulya in a separate chapter.<sup>[11]</sup>

**Yog Ratnakar:-** In the Uttarardha of this text, there is the detailed description on etiology, pathogenesis, signs and symptoms of medoroga (Sthaulya) in a specific chapter

named as “Medo Roga Nidanam”.

**Chakra Datta:-** In Chikitsa Adhyaya 36th chapter of this text, the medications along with the pathyapathya of Sthaulya disease are described.<sup>[12]</sup>

**Sharangdhar Samhita:-** Sharangadhara Samhita has mentioned sweda as updhatu of meda (Sh.Pu.5/15)<sup>[13]</sup> and mala of ras, dantakakasha (Sh.Pu.6/7).<sup>[14]</sup> Sequential dhatupakakala of one month for seven dhatus. Jatharastha meda (fat in abdomen and omentum) is nourished by vrikka i.e. role of renal and suprarenal glands was firstly observed by Sharanadhara in (Sh.Pu.5/35).<sup>[15]</sup>

#### **Vangasen Samhita**

In the chapter 39 (Medorogadhikar) of this samhita, the description of etiology, pathogenesis, symptoms and treatment of Sthaulya is given.

#### **Bhava Prakash**

In the 39th chapter Sthaulya adhikar“ of chikitsa prakran other is specific description of cause, pathogenesis, symptoms and treatment of “Medovridhi”.<sup>[16]</sup>

#### **Obesity – An Ayurvedic Perspective**

Unless and until the anatomical and physiological aspect of medo dhatu is known, the pathological and therapeutical study of the disease „Sthaulya“ becomes rootless because the pathology is what the physiology was.

Medas is the 4th dhatu of body found in almost every place. It is predominantly seen as a thick layer underneath the twak (skin), inside udar (abdomen), attached to its kalas (peritoneum and omentum), uras (chest) and siras (head). All these are together called as adipose tissue.

#### **Anatomy of Meda**

Medas is a yellowish, greasy, soft, solid material, innumerable globules of fat from a thick spongy layer under the skin (subcutaneous). Its thickness varying from 1mm to one or 2 inches in places like the buttocks (sphick), abdomen (udara), prishtha (back) and uru (thigh). It is this layer that confers the rounded shape for the body. This forms 10-23% of the total body weight in healthy adults (women having about 15% more than men). Small quantities of fatty material is found in the mamsa (muscles), kandaras (tendons), nadi dhatu (nerve tissue), rasa (plasma) and raktanau (blood cells) and is essential for the functioning of these structures.

#### **Physical and Chemical Composition of Medas**

All the substances of the universe are made of 5 elements. Like wise Medas is made of 5 elements but from the standpoint of predominance of Bhutas (physical composition), it is regarded as parthivapya. The chemical structure of medas is made of carbon, hydrogen and oxygen, with these three elements the fat is also formed

and the corresponding medas is the compound structure of fatty acid and glycerol which is the product of digested fat.

#### Amount of Medas

According to Ayurvedic texts, its maximum amount is 2 anjali and amount of vasa is 3 anjali in the body. Modern science has accepted the total amount of fat in the body as 1/12 of the total body weight.

#### Formation of Medo Dhatu

Aahar + Jatharagni → Aahara Ras

↓

Aahar Rasa + Rasagni

✓

Prasad

↘

Kitta (Kapha)

✓

Sthaulya Rasa dhatu

Rakta dhatu ansa + Raktagni

✓

Prasad

↘

Kitta (pitta)

✓

Sthaulyee Rakta dhatu Mamsa dhatu ansha + mamsagni

✓

Prasad

↘

Kitta

✓

Sthayee Mamsa dhatu Medodhatu ansha + Medoagni

✓

Prasad Kitta (Sweda)

✓

Sthayimedodhatu Asthidhatu ansha

#### Physical Properties and Functions of Medo Dhatu

The physical properties of medo dhatu are as follows.

It is drava (liquid), Shlakshana (Smooth) in nature and it gives snigdhatwa, and fair appearance to the body with rounded and developed contour. Sweda being the mala of Medas, it produces, sweating and keeps the skin moist. It also gives dridhnatwa (strength) to the body, renders asthiposana, protection to the internal organs by covering them all around allowing their free movements without injury and controls body temperature by preventing the heat loss being itself a bad conductor of heat.

#### Concept of Agni

In Ayurveda the Agni is called as „Prana (life)“ and it is named as Dehagni, Jatharagni, Kayagni and Pacakagni. It is also stated that all the internal disease are caused by the abnormalities of this Agni.

#### Dehagni

In Ayurvedic texts, pitta has been described as agni (fire) since it performs fire like actions i.e. paka which refers to pacan (digestion), dahana (burning, combustion or oxidation) including bhinna Sanghata (splitting), tapan (heat production), parinaman (conversion), pravritta (transformation), prakshan (illumination), ranjana (varnakara-colouration) and prabhakara (cause lusture), according to adverse consequences and according to state of function whether normal or abnormal. Sushruta states that pitta is the same as Agni, since it performs dahan

(burning, combustion or oxidation), pacan and similar actions performed by fire. Hence pitta is known as antaragni.

#### Types of Agni

It is clear from classical Ayurvedic texts that the enumeration of the number of agni (which include pitta) varies from author to author, but from the physiological and pathological point of view 3 Agni are important and acceptable and total number of types of Agni is 13.

1. Jatharagni – Antaragni
2. Five Bhutagni – parthivagni, Apyagni, Vayavyagni, Tejoagni, Nabhasagni
3. Seven Dhatwagni – Rasagni, Raktagni, Mamsagni, Medoagni, Asthyagni, Majjagni and Sukragni.

#### Jatharagni

This is also known as pachaka pitta. All other pitas, bhootagnis, dhatavagnis and mamasagni act under the control of this jatharagni and anshas (components) of this agni are present in all the other agnis and hence the normalcy or otherwise of the agnis of the body depend upon the state of jathragni. This Agni is paramsukshma and transforms the food substance to suit the physiological and psychological requirements of the individual.

According to its doshas predominance, the agni is classified into 4 varieties.

1. Visamagni due to vata predominance
2. Teekshanagni due to pitta predominance
3. Mandagni due to kapha predominance
4. Samagni due to equilibrium of trodoshas

#### Bhutagni

There are 5 bhutagnis which exist in 5 mahabhutas respectively like parthivagni, apyagni, vayuyagni, nabhasagni. According to charaka the digestion of food by jatharagni results in the breakdown of food into 5 distinct physiochemical groups viz – parthiva, apya, tajasa, vayavya and nabhas. Jatharagni is stated to ignite the agni fraction present in each of the 5 groups. This agni builds up as parts of corresponding bhuta class of dhatvagnis. So the panch mahabhautika bhuta structure of this disease (sthaulya) is Dosha (kapha) – prithvi bahula, Dhatu-Meda-Jala prithvi bahula Mala, (Sveda)-Jala Bahula.

#### Dhatwagni

The term dhatwagni refers to agnis or pitta, which take part in pakas that occur yakrit onwards. These agnis are stated to mediate or catalyse metabolic transformations of nutrient substances before they are supplied to the 7 species of dhatus. In this way the medo dhatvagni catalyses the metabolic transformation of nutrient substances of the meda dhatu, which has been described previously.

### Influence of Different States of Jatharagni Upon Dhatus

Since a correlation between Jatharagni and dhatus has been shown to exist in the form of pachakanshas present in the latter and any disorder in the normal state of functioning of former can logically be expected to influence the latter in many ways. In other words hypo, hyper or erratic functioning of Jatharagni may be followed by hypo, hyper and erratic functioning of pachakansha, present in the dhatus leading to

- Hypometabolism or mandagni leading to states analogous to myxedema, resulting in dhatuvidhi.
- Hyper metabolism of teekshanagni, resulting in the digestion of dhatu themselves.
- Erratic metabolism producing metabolic abnormalities.

### Medovaha Srotas

Charaka has described that vrikka (kidneys) and Vapavahan (Omentum) are the moola (origin) for medovaha srotas. Whereas Sushruta accepted vrikka and mamsa as the origin of medovahasrotas. But from the physiological and scientific to be the origin of medovahasrotas and these are present in kosthanga.

Vrikka (Kidneys):-The formation or creation of vrikka is from the sara part of rakta (blood) and meda (fat) and function is to nourish the meda of Jathar (stomach). Acharya Sharangdhar told, vrikka are the base of Aahar Vahi (the food taking) and Jalavahi (water taking) siras (the channel) and its disorder causes Daurbalya (weakness), Karshya (emaciation), agni (fire), mamsa and trisa(thirst) and the symptoms of disorder of mrdodhatu. So by the term vrikka the suprarenal gland with kidney are included.

Vapavahan:- Charaka has included it in the Kosthanga. The word „Vapa“ here refers to vasa/meda (lipid). Chakrapani accepted it as the place of meda and is also known as taila vartika, situated beneath the Jathar (stomach) and behind the pliha (spleen). Acharya Gananath Sen and Ghannekar compare it with the omentum described in modern science. Vapavahan is another name for kloma (pancreas). So from this point it is very much concerned with digestion and metabolism of fat and disorders medovahasrotas.

### Medodhara Kala

According to Sushruta kala is the fine structure that separates the dhatus (tissues) from their ashayas. Modern biology considers it as epithelial tissue. It may be recalled that

- Epithelial tissues constitute tissue that cover the surface of the body e.g. the skin or from the delicate lining of the body cavities which open directly or indirectly to the surface.
- These tissue are classified under 2 groups
  - Mesothelial tissue – Which line the thoracic or abdominal cavities.
  - Endothelial tissue – Delicate tissues that line the

heart and blood vessels.

- The term epithelium may be used in an elementary sense to cover all these tissues.

Medodhatu (the adipose tissue) is formed from the food. This tissue is mainly deposited in the regions of buttock (jaghana), abdomen (udar), orbital fossa (netra guharasa), behind the kidneys, labia majora (bhagostha) and breasts (in females). Mainly meda is collected and deposited in the abdomen. So this kala is present in udar (abdomen) and anvasthi (small bones), majja (marrow) is present in long and big bones. While describing this kala, Sushruta has made a suggestion that, the medas (fat) that which is present in the anvasthi (small bones) is to be treated as saraktam medas i.e. blood- cum-fat. The word anvasthi used by Sushruta has to be taken as spongy bone, which naturally consists of small mesh like units of bony tissue.

### Pathological (Disordered) Functions of Medas

These can be described in 2 ways:-

- The Symptoms due to medovridhi (Increase)
- The symptoms due to medokshaya (decrease)

### Symptoms of Medovridhi

- Pendulous hanging of buttocks, abdomen and breast, chalatwa (movement) of ganda (cheeks), griva (neck), stan (breasts), udar (abdomen), sphik (buttock), uru (thigh).
- Shrama Swas (dyspnoea on exertion).
- Sweda badha (troubles from increased sweating).
- Krichha Vyavaya (difficulty in coitus).
- Lakshanas of prameha purvarupa such as trisa (thirst), swadu asya (sweet taste in the mouth), chikkanata (greasiness of the skin), karapada angadaha (burning sensation in palms and soles) and finally madhumeha.
- Ganda, granthi or arbuda (Cysts, tumour, cancers).

### Causes of Medovahasrota Dushti

According to charaka, Avyayam (lack of physical exercise), Diva swapna (day sleep), the diet of Madhur Rasa and more use of varuni (a type of alcoholic drink) are the causes responsible for medo dusti.

### Medaj Diseases

Medo dusti and Sroto dusti create the diseases like medaj granthi, Medovridhi, goiter, tumour and otha prakopa, diabetes and obesity etc.

### Meda Sar Purusha Lakshana

The colour of the skin, voice, eyes, hair, nail, teeth, lips, urine and faeces of Meda Sara persons are oily and glistening. This sara gives wealth, dignity in society, happiness, luxury, righteousness, generosity and delicacy to these persons. According to Acharya Sushruta- A person is said to be medo sara i.e. he/she is having snigdha urine, sweet and voice, big body and is unable to tolerate excess stress of physical work.

### Sequence of Events in Pathogenesis of Obesity

Nidan sevana (kapha & meda sadharmi) → Kapha dosa vriddhi → Jatharagni vikriti → Amotpatti → Medovriddhi and Sanchaya → Sanga in Medovahasrotas → Margavarodha Janya Vataprakopa and Vimargagaman of Vayu → Jatharagni Sandhukshna → Atibubhuksha (Excessive Hunger) and takes more food → Medas dhatu vriddhi → Medosancaya especially in sphik,Udar and stana → Upadrava (Complication).

### Ayurvedic Treatment

Acharya charaka describes the following measures to be adopted.

Elimination therapy, alleviation therapy and avoidance of causative factors- these principles along with their proper procedures should be adopted for the treatment of diseases in general and medoroga in particular. Of all these avoidance of aetiological factor forms the backbone of the treatment.

Hence a wise physician should plan for treatment by administering drugs, prescribing diet and encouraging useful regimen to correct the condition, without doing adverse or harmful effect on patient's life.

So the following pints are kept in mind

1. Nidan parivarjana
2. Upvasadi Langhan Karma.
3. Proper Sanshodhana and Karshana
4. Karshana Ahar
5. Proper exercises
6. Drugs

### Yogasans Advised In Obesity

1. Bhujangasan
2. Shalabhasan
3. Pavanmuktasana
4. Surya Namaskarasan
5. Dhanurasan
6. Pascimottanasan
7. Matseyendriasan
8. Shavasan

### DISSCUSSION

Presently prevalence of sthaulya is increasing worldwide in all age group within people of higher socioeconomic status, Sthaulya is complex, multi factorial disease which invites several pathological complications like Hypertension, Diabetes, Atherosclerosis, certain types of cancer, Hepatic steatosis, endocrine abnormalities. Excessive consumption of guru, Madhura, Snigdha guna dominnt diet produces excessive and disqualitative medo dhatu. It makes medo dhatvagnimandya. So only nutrition of only medo dhatu occurs and all other dhatu are decreased.

Ayurveda highlights the Sthaulya as one of the Ashtaunindit vyadhi, hence there is need of controlling Sthaulya in its early stage.i.e.at the stage of medovrudhi.

Ayurveda and yoga is a better, easy and healthy way to fight obesity and other lifestyle disorders.

Prevention is the most important key factor for this disease. Patients should be educated to follow the life style changes recommended by Ayurveda.

### CONCLUSION

Sthaulya (obesity) is a predominant metabolic disorder, which is described by Charaka in Ashtaunindita Purusha, Sedentary life, lack of exercise, faulty food habits, urbanization, psychological factors along with genetic predisposition play a major role in aetiopathogenesis of Sthaulya. Kapha Prakriti persons are more prone to become obese (sthaulya).By adopting simple life style and healthy food habits anyone can enjoy the life optimally without having lifestyle diseases like Obesity.

Sthaulya is a disorder of santarpan nidan with the involvement of mainly Medo dhatu and kapha pradhan Tridosha. Ayurveda classics mentioned about prevention of sthaulya in its early stage means at the stage of Medo vrudhi. Medo vrudhi is a warning symbol of sthaulya. Hence Ayurveda plays better role in preventing Sthaulya.

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